EDITED BY
DAWN FORMAN
MARION JONES
JILL THISTLETHWAITE

LEADING RESEARCH AND EVALUATION IN INTERPROFESSIONAL EDUCATION AND COLLABORATIVE PRACTICE

Leading Research and Evaluation in Interprofessional Education and Collaborative Practice

Dawn Forman • Marion Jones • Jill Thistlethwaite
Editors

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Editors
Dawn Forman
Curtin University
Australia

Jill Thistlethwaite
University of Technology Sydney
Australia

Marion Jones
Auckland University of Technology
New Zealand

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Foreword

In many senses, interprofessional education (IPE), interprofessional practice (IPP) and interprofessional care (IPC) represent what Rittel and Webber (1973) have called a 'wicked problem'. Wicked problems are 'difficult or impossible to solve. Their solutions depend on incomplete, contradictory and changing requirements that are often difficult to recognise. And they are confounded by complex interdependencies between actors and agents.' (p. 155). If ever there were a wicked problem, research and evaluation in, and of, IPE is surely one. What could be more complex than relationships between governments, post-secondary institutions, the health care industry and the professions? As interprofessional education advances and new expectations are placed on health professional education, this wicked problem will require the attention of leaders in health care, post-secondary education, professional organisations and patient organisations—all of whom are represented in this admirable and important collection of papers.

In 1997 at the international conference, *All Together Better Health*, Dr DeWitt Baldwin observed: 'Interprofessional education is a great truth awaiting scientific confirmation.' Eighteen years on, has the field used appropriate theories, models, methods, and experiments, to provide 'scientific confirmation' that IPE/IPP/IPC do indeed promote collaboration through understanding? Has it shown that using IPE/IPP/IPC to promote collaboration does indeed improve quality of care and health

outcomes? Reflecting on those questions there is now an understanding, threaded throughout the text in this collection of papers, that the challenges confronting IPE are surely no more numerous or complex than those encountered in any other area of scholarly endeavour.

It is clear from the work presented in this book that IPE/IPP/IPC need focal points in theories. Those theory-informed focal points will help to build a variety of testable models. Such models will allow the evaluation of educational parameters associated with interprofessional practice and care, and policy options in the wider health system. Using models derived from robust theories will then allow the development and testing of rigorous scholarly and practice bases for IPE/IPP/IPC. Of necessity, to further IPE/IPP/IPC will involve examining a mix of health and human service professions, in a variety of settings, both within the post-secondary education system and in practice.

For those familiar with the history of the field, 'fashion and expediency' are hallmarks of IPE/IPP/IPC in previous incarnations. What is clear across the writing in this collection of papers is that if IPE/IPP/IPC is to move beyond 'fashion and expediency', then it is necessary to use theoretical frameworks based on principles that are coherent, generalisable, transferable, and of continuing applicability. Without a theoretical base, any discoveries about IPE, and any understanding of its operational power, will be moot. Many writers in this book tackle these difficult concepts. What they make clear is that without a theoretical base, and well-constructed methodologies to test and evaluate that theoretical base, a body of knowledge about the importance and impact of IPE/IPP/IPC on collaborative models of care will not grow.

As shown in this collection of papers, educational programmes that claim to promote interprofessional collaboration have a major task in front of them. They must provide theory-based, conceptual opportunities to test assumptions about IPE/IPP/IPC that, at the very least, provide replicable data. Those data should speak to the relationships amongst, and between, different health and human service professions, health systems and crucial policies, as expressed in the values and beliefs held by practitioners and as exteriorised in health systems.

Such data should align *with* the elements of the classic CAIPE definition of IPE. Those data should be derived from evaluation metrics that measure the knowledge and skills acquired when learning 'with', 'from', and 'about' in IP teams; from evaluation metrics that describe the roles and responsibilities professionals actually assume when collaborating; from evaluation metrics that demonstrate the benefits of IPE to quality of care to patients or clients, the benefits to the practice of a profession, and the benefits to an individual's professional growth. Such intersectoral matters are clearly illustrated in Part II of this book.

It is recognised that the scholarship necessary to build such metrics needs to be *interdisciplinary*. That is, elaboration and understanding of the definition will come from viewing IPE/IPP/IPC through the lenses of a number of different academic disciplines such as socio-linguistics, sociology, philosophy, anthropology, economics, political science and others. As is shown, using models that conceptualise the collaborating partners, the evaluation metrics should allow us to assess outcomes and downstream impacts: outcomes for the client/patient; outcomes for the process of interprofessional practice; outcomes for individual professionals; outcomes for agencies in which IP collaboration is exemplified, and ultimately their downstream impacts.

To achieve these ends, studies are also needed that allow measurement of change along a number of dimensions, as a function of collaborative team experience. Such studies need to be both cross-sectional and longitudinal. Such studies need to show that skills acquired in IPE/IPP/IPC are significantly translated to and sustained in practice.

There is a clear and abiding lesson from nearly every interprofessional study conducted with students over the past 18 years: students really enjoy interprofessional experiences. Many, many papers have been published which demonstrate appreciation of and commitment to learning together. Virtually all have been evaluated using a Likert scale, which essentially says: 'We love it, give us more—NOW'. We need to work very hard to translate this large data set into a system of curricular reform. We urgently need to keep students' appreciation and commitment to IPE/IPP/IPC alive after they graduate and begin practising. Sadly, at present this is seldom the case.

So—what of future challenges? As this collection of papers makes clear, those working in IPE need to articulate clear, testable questions about IPE, IPC and IPP. Leaders need to develop (or adopt) evidence-informed methods to examine those questions. They need to find appropriate tools for data analyses. Leaders also need to develop contexts for interpretation of data that further a deeper understanding of IPE/IPP/IPC, ideas that cross many of the chapters in this volume.

To test such challenges the field can use theories and methods from other domains of scholarship in various ways. Data derived from cognate theories and methods have huge potential to formulate answers to these fundamental questions.

The field needs data-based quantified *experience*, as opposed to *perceived* values. In the education–provider framework, such data should give educators, practitioners and policymakers a distinct understanding that interprofessional education (IPE) should always accompany interprofessional practice and care (IPP/IPC). Such data should allow the field to provide the evidence prescribed by Dr Baldwin, by showing that IPE does indeed improve collaboration, and that collaboration does indeed improve quality of care.

This collection of papers forces those in the field to think again about the definition of IPE. To ask, what concepts are needed to test '*with*', '*from*', *and* '*about*' within the contexts and continuum of *collaboration* through to *quality of care*? How, and what, do IP collaborators *think* about their professions? How, when and where, do IP collaborators *talk* about their professions? How do IP collaborators articulate the '*good*' of what they do? How do IP collaborators verbally *conceptualise* their interactions with other health professionals? These are the wicked questions that confront all who are devoted to furthering the agenda.

What this collection of papers shows clearly is that IPE/IPP/IPC needs to take real advantage of the opportunities that now exist to test these wicked questions. The ideas represented here show how diligently work in IPE/IPP/IPC, around the world, is pushing the boundaries. The work clearly shows that we can't afford to slide backwards into the future, that we are no longer at the beginning. The field is now in a most difficult place. The initial joy of 'new love' is fading. Facing the field, as shown in this collection of papers, is the reality of theories, models and methods and

the hard work needed to keep IPE/IPP/IPC moving forward. However, we are also at a juncture where the old Celtic saying is apposite: *Whoever has no patience, has no wisdom.*

John H.V. John H.V.Gilbert, C.M., Ph.D.,
LLD (Dalhousie)., FCAHS Professor Emeritus,
University of British Columbia.
Adjunct Professor, Dalhousie University.
Founding Chair, Canadian
Interprofessional Health Collaborative.

Annette Elliott Rose, Ph.D.,
RN Director, Professional Practice
First Nations and Inuit Health Branch,
Health Canada, Halifax, Nova Scotia

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Acknowledgment

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About the Editors and Contributors

About the Editors

Dawn Forman initially qualified as a radiographer, transferring to teaching six years after qualifying and then to academia in the early 1990s. Dawn was a university executive and Dean of Faculty for thirteen years in the UK and has been an independent consultant for nine years. As a consultant Dawn has been privileged to work internationally with universities and health services in the areas of leadership development, executive coaching, and interprofessional education and has researched and published in each of these fields. Following a period of consultancy with Curtin University, Australia Dawn worked there for 15 months and continues as an adjunct professor. Dawn is also an adjunct at the Auckland University of Technology, New Zealand and a visiting professor at the University of Derby, UK and Chichester University, UK. This is Dawn's eighth book and she has published more than 90 peer-reviewed publications. As well as her professional qualifications Dawn has a PhD, an MBA, and post graduate diplomas in research methodology and executive coaching.

Marion Jones is Dean of University Postgraduate Studies at Auckland University of Technology (AUT) and a director of the National Centre for Interprofessional Education and Collaborative Practice in New Zealand.

A significant focus of her academic career has been the development of postgraduate study. For ten years she was Associate Dean Postgraduate to the Faculty of Health and Environmental Sciences. Her area of research is interprofessional practice and education, postgraduate supervision and peri-operative nursing. She is an author for more than 30 journal articles and five books on these topics, as well as presenting at 70 national and international conferences.

Jill Thistlethwaite is a general practitioner and health professional education consultant in Sydney, Australia, with an adjunct appointment at the University of Technology Sydney. Jill trained as a physician at University College London and worked as a general practitioner in a semi-rural family practice in Yorkshire, UK for ten years before moving into academia. In 2003 Jill emigrated to Australia. Her main interests are interprofessional education, communication skills and professionalism. Jill has written and edited ten books with another two in press, written many book chapters, and published more than 90 peer-reviewed papers. In 2014 Jill was a Fulbright senior scholar and spent four months at the National Center for Interprofessional Practice and Education, University of Minnesota. During her stay she spoke at the Institute of Medicine in Washington DC on the nature of evidence for IPE.

Notes on Contributors

Ahmad Faris Abdullah is the Deputy Dean of Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah from 2004 to 2008 and from 2012 to present. Prior to holding the post, he was a psychiatrist at the Hospital Mesra Bukit Padang, Kota Kinabalu in the state of Sabah, Malaysia. He was instrumental in the planning of hospitals and mental institutions in East Malaysia. He obtained his MD from Universiti Kebangsaan Malaysia in 1993 and later completed his Masters degree in Psychiatry in 2000. He is one of the first alumni of the Melbourne-Harvard Leadership Programme in 2001–2002. While serving in the Ministry of Health, he worked in the Medical Campus, Rural Medical Education Centre and the original proposal for the university teaching hospital. He

also authored the first draft of the multi-award winning community engagement programme, Universiti-Family Partnership in Community Wellness Programme, better known in Malay as 'PuPUK'.

Stéphane Allaire has been Professor of Educational Practices at the Université du Québec à Chicoutimi since 2005. He is the current Dean of Research and Creation at the Université du Québec à Chicoutimi. He holds a PhD in Educational Technology from Laval University where he studied socio-digital affordances that support collaborative reflective practice and knowledge building. His teaching activities are related to classroom management and pre-service teachers' supervision. His research interests include collaborative communication technologies for the development of writing, knowledge building and networked learning communities, and learning environment and multi-grade classrooms in rural schools.

Liliane Asseraf-Pasin is Associate Director of the Physiotherapy Programme, Faculty of Medicine, McGill University, Montreal, Québec, Canada. She received her PhD in Education from McGill University in 2012. She is a member of the Centre for Medical Education and a member of the Joint Curriculum Committee for Interprofessional Education at the Faculty of Medicine, McGill University. Asseraf-Pasin chairs the PT Admissions Committee and the Curriculum Committee at the School of Physical and Occupational Therapy. In addition to teaching qualitative research and advanced educational and management strategies, she is responsible for the coordination and implementation of the equivalency programme for internationally trained physiotherapists completing their equivalency at the School. Her current research interests include interprofessional education and practice and developing cultural competency.

Denise Baker is Head of Pre-qualifying Healthcare at the University of Derby where she has worked since 2013. Prior to this she worked at Birmingham City University for 15 years teaching diagnostic radiographers and assistant practitioners. Her research interests currently focus on the development of the support workforce, and she has been part of the national group developing the Care Certificate in the UK.

Hugh Barr is Emeritus Professor of Interprofessional Education and Honorary Fellow at the University of Westminster with visiting chairs in the same field at Curtin in Western Australia and Kingston with St George's University of London, Greenwich and Suffolk in the UK. He is President of the UK Centre for the Advancement of Interprofessional Education (CAIPE) and Emeritus Editor for the *Journal of Interprofessional Care*. He served on the WHO study group on interprofessional education and collaborative practice and was the first convenor for the World Interprofessional Education and Collaborative Practice Coordinating Committee. He was awarded honorary doctorates by East Anglia and Southampton Universities for his role in promoting interprofessional education nationally and internationally. He was previously an Assistant Director of the then Central Council for Education and Training in Social Work (CCETSW) following social studies at the University of Nottingham and ten years in probation, prison aftercare and criminology.

Barbara Brandt serves as the Associate Vice President for Education within the University of Minnesota's Academic Health Centre, where she is responsible for the *1Health* initiative to build interprofessional practice skills of students and faculty in a broad range of health professions. Brandt also serves as director of the National Center for Interprofessional Practice and Education, a public–private partnership and cooperative agreement with the Health Resources and Services Administration, established in 2012. Four private foundations have signed on to invest in this innovative centre: The Josiah Macy Jr. Foundation, Robert Wood Johnson Foundation, and Gordon and Betty Moore Foundation. Brandt holds a Bachelor of Arts in the teaching of history from the University of Illinois at Chicago and Master of Education and Doctor of Philosophy degrees in continuing education (specialising in continuing professional education for the health professions) from the University of Illinois at Urbana-Champaign.

Isabelle Brault is an assistant professor and leader of inter-faculty IPE courses on collaboration in health care at the Faculty of Nursing of Université de Montréal. Since June 2014 she has been vice president of the Interfaculty Operational Committee for Interprofessional Education

on Collaboration and Partnership in Care. Her research focus includes evaluative research on interprofessional education on collaboration and partnership in care, nursing administration and clinical governance. She is a researcher for the Quebec Nursing Intervention Network and for the Institut de recherche en santé publique de l'Université de Montréal.

Kanaga Kumari Chelliah is a professor and the Head of Diagnostic Imaging and Radiotherapy in the Faculty of Health Sciences, National University of Malaysia. She has twenty years' experience in facilitating undergraduate education and supervision of postgraduate students. Since 2005 she has been a panel member of the MQA Accreditation committee and has contributed to the quality of diagnostic imaging programmes. She is also a Class H consultant approved by the Ministry of Health and responsible for the quality control of ionising equipment. She introduced interprofessional education to the Faculty of Health Sciences in 2013 and has a keen interest in interprofessional collaborative practice. Kanaga's research interests include health sciences education and breast imaging, and she has been a regular contributor to local and international publications.

Lauren Collins is Associate Professor of Family and Community Medicine and Geriatrics at Thomas Jefferson University, Associate Director of Jefferson's Centre for Interprofessional Education (JCIPE) and Director of Jefferson's Health Mentors Programme. In 2015, she was selected as one of five recipients of the Macy Faculty Scholars Programme from the Josiah Macy Jr. Foundation. In addition, she has received the American Academy of Family Physicians' Award for Excellence in Graduate Medical Education, Jefferson's IPE Education Award, three AAMC/Macy Collaborative Development Awards and a HRSA Geriatric Academic Career Award. Collins has served as Principal Investigator of a five-year HRSA-funded undergraduate medical education grant, *The Jefferson Patient-Centred Medical Home (PCMH) Predoctoral Education Project*. Collins serves as a peer reviewer and/or editorial board member for six peer-reviewed journals, has more than 20 peer-reviewed publications and more than 50 national presentations, teaches and advises students, and serves on multiple committees for interprofessional education.

Jeannine M. Conway is Assistant Dean of Professional Education and Director of Teaching, Learning and Assessment as well as an associate professor in the Department of Experimental and Clinical Pharmacology, College of Pharmacy, University of Minnesota. She received her BS in pharmacy and PharmD from the University of Minnesota and completed a fellowship in neuropharmacology. Her interests include anticonvulsant pharmacokinetics and educating future pharmacists and neurologists in how to optimise pharmacotherapy. She provides clinical pharmacist services in an adult epilepsy clinic and the interprofessional comprehensive facial pain clinic at the University of Minnesota. She is also the Director of Pre-Advanced Pharmacy Practice Experiential Education and has significant experience in delivering pharmacy skills education.

Sandra Coulombe is a professor at the Université du Québec à Chicoutimi in vocational education. She holds a PhD in Education. Her teaching activities include social and professional integration, collaboration in vocational training centres and practical training of teachers in vocational training. Her research interests focus on workplace learning, communities of practice, and collaborative practice in vocational training. She is a research associate at the Laboratory of Anthropology of Education and the CRIFPE.

Kate Cuthbert is the Academic Lead for Health and Social Care at the Higher Education Academy, UK. Kate has significant experience in facilitating change within learning organisations (incorporating undergraduate, postgraduate and CPD/work-based learning frameworks). Her academic background is health and social care (producing learning opportunities in clinically-led commissioning; interprofessional learning; patient safety; quality improvement skills; and leadership and management). Kate has delivered national learning programmes in patient safety as part of the NHSIII safer care initiative and headed up numerous validation and quality assurance activities in higher education institutions, working to meet professional/regulatory body requirements and health sector needs. Her work at the Higher Education Academy has included whole organisational change programmes and curricula reviews. She recently led the development and delivery of the Teaching Excellence Programme. Kate

has significant teaching experience in psychology, including mental health. Her PhD explored health beliefs in eight post-Soviet states.

Ben Darlow is a Senior Lecturer in the Primary Health Care and General Practice Department, University of Otago Wellington, and a Physiotherapy Specialist in private practice in Wellington, New Zealand. Ben received his PhD in Medicine from the University of Otago and has research interests in musculoskeletal pain and interprofessional education. Ben is a member of the Wellington Interprofessional Teaching Initiative which includes pre-registration dietetic, medical, physiotherapy and radiation therapy students. Ben is involved in teaching and evaluating interprofessional education initiatives.

Megan Davidson is Adjunct Associate Professor of Physiotherapy at La Trobe University in Melbourne, Australia. Davidson has been involved in clinical and academic interprofessional collaboration and education for more than 20 years. She was a member of a team of academics and clinicians who were funded to develop an enquiry-based interprofessional learning programme for health sciences students to undertake during their clinical placements. Her research interests in education are in the areas of interprofessional education, the assessment of clinical performance, and evidence-based practice. Megan has been a consultant to professional, government and non-government organisations on a variety of health practice and workforce issues.

Tanya Dryden is a senior lecturer and Programme Leader for the FdSc Professional Development Health and Social Care (Higher Apprenticeship Assistant Practitioner) Course at University of Derby. Previous experience includes teaching on pre-registration nursing and operating department practitioner courses. Her current areas of interest relate to the development of the unregistered workforce within health and social care.

Vincent Dumez holds a finance degree and a Master in Science of Management from Montreal's international business school Hautes Études Commerciales. Until 2010, Dumez was senior strategic consultant in one of Montreal's most influential consulting firms. Suffering from severe chronic diseases for more than three decades, Dumez has

been actively involved in the promotion of the 'patient partner' concept at Montreal University. This involvement led to: the completion of his master's dissertation on patient-doctor relationship; his contribution to the training of patients; work on various boards of community organizations and his involvement as a speaker in forums to healthcare professionals. Dumez has also been a key collaborator for the Education Centre (CPASS) of the Faculty of Medicine of the University of Montreal. From October 2010 to June 2013, he founded and led the Faculty Office of the Patient Partner Expertise. He is now co-director of a larger faculty unit, which integrates interprofessional collaboration and patient partnership competencies development.

Rosa M. Durán-Sabogal is a nurse with a Masters in Health Administration. Currently she is Professor of Community Health and team member of the Center of Studies for Community Health at Universidad de La Sabana (CESCUS). Recently she was the deputy director of 'Equitable Life Start', a comprehensive research programme that studied early childhood development in the central region of Colombia, to develop evidence-based strategies for capacity building at different levels of the programme's ecological approach. Besides this she has more than 25 years of experience in public health programmes, developing processes for management of national and regional initiatives in disease prevention and health promotion for different population groups across the life cycle. As an independent consultant Rosa has coordinated and managed projects in maternal and child health, chronic diseases and primary health care. In addition to this interest and work in community health, she has a long-standing interest in health policy, project management and administration of health services.

Benny Efendie is a clinical pharmacist and currently working as a lecturer and coordinator of experiential learning programmes at the School of Pharmacy, Monash University Malaysia. He has pioneered interprofessional education in various institutions, including the International Medical University, SEGi University and Monash University. Currently he is completing his PhD on interprofessional education among first year students. He is actively involved in FIPEd, the education arm of the

International Federation of Pharmacy, especially in the working group for IPE and also in the Australasian Community of Interprofessional Collaborative Practice (ACoIPCP).

Brenda Flood is a senior lecturer at Auckland University of Technology, New Zealand, where she is an interprofessional education and practice development leader within the Faculty of Health and Environmental Sciences. Brenda is currently undertaking doctoral research with a focus on exploring health professionals' experiences of interprofessional practice. Her study aims to reveal and illuminate insights from these experiences to inform interprofessional learning.

Sue Fyfe is an epidemiologist, anatomist, speech pathologist and teacher with research interests in disability, health services and educational research, particularly interprofessional education and innovative approaches to teaching and learning (T&L). She has published and presented widely on disability and T&L innovation, and been successful with a number of national competitive T&L grants. She is currently working on pedagogy for the flipped classroom, innovative methods of assessment and developing student identity and skills that prepare students for roles in primary care. She has held senior leadership roles at Curtin University, Australia, as inaugural Dean of Teaching and Learning in the Faculty of Health Sciences, Head of School of Public Health and Professor of Medical Education for the School of Medicine. She is Deputy Chair of the WA Peel Development Commission, a Board member of the Maureen Bickley Centre for Women in Leadership and Chair of the Forest Heritage Centre.

Maryke Geldenhuys is a coordinator of Public Health and Community-Based Education in the undergraduate medical curriculum at Stellenbosch University (South Africa). Prior to this she was a facilitator in interprofessional education and collaborative practice, whilst working in the government sector. As an occupational therapist she realises the importance of interprofessional teamwork to ensure effective intervention in a challenging social context. She obtained a Master's Degree in Early Childhood Intervention at the University of Pretoria, where she developed a passion for interprofessional teamwork, family-centred community intervention

and collaborative problem solving. She also has experience of working in a private paediatric practice.

John H.V. Gilbert is the Founding Principal and Professor Emeritus, College of Health Disciplines, University of British Columbia where he was also founding Director of the School of Audiology and Speech Sciences, and Director of the School of Rehabilitation Sciences. He is a member of the Editorial Board of the *Journal of Interprofessional Care*, and Co-editor of the open access *Journal of Research in Interprofessional Education*. He was Co-chair of the WHO Study Group on Interprofessional Education and Collaborative Practice, and currently serves on the Advisory Committee on social determinants of health at the WHO. He was awarded the Queen's Diamond Jubilee Medal in April 2012. Dr Gilbert was appointed a Member of the Order of Canada, in July 2011, for his leadership in the development of interprofessional education. At the Convocation of Dalhousie University, Halifax, Nova Scotia in May 2016 he will receive the honorary degree, Doctor of Laws, honoris causa in recognition of his work.

Ariane Girard is a student completing her BSc degree in Nursing Sciences at the Université du Québec à Chicoutimi. She is also completing a Master's Thesis in Nursing, exploring and describing nursing practices in primary care for patients with multi-morbidity, combining physical chronic diseases and common mental disorders. She contributes to several research projects as a research assistant. She is also working as a registered nurse in an addiction rehabilitation centre.

William Godolphin is Professor Emeritus in the Department of Pathology & Laboratory Medicine at the University of British Columbia, Vancouver, Canada. He is also Co-director of Patient & Community Partnership in Education, Office of the Vice Provost Health, which was most recently the Division of Health Care Communication in the College of Health Disciplines. Godolphin has been a teacher and researcher for many years, with projects and publications ranging across lipoproteins, breast cancer prognostic factors, clinical laboratory toxicology, laboratory automation and robotics, and medical education. Over the past two decades he has, in

collaboration with Dr Angela Towle, developed and studied educational interventions that aim to help health professionals engage patients/clients in informed and shared decision-making. The most promising of these has involved bringing the authentic and autonomous voices of patients and community into health professional education.

Sharon Nur Hatcher is an associate professor in the Department of Emergency and Family Medicine at the Faculty of Medicine and Health Sciences at the Université de Sherbrooke, Québec, Canada. She is currently the Associate Dean for the Saguenay-Lac-St-Jean region, as well as Director of the Saguenay Medical Programme. She also holds the position of Associate Dean at the Université du Québec à Chicoutimi. Sharon completed a Masters in Clinical Science with the University of Western Ontario in 2014 with a thesis on the integration of spirituality in medical education. She has been a participant in several curriculum renewal committees with her department, where she served as chair, with the College of Family Physicians of Canada, and more recently with the MD Programme of the Université de Sherbrooke. Her areas of interest include patient-centred care and interprofessional education, as well as service-learning and community engagement.

Marion Helme is the current convenor for the World Interprofessional Education and Collaborative Practice Coordinating Committee, and elected Board member of the UK Centre for the Advancement of Interprofessional Education (CAIPE). After an early career in social work practice she worked as a lecturer and researcher in social work and in systems thinking, and gained a doctorate for research into children and young people's participation. For the last twelve years she has been immersed in interprofessional education, first for the UK Higher Education Academy, based at King's College London, including IPE teaching, producing publications, obtaining European Commission funding to set up and run the European Interprofessional Education Network (EIPEN), and managing projects in IPE research and open educational resources in public health. Most recently she has worked as an independent researcher and honorary fellow of St George's University of London and Kingston University.

Kreshnik Hoti is a pharmacy practice academic with extensive experience as a community and consultant pharmacist. Kreshnik has set up novel interprofessional programmes to integrate students from various health science disciplines at Curtin University, Australia. The focus of these programmes was on dementia and disease state and medication management review in aged care and community settings. He was involved in the training of various health professionals by facilitating workshops on collaborative practice in chronic disease management, and this has broadened his understanding of interprofessional collaboration. He has published papers on pharmacist prescribing, medication supply models to residential aged care facilities, interprofessional education, antibiotic use, e-health literacy and evaluation of community pharmacy-based professional services.

Jeff Hughes is the former Head of the School of Pharmacy, Curtin University. He graduated from the Western Australian Institute of Technology (WAIT) with a BPharm degree in 1978. Since then he has completed three postgraduate degrees, including his PhD which he received in 2007. His research interests include interprofessional education, pharmacy practice, health literacy, pain assessment and management, adverse drug reactions and pharmacovigilance, infectious diseases, diabetes, hypertension, palliative care, cognitive impairment and dementia, and patient and medication safety. Jeff has won a number of awards including the 2004 PSA Pharmacist of Year Award and 2014 Australasian Pharmaceutical Sciences Association Medal. He has published more than 200 research and professional papers and contributed to 20 books. Jeff is an accredited pharmacist and a part-owner of a community pharmacy.

Muhammad Tahir is Professor of Psychology and Director of Quality Enhancement Cell (QEC) at the International Islamic University Islamabad, Pakistan. Muhammad was Senior Clinical Psychologist in the Psychology Department, Roscommon Mental Health Services and Clinical Supervisor for DPsychSc, School of Psychology National University of Ireland, Galway, Ireland. His research interests include addiction, PTSD, neuropsychological disorders, mental health, neurofeedback, schema modes. He is a member of the Pakistan Psychological Association, Associate Fellow of the Psychological Society of Ireland and a

Chartered member of the British Psychological Society. He has presented his scientific and research work in national and international conferences, attended and participated in continuous professional development trainings and has published articles on a range of mental health issues in refereed journals.

Dominique Labbée is a PhD candidate and Professor of Nursing Sciences at the Université du Québec à Chicoutimi. She practised as a full-time emergency nurse for 15 years and is now working part-time in emergency wards. Her PhD thesis is on the integration of family members in intensive care units and what they can bring to quality of care in emergency situations, including resuscitation and invasive procedures. She is also a clinical simulation instructor, conducting interdisciplinary high fidelity simulations in critical care involving nursing, medicine and respiratory therapy students.

Francisco Lamus-Lemus is a paediatrician working in public health, maternal and child health, primary health and health professions education. He has led different community health development projects with civil society organisations and public sector institutions in Colombia and internationally. He is currently the director of the research group in family and community medicine at the Center of Studies for Community Health at Universidad de La Sabana (CESCUS). In different action research projects he has contributed with programmes such as the WHO 'Healthy School Initiative' in Cundinamarca and Bogotá, re-engineering the Maternal and Child Care initiative in Bogota 2006–2011, designing and implementing the Integrated Management of Childhood Illness (IMCI) strategy in different Colombian territories, developing the Management Model for Child Health and Wellbeing for the Ministry of Health in Colombia in 2004, and recently directing the 'Equitable Life Start' research programme. Much of his experience has been built around interprofessional action research and collaboration with communities in primary health care.

Eileen McKinlay is a senior lecturer in the Primary Health Care and General Practice Department, University of Otago Wellington and the Director of the department's interprofessional postgraduate programme.

She co-leads the Wellington Interprofessional Teaching Initiative which includes pre-registration dietetic, medical, physiotherapy and radiation therapy students, and is a member of the Academic Support Team for the Tairawhiti Interprofessional Education programme. Eileen is a registered nurse by background and her current research interests include interprofessional education, the humanities in medical education, health service evaluation in primary health care, the changing roles of primary health care nursing, palliative care and the management of long-term conditions.

Nabishah Mohamad is a Medical Educationist and a professor at the Department of Physiology. Her interest in the field of education began when she was awarded a WHO Fellowship in 1999 to study education technology at the University of Newcastle, Australia. In 2005 she obtained a Postgraduate Diploma in Medical Education from Dundee. She was a member of the MQA Accreditation committee from 2007 to 2013, and has been a Board member of the Association of Medical Education in Western Pacific Region (AMEWPR) since 2008. She has served as a Member of the Malaysian Medical Council (MMC) and is a member of various working committees of the MMC including the accreditation committee. Nahishah introduced interprofessional education at her university in 2007, and is also actively involved in IPE research.

Monica Moran is an occupational therapist, educator and researcher. Based at Central Queensland University, she is Associate Professor/Discipline Leader for the Bachelor of Occupational Therapy. She is a founding member of the Australasian Interprofessional Practice and Education Network (AIPPEN) and is active in several international research teams focusing on interprofessional learning. In 2015 she assumed the role of President of the Australia and New Zealand Association for Health Professional Educators. She has been involved with the development and evaluation of interprofessional education since 2006, and in 2010 she was a member of the international group that produced the WHO Framework for Interprofessional Education and Collaborative Practice. Along with academics from Queensland University of Technology (QUT), Monica coordinates the national student competition, the HealthFusion Team Challenge. Other research interests include the development of professional identities within

the health professions and the inclusion of consumers as educators in health education programmes.

Jana Muller is the Physiotherapy, Allied Health and Interprofessional Education and Collaborative Practice Coordinator at Stellenbosch University's Ukwanda Rural Clinical School, which is Africa's first rural clinical school. She has developed and run numerous interprofessional education projects within the health care community using ICF as a tool to guide collaboration. In her capacity as IPECP coordinator, she has engaged with academic, NGO and government sectors to encourage collaborative practice at institutional level. Jana has been involved in research, investigating the value of IPECP at undergraduate level and how it contributes in developing competent graduates. She is also evaluating the impact that teams working interprofessionally have on the health status of a community. Jana is a qualified physiotherapist, with a clinical Masters in Orthopaedic Manual Therapy and has a special interest in community engagement, service-learning and IPECP on a practice level.

Matthew Oates is Lecturer in Podiatry at La Trobe University in Melbourne, Australia. Matthew has been involved in clinical and undergraduate health professional education for more than 15 years. He played a lead role in the design and implementation of an interprofessional first year programme for undergraduate health sciences students at La Trobe. Matthew has an interest in interprofessional education and collaborative practice, curriculum design and educational evaluation. His doctoral research is on developing an instrument to measure outcomes of interprofessional education in pre-qualification health professionals. He is the current Steering Committee Co-ordinator of the Australasian Interprofessional Practice and Education Network (AIPPEN). Matthew continues to work as a podiatrist in private practice.

Daniel O'Brien is a lecturer in the Physiotherapy Department at Auckland University of Technology (AUT). He trained as a physiotherapist at AUT and, after spending six years working in private practice both in New Zealand and the UK, moved into clinical education and academia. He is currently undertaking his PhD, which is looking at patients' and

clinicians' beliefs regarding the management of osteoarthritis. His other research interests include facilitating behaviour change in health care, and exploring interprofessional collaboration in health care practice.

Amy L. Pittenger is an associate professor in the Department of Pharmaceutical Care and Health Systems and Director of Interprofessional Education and Pharmacy Learning Collaborative at the University of Minnesota's College of Pharmacy. Her educational background includes a BSc in Pharmacy, Doctorate of Pharmacy, MSc in Clinical Research, and PhD in Curriculum & Instruction. She has had a diverse professional career that includes clinical practice, basic science research, the pharmaceutical industry and academia.

Susan (Sue) Pullon is Associate Professor and Head of Department, Primary Health Care and General Practice, University of Otago Wellington. She is also the Director of the Tairawhiti Interprofessional Education programme for undergraduates, and Chair of the University's Division of Health Sciences Interprofessional Education Governance Group. Sue is actively engaged in leading interprofessional education and practice research, and has been a GP for more than 30 years with special interests in collaborative practice and integrated care. Sue has wide teaching and research expertise in many aspects of primary health care and general practice, including sexual and reproductive health. She was awarded a Distinguished Fellowship of the Royal NZ College of General Practitioners in 2009 for her contribution to research and education.

Gemma Sinead Ryan is Senior Lecturer in Health for the University of Derby Online. As part of her clinical research background she is an Honorary Research Fellow for Leicestershire Partnership NHS Trust and also works as a practice tutor for the Open University. Gemma has a diverse background as a qualified teacher with QTLS/QTS, is a HEA fellow and is a registered adult nurse and nurse teacher. Her experience includes education, research management, private and NHS health care (community and acute setting). She holds a MSc Professional Education and PGCert.HE, BSc(Hons) Health & Social Care and Postgraduate Certificate in Advancing Healthcare Practice. Gemma is close to completion of a Doctorate of Health Science, conducting a critical realist

ethnography of professional accountability and Facebook behaviours. Gemma has led and worked on a range of educational and health research projects with a particular interest in Facebook and social media in health care and health care education.

Waidah Sawatan is a nursing lecturer in the Department of Nursing, Universiti Malaysia Sabah and is currently the Coordinator for the Diploma of Nursing Programme. Her portfolio includes curriculum development and IPE implementation through various approaches, including the involvement of nursing students in the health promotion programme and the university–family partnership programme. She is also a council member of the Public Institution of Higher Learning Malaysia. Her higher educational background is in the field of elderly care. She has research interests in rehabilitation technology and venturing further into IPE implementation in the current university setting.

Wendy Shoesmith is a psychiatry lecturer at University Malaysia Sabah. She trained in the UK and has been living and working in Malaysia since 2007. Since 2008, she has been coordinating the University–Community Partnership programme, in which medical and nursing students are 'adopted' by families in disadvantaged, rural communities. Her main research interests include alcohol misuse, reducing the treatment gap in mental health, and collaborative practice. She is currently running an action research project to improve collaboration across the Malaysian mental health system. She is the secretary to the Intervention Group for Alcohol Misuse (IGAM), a collaborative cross-sectoral group which aims to reduce alcohol-related harm by empowering local communities.

Stefanus Snyman is the Manager of Interprofessional Education and Collaborative Practice at the Centre for Health Professions Education, Stellenbosch University (South Africa). He is an occupational medicine practitioner and health professions educationist with a special interest in interprofessional education and collaborative practice, competency-based education, service-learning and mHealth. Stefanus also serves as coordinator of the Africa Interprofessional Education and Collaborative Practice Network (AfIN), is on the advisory board of the *Journal of Interprofessional Care*. He is member of the Functioning and Disability

Reference Group (WHO Family of International Classifications Network) and of In-2-Theory, an international network with a remit to develop social science theory and explore its practical application to interprofessional collaborative practice and interprofessional education.

Hassan Soubhi is a professor at the Université du Québec à Chicoutimi in the Physical Therapy programme. He holds a PhD in Public Health and Epidemiology. His teaching activities include research methodology, biostatistics and interprofessional education. His research centres on interprofessional education and collective learning. He is the founder and lead editor of the *Journal of Research in Interprofessional Practice and Education* (*JRIPE*).

Carole Steketee is the Director of the National Learning and Teaching Office at the University of Notre Dame Australia, as well as the Associate Head of the Fremantle campus. As Office Director she provides strategic leadership for and oversees the implementation of many of the priority areas identified in the University's 2014–2016 Learning and Teaching plan. She has held the position of Chair of the National Learning and Teaching Committee and has recently been appointed Chair of the Academic Council. Between 2007 and 2015, Carole was the Associate Dean Teaching and Learning in the School of Medicine Fremantle where she was Director of the Medical Education Support Unit. In this position Carole led the development of Prudentia, a dynamic web-based curriculum management system that is underpinned by an outcomes-based curriculum framework. Carole has participated in a number of national Office Learning and Teaching (OLT)-funded projects, including Curriculum Renewal Studies in Interprofessional Health Education.

Chai Eng Tan is a Family Medicine Specialist and lecturer at the Department of Family Medicine, National Universiti of Malaysia. She is involved in teaching undergraduates and postgraduates in the field of family medicine. She was also the head of the Comprehensive Healthcare module for the academic sessions of 2011–2013, as well as contributing as a facilitator to subsequent sessions. Currently, she leads a team of dedicated nurses in the Home Care Unit and chairs a fortnightly case conference session involving doctors, nurses and dieticians to discuss the case management of patients receiving Home Care services.

Seng Fah Tong is a professor at the Department of Family Medicine, National University of Malaysia. He has ten years of experience in teaching undergraduate medical student and postgraduate masters in family medicine. Given his background training in family medicine, he has been promoting collaborative practices in medicine and is involved in the Comprehensive Health Care module in the university undergraduate medical programme. He has introduced collaborative practice between physicians and nurses in the university Home Care service. At the national level, he is the current Chair for the Malaysian Primary Care Research Group. His research interests include preventative health care, men's health, and chronic disease management systems in primary care settings.

Angela Towle is an associate professor in the Department of Medicine and Senior Scholar in the Centre for Health Education Scholarship at the University of British Columbia (UBC), Vancouver, Canada. She is Co-director of Patient & Community Partnership in Education, Office of the Vice Provost Health, formerly the Division of Health Care Communication in the College of Health Disciplines, which has a focus on patient/client involvement in health care decision-making and in the education of health professionals. She is also Academic Director for the UBC Learning Exchange with responsibility for strengthening engagement between the University and Vancouver's inner city communities. Between 2002 and 2010 she was Associate Dean, MD Undergraduate Education in the Faculty of Medicine. During this time she was part of the leadership team that implemented the expansion and distribution of the Medical School, which resulted in a doubling of the entering class size and two new satellite campuses.

Marie-Claude Vanier is a Full Clinical Professor at the Faculty of Pharmacy of Université de Montréal (UdeM). She holds a joint clinical/academic appointment with the Pharmacy Department of CISSS de Laval, and is also a clinician of the Sanofi Aventis Endowment Chair in ambulatory pharmaceutical care of these two organisations. She provides pharmaceutical care at the Family Medical Teaching Clinic and contributes to the clinical training of pharmacy, medicine and nursing students. She directed the development of the UdeM pre-graduate

inter-faculty curriculum of interprofessional courses on collaborative practice in partnership with patients and their caregivers for health sciences and psychosocial sciences students. Since March 2010 Marie-Claude has been Chair of the Interfaculty Operational Committee. In 2009, she was recognised in Quebec as a role model in interprofessional collaborative practice by l'Actualité Pharmaceutique. She was also granted the 2010 AFPC-Bristol-Myers Squibb National Award for excellence in Education, from the Association of Faculties of Pharmacy of Canada.

Joe Von Bank is a Year 1 postgraduate pharmacy resident at HealthPartners in Bloomington, Minnesota where he practices as an MTM pharmacist and performs managed care functions for the prescription plan. He received his PharmD from the University of Minnesota College of Pharmacy in 2015. He has experience with conducting research in dialysis facilities, studying patient medication experience and gaps in medication use.

Maria van Zyl is a part-time lecturer in the Centre for Rehabilitation Studies at Stellenbosch University (South Africa) who is responsible for the rehabilitation component in the undergraduate medical curriculum. In doing so she is an integral part of the interprofessional education team at the Faculty of Medicine and Health Sciences. She has a passion for assisting in the development of future change agents who are respectful team players and see the patient and his/her family as the central, most important member of the team. After graduating as an occupational therapist in 2002, and completing her year of community service, Maria spent some time in England working for social services and the NHS. Upon returning to South Africa she worked in private paediatric practice before joining the University.

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Part I

**Research in General:
Implementation and Challenges**

1

Best Practice in Leading Research and Evaluation for Interprofessional Education and Collaborative Practice

Dawn Forman and Jill Thistlethwaite

The decade since the last 15 years has reignited an interest in interprofessional education (IPE) and collaborative practice (CP) globally. The editors of this book believe this was due at least in part to the publication of the World Health Organization (2010) Framework for Action on Interprofessional Education and Collaborative Practice, which not only reviewed examples of interprofessional education internationally but also provided a framework that linked interprofessional education (IPE) to collaborative practice (CP) and improved health care provision. The editor's earlier 2 books (Forman, Jones, & Thistlethwaite, 2014, 2015) took into account further work by the World Health Organization (WHO) (2013) and policies which were being implemented in diverse countries, such as by Health Education England (2014). We also included reports on research studies such as Interprofessional Curriculum Renewal and Australia (2014) in Australia, to provide global examples of how IPE and CP were being taken forward in higher education institutions and communities.

Since the latest Cochrane report on IPE (Reeves et al. 2011), there has been an increased interest in research on and evaluation of not only the

educational aspects of interprofessional curriculum delivery but, perhaps more importantly, the impact of interprofessional practice on the care of the patient or client.

Many projects have used the classification of interprofessional education outcomes proposed by Barr, Koppel, Reeves, Hammick, and Freeth (2005) as a guide (see Table 1.1). While the aspiration may be to provide evidence of outcomes at level 4b, the majority of studies have reported on outcomes at levels 1 to 2b, with a smaller number at level 3. Whilst some of our chapters and particularly Parts III and IV look at the evaluation at level 4 it is acknowledged that there is still further work to be undertaken to look at the impact of interprofessional education and practice with the patients, clients and community.

This book explores research and evaluation and includes a wide range of research methodologies and evaluation frameworks. We hope the book will therefore stimulate ideas and that workers in this field will consider how an intervention—whether it be educational, practice- or systems-based—is to be studied and data gathered at the start of any study.

A publication by the US-based Institute of Medicine (2015) provides a helpful summary of the research methodologies that can be used within an interprofessional context. This document also considers the nature of

Table 1.1 Classification of interprofessional outcomes

Level 1: Reaction	Learners' views on the learning experience and its interprofessional nature.
Level 2a: Modification of perceptions and attitudes	Changes in reciprocal attitudes or perceptions between participant groups. Changes in perception or attitude towards the value and/or use of team approaches to caring for a specific client group.
Level 2b: Acquisition of knowledge and skills	Including knowledge and skills linked to interprofessional collaboration.
Level 3: Behavioural change	Identifies individuals' transfer of interprofessional learning to their practice setting and their changed professional practice.
Level 4a: Change in organisational practice	Wider changes in the organisation and delivery of care.
Level 4b: Benefits to patients/clients	Improvements in health or well-being of patients/clients.

Source: Barr et al., 2005

the evidence required to try to answer the question about the effectiveness of IPE and CP—a question which IPECP champions in our experience are frequently asked.

In an environment where research into and evaluation of IPE is increasingly of interest to both academics and practitioners we hope this book captures some of the work which is taking place globally and thereby helps in sharing good practice and stimulating further research into interprofessional education and practice.

How to Use This Book

We hope this guide will help you dip in and out of the book and find what you are looking for within easy reach. We have separated the book into four parts.

Part I, *Research in General: Implementation and Challenges* contains two chapters: one from the USA and one from the UK but each providing overviews on interprofessional developments through previously conducted research. This research has in each case been led by a national centre for the development and implementation of interprofessional education, although these centres are fairly different in scope and resources. In the USA the centre is the National Center for Interprofessional Practice and Education and in the UK it is the Centre for the Advancement of Interprofessional Education (CAIPE).

Part II, Examples of Research Projects in the Field provides examples of the variety of evaluation and research projects that are being undertaken, the design of these projects, methodologies or models, and the early results emerging.

Part III, Evaluation in General: Implementation and Challenges provides an example of how a national competition has stimulated the sharing of best practice and how the process of developing and implementing the competition is itself being evaluated. This is followed by a chapter outlining a comprehensive framework for evaluating interprofessional education and collaborative practice.

Part IV, Examples of Evaluation in the Field provides further 'stories' of how evaluation is being built into the process of designing and

implementing interprofessional education and collaborative practice. We hope the descriptions of how this work is being led and the challenges being faced will help readers in the design of their research and evaluation of their own studies.

Our final chapter provides a summary of the latest research taking place internationally and looks to the future in terms of not only the changes in leadership of interprofessional education and practice and the research which is necessary, particularly with regard to the impact on patients, clients and communities, but also highlights the need for continuation in the funding of such initiatives if our progress is to be consolidated and further benefits to practice are to be realised.

Reading and Using Our Book

In editing this book we have considered the many ways in which it may be of use to academics, practitioners, students and patients, clients or communities. We believe our sectioning will help most of our readers to find what they are most interested in with ease. However, to provide further help to navigate through the book, Table 1.2 indicates the country the chapter refers to, and the research and interprofessional aspects covered in each chapter.

Table 1.2 Key research and interprofessional aspects of each chapter

Chapter	Country	Key research and interprofessional aspects highlighted
Part I Research in General: Implementation and Challenges		
2	USA	Development of the National Center; evaluation and research strategy; measuring impact on practice; sustainability; leadership; the nexus
3	UK	National review of 51 universities with detailed reflective accounts from a selection of institutions; perspectives from key stakeholders
Part II Examples of Research Projects in the Field		
4	Colombia	Seven research projects; determinants of health; community appropriation of lessons learned; constructing knowledge; sustainable capacity building environment; action research; case studies; interdisciplinary; transdisciplinary

Table 1.2 (continued)

Chapter	Country	Key research and interprofessional aspects highlighted
5	Canada	Shared leadership; adaptive leadership; responsibility development; boundary crossing; data collection; systematic review of the literature; pilot project; activity theory; transdisciplinary evaluation framework
6	UK	Action research; 4 dimensional curriculum development model
Part III Evaluation in General: Implementation and Challenges		
7	Australia	Implementation; safe health care; effective interprofessional care; rigorous evaluation; measuring outcomes
8	New Zealand	Building in evaluation methods; multifaceted evaluation network; understanding of any changes in learner attitudes; behaviours; governance and institutional leadership; organisation and communication logistics; multifaceted evaluation framework
Part IV Examples of Evaluation in the Field		
9	Malaysia	Interprofessional community-based module; co-curricular activities; problem-based learning sessions; clinical placements and community projects; leadership models required to drive change; processes used to evaluate change
10	Malaysia	Joint community work and evaluation
11	Australia	Establishment and evaluation; interprofessional student-led wellness assessment services; residential aged care facilities; general practice interprofessional service; changes in student attitudes and behaviours; evaluation by stakeholders and patients
12	Pakistan	Organisational change; leadership styles; interdepartmental group level; multidisciplinary and inter-functional cooperation; public health and mental health evaluation
13	Australia	Non-governmental organisations; community-based health and social care; development and evaluation of a community of practice model; Australian Health Leadership Framework—building leadership capacity and leadership skills
14	New Zealand	Health care team challenge; implementation and evaluation
15	South Africa	International classification of functioning, disability and health; fostering evaluation of collaborative leadership.
16	Canada and USA	Positive impacts of patient engagement on health outcomes in different settings; patients as educators for health care students; evaluation of a programme with patients involved in educational design process

In addition Appendix A provides a comprehensive list of definitions and Appendix B has some suggestions for further reading on relevant topics.

In whichever way you choose to read and use this book we hope you enjoy the experience and find new ways of leading the research and evaluation of interprofessional education and practice.

Appendix A: Useful Definitions

Term	Definition or Interpretation
*Action research	This approach is known by various names, including 'cooperative learning', 'participatory action research' and 'collaborative research'. The research is focused on people involved in a process of change that is the result of a professional, organisational, or community activity. It adopts a collaborative approach whereby evaluators play a key role with participants in the processes of planning, implementing, and evaluating the change linked to an activity.
Adaptive leadership	This is a practical leadership framework that helps individuals and organisations adapt and thrive in challenging environments. It is being able, both individually and collectively, to take on the gradual but meaningful process of change.
*Collaboration	This is an active and ongoing partnership, often involving people from diverse backgrounds who work together to solve problems or provide services.
*Collaborative patient-centred practice	This is a type of arrangement designed to promote the participation of patients and their families within a context of collaborative practice.

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Term	Definition or Interpretation
Collaborative/shared leadership	Collaborative leadership is an influence relationship, which engenders safety, trust and commitment among leaders and their partners who intend to make substantive or transforming change that reflects their mutual purpose, shared vision and common goals.
Communication	This 'is the activity of conveying information through the exchange of thoughts, messages, or information, as by speech, visuals, signals, writing, or behaviour. It is the meaningful exchange of information between two or a group of persons'
Community engagement	This is the process of working collaboratively with and through groups of people.
Community immersion (or field practicum) programmes	These are embedded in the pre-licensure curricula of many of the health professional disciplines. Students, usually in their final year, are required to immerse in communities to practise the skills they have acquired under the supervision of discipline-specific university faculty preceptors.
Competency and capability	Bainbridge et al. (2010) define competency as 'identify specific knowledge, skills, attitudes, values and judgments that are dynamic, developmental and evolutionary' and differentiate this from capability which they state 'has been used in preference to competence in one IPE framework, as it.
*Continuing education	This encompasses all learning (e.g., formal, informal, workplace, serendipitous) that enhances understanding and improves patient care.

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Term	Definition or Interpretation
*Continuing professional development	This is self-directed learning that ensures continuing professional competency throughout one's health professional career.
Culture	The main definition of culture we use in this book is: 'Culture is all aspects of life, the totality of meanings, ideas and beliefs shared by individuals within a group of people. Culture is learned, it includes language, values, norms, customs. Art has played a central, integral role in most cultures' (www.design.iastate.edu/NAB/about/thinkingskills/cultural_context/cultural.html)
Distributed leadership	'Distributed leadership is primarily concerned with mobilising leadership at all levels in the organisation, not just relying on leadership from the top. It is about engaging the many rather than the few in leadership activity and actively distributing leadership practice. The emphasis here is about leadership practice and not leadership functions. A distributed model of leadership, is one premised upon the interactions between many leaders rather than the actions of an individual leader.' Harris and Spillane (2008)
Effective interprofessional education	According to Reeves et al. (2011), 'the effectiveness of IPE interventions *compared* to *education interventions* in which the *same health* and *social care professionals learn separately* from *one another*; and to *assess* the *effectiveness* of *IPE interventions*'.
*Entrustable professional activities	This is a concept that allows faculty to make competency-based decisions on the level of supervision required by trainees

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Term	Definition or Interpretation
*Ethnography	This approach entails studying the nature of social interactions, behaviours, and perceptions that occur within teams, organisations, networks and communities. The central aim of ethnography is to provide rich, holistic insights into people's views and actions, as well as the nature of the location they inhabit, through the collection of detailed observations and interviews.
*Evaluation	This refers to the systematic gathering and interpretation of evidence enabling judgment of effectiveness and value and promoting improvement. Evaluations can have either formative or summative elements or both
Interdisciplinary approach (IDA)	Frequently used synonymously with interprofessional education; that is, it occurs when 'students from two or more professions learn with, from and about each other' (CAIPE, 2002). It is also used to mean different disciplines within the same profession, for example surgery, paediatrics, gynaecology and so on.
*Interprofessional collaboration	This is a type of interprofessional work involving various health and social care professionals who come together regularly to solve problems or provide services.
Interprofessional competencies in health care	This is the integrated enactment of knowledge, skills and values/attitudes that define working together across the professions, with other health care workers and with patients, along with families and communities, as appropriate to improve health outcomes in specific care contexts.

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Term	Definition or Interpretation
Interprofessional competency domain	A generally identified cluster of more specific interprofessional competencies that are conceptually linked, and serve as theoretical constructs (Cate & Scheele, 2007) 'Interprofessional Education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care.' (CAIPE 2002)
Interprofessional education (IPE)	When students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes. (WHO, 2010)
*Interprofessional learning (IPL)	This is learning arising from interaction involving members or students of two or more professions. It may be a product of *interprofessional education*, or it may occur spontaneously in the workplace or in education settings and therefore be serendipitous.
*Interprofessional practice (IPP)	'Occurs when all members of the health service delivery team participate in the team's activities and rely on one another to accomplish common goals and improve health care delivery, thus improving patients' quality experience'. (Australasian Interprofessional Practice and Education Network)
Interprofessional team-based care	Care delivered by intentionally created, usually relatively small work groups in health care, who are recognised by others as well as by themselves as having a collective identity and shared responsibility for a patient or group of patients; for example, rapid response teams, palliative care teams, primary care teams, operating room teams.

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Term	Definition or Interpretation
Interprofessional teams	A group of people from different professional backgrounds who work together to deliver services and coordinate care programmes across agencies throughout the patient pathway; goals are set collaboratively through consensual decision-making to improve practice for patient safety, which results in individualised care plans/quality services delivered by one or more team members, thereby maximising the value of shared expertise and minimising the barriers of professional autonomy.
*Interprofessional teamwork	This is a type of work involving different health or social care professionals who share a team identity and work together closely in an integrated and interdependent manner to solve problems and deliver services.
Interprofessionality	The development of a cohesive practice between professionals from different disciplines. It is the process by which professionals reflect on and develop ways of practising that provides an integrated and cohesive answer to the needs of the client/family population. (D'Amour & Oandasan, 2005, p. 9)
Integrated care	Leutz (1999)) defines integrated care as: 'The search to connect the healthcare system (acute, primary medical and skilled) with other human service systems (e.g. long-term care, education and vocational and housing services) to improve outcomes (clinical, satisfaction and efficiency)'.
Knowledge translation	This is the process of putting knowledge into practice. (Straus, Tetroe, & Graham, 2009)

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Term	Definition or Interpretation
Leadership	This is the act of stimulating, engaging and satisfying the motives of followers that result in the followers taking a course of action towards a mutually shared vision.
*Mixed method	These designs entail gathering different types of quantitative and qualitative data (e.g. from surveys, interviews, documents, observations) to provide a detailed understanding of processes and outcomes. There are two main types: *sequential* (where data are gathered and analysed in different stages) and *convergent* (where data are combined together).
*One Health	This recognises that the health of humans, animals and ecosystems is interconnected.
Patient focused care	This is the provision of care that is respectful of and responsive to individual patient preferences, needs, and values, and ensures that patient values guide all clinical decisions.
Patient safety	'Freedom from accidental injury; ensuring patient safety involves the establishment of operational systems and processes that minimise the likelihood of errors and maximise the likelihood of intercepting them when they occur.' (Kohn, Corrigan, & Donaldson, 1999)
*Phenomenology	Phenomenology allows for the exploration and description of phenomena important to the developers of or participants in an activity. The goal is to describe lived experience. Phenomenology is therefore the study of 'essences'.
*Profession	This refers to an occupation or career that requires considerable training and specialised study.

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Term	Definition or Interpretation
Professional competences in health care	This is the integrated enactment of knowledge, skills, and values/ attitudes that define the domains of work of a particular health profession applied in specific care contexts.
*Quality improvement	This is defined by Batalden and Davidoff (2007, p. 2) as 'the combined and unceasing efforts of everyone— healthcare professionals, patients and their families, researchers, payers, planners and educators—to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development.'
*Randomised control trial (RCT)	In this type of experiment design, participants are randomly selected for inclusion in either intervention or control groups. RCTs can provide a rigorous understanding of causality.
*Realist evaluation	This is a method developed by Pawson and Tilley (1997) for analysing the social context in which an intervention does or does not achieve its intended outcome.
*Team-based care	This is an approach to health care whereby a group of people work together to accomplish a common goal, solve a problem, or achieve a specified result.
*Workplace learning	This is different from formal educational activities, and can be viewed as untapped opportunities for learning and change that are part of everyday practice and often go unrecognised as 'learning'.

Notes: * Cited in Institute of Medicine (2015) *Measuring the impact of interprofessional education on collaborative practice and patient outcomes.* Washington, DC: The National Academies Press

Appendix B: Further Reading on the Interprofessional, Leadership and Research Aspects

Key leadership aspect	Further reading on this leadership topic
Change management	Atter (2008)
	Bushe, G.R & Marshak, R.J. (2014)
	Halvorson and Chinnes (2007)
	Rubin and Stone (2010)
Collaborative leadership and shared decision-making	Atter (2008)
	Endacott et al. (2008)
	Halvorson and Chinnes (2007)
	Kenny et al. (2010)
	Newton et al. (2012)
	Reeves et al. (2010)
	Stapleton (1998)
	Willumsen (2006)
Communication	Atter (2008)
	Endacott et al. (2008)
	Kenny et al. (2010)
	Sasnett and Clay (2008)
	Schippers et al. (2008)
	Sinek (2010)
	Willumsen (2006)
	Wylie and Gallagher (2009)
Competency	Newton et al. (2012)
	Thistlethwaite et al. (2014))
Emotional intelligence	Harrison and Fopma-Lou (2010)
	MacDonald et al. (2012)
	Sasnett & Clay (2008)
	Schippers et al. (2008)
	Stapleton (1998)
Empowering	Sasnett & Clay (2008)
	Willumsen (2006)
Empowering leadership/ transformational leadership	Abbott (2007)
	Atter (2008)
	Endacott et al. (2008)
	Metzger et al. (2005)
	Nielsen et al. (2009)
	O'Brien et al. (2008)
	Pollard et al. (2005)
	Rubin & Stone (2010)
	Schippers et al. (2008)
	Willumsen (2006)
	Wylie & Gallagher (2009)

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Key leadership aspect	Further reading on this leadership topic
Evaluation	Thistlethwaite, Kumar, Moran, Saunders, & Carr (2015)
Integrated care	Barr (2012)
	Gaboury et al. (2011)
	Leutz (1999))
	Valentijn, Schepman, Opheij, & Bruijnzeels (2012)
Mentoring and coaching	Forman et al. (2013)
	Nielsen et al. (2009)
	O'Brien et al. (2008)
Professional identity	Reeves et al. (2010)
	Willumsen (2006)
Servant-leadership	Neill et al. (2007)
	Neill & Saunders (2008)
	Willumsen (2006)
Sustainability and resilience	Endacott et al. (2008)
	Hoffman et al. (2008)
	Harrison & Fopma-Lou (2010)
	Meads et al. (2009)
	Sasnett & Clay (2008)
	Stapleton (1998)
	Tugade & Fredrickson (2004)
Team working and team building	Atter (2008)
	Hoffman et al. (2008)
	O'Brien et al. (2008)
	Sasnett & Clay (2008)
	Willumsen (2006)
Transformational leadership	Bevan & Fairman (2014)
	Reeves et al. (2013)

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2

The Formation and Development of the National Center for Interprofessional Practice and Education

Barbara Brandt and Jill Thistlethwaite

This chapter is written by two people who have different relationships with and observations about the National Center for Interprofessional Practice and Education (referred to below as the National Center), based at the University of Minnesota, Minneapolis, USA. The first author (Barbara Brandt) is the director of the National Center and created the original vision for its formation. The second author (Jill Thistlethwaite) was an Australian-American Fulbright senior scholar at the centre for four months in late 2014. We are presenting the chapter in a mix of first and third person voices to capture our personal reflections as well as more objective details on the progress of the centre. We begin with a history of the National Center, its vision and aims, its evaluation framework and the leadership model.

History and Background

A previous book in this series included a chapter on interprofessional leadership developments in the USA, based on five case studies (Dow et al., 2014). The chapter authors suggested that medicine and nursing 'exemplify the diverse and shifting United States landscape of health professions education

which has evolved organically in the US with national accreditors facilitating some change but local efforts more often inspiring action that becomes disseminated broadly' (p.108). While the USA boasts an early champion of interprofessional education (IPE) in DeWitt Baldwin who worked in the field from 1944 (Barr, 2014), this diversity of education and the size of the country as well as a lack of incentives hampered the formation of a national vision for IPE (Schmitt, 1994). The American Interprofessional Health Collaborative (AIHC) dates from 2009 and is a network of individuals and organisations that promotes 'the scholarship and leadership necessary to develop interprofessional education and transform health professions education across the learning continuum' (www.aihc-us.org). However the AIHC's core activities focus on education and its biennial conference (*Collaborating Across Boundaries*) rather than a national remit to investigate the evidence for the effectiveness and impact of IPECP (interprofessional education and collaborative practice) and make recommendations to inform national policy. It was the development of the Interprofessional Education Collaborative (IPEC) whose members included representatives from professional associations of dentistry, pharmacy, nursing, public health, osteopathic medicine and allopathic medicine that stimulated a more widespread interest in IPE, particularly after the publication of its report on core competencies for interprofessional collaborative practice (IPEC, 2011).

The question, 'what is the evidence for IPECP?', and indeed for interprofessional collaborative practice, is frequently asked of advocates for IPECP both locally in their own institutions and globally by funders, educators, practitioners and learners. While evidence of effectiveness is slowly emerging, debate continues as to the nature of evidence required (Institute of Medicine, 2015), particularly to convince those who favour the status quo such as uniprofessional education; hierarchical health professions; inequity in pay and conditions; tribal boundaries and so on. Moreover quality research and evaluation of any health professions education is difficult due to the lack of funding (Asch & Weinstein, 2014). Longitudinal and multicentre well-designed studies are required, studies which ideally follow learners through into practice while also exploring the outcomes for and impact on patients and communities. Researchers and evaluators need to look beyond the biomedical gold standard of the randomised control trial and be realistic about what may be achieved through other methodologies.

Outcomes are not the sole imperative. Context plays an important part in education and practice—what works in one location may be futile in another. Therefore process is a necessary area of interest: what works for whom and in what circumstances, why and how (Pawson & Tilley, 1997). In addition, we need to look at the cost of interventions. Expensive and resource-intensive developments are unlikely to be sustainable.

The National Center has been funded to conduct rigorous evaluation of IPECP, particularly in terms of its effects in relation to the triple aim: improving the quality of the health care experience for patients and their satisfaction; improving the health of communities and populations; and reducing the cost of health care delivery (Berwick, Nolan, & Whittington, 2008). The last of the three aims—cost—reflects the fact that health care delivery in the US is more expensive than it is in other high income countries without a concomitant increase in quality of care or health outcomes (Davis, Stremikis, Schoen, & Squires, 2014). To date, although there have been several systematic reviews of IPE, no one has shown evidence of IPECP's impact on all three parameters of the triple aim simultaneously (Brandt, Lutfiyya, King, & Chioresco, 2014).

The National Center was formed in October 2012 following a competitive peer-reviewed grant process led by Barbara Brandt. It was developed through cooperative agreement with the Health Resources and Services Administration (HRSA), the primary federal agency of the US Department of Health and Human Services with the mandate of improving access to health care. Uniquely, the centre has also received funding from three private foundations: Josiah Macy Jr, Robert Wood Johnson, and Gordon and Betty Moore. This public–private financial support is the first partnership of its kind in the USA. The grants add up to $8.1 million over six years.

Vision, Goals and Approach

The goal of the National Center is to:

'Provide leadership, evidence and resources needed to guide the nation on the use of interprofessional education and collaborative practice (IPECP)
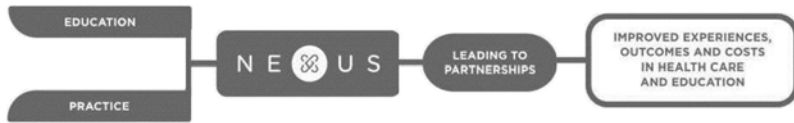
Fig. 2.1   The nexus logo

as a way to enhance the experience of health care,' improve population health and reduce the overall cost of care' (National Center for Interprofessional Practice and Education, 2014, p. 6). The vision has been redefined during its team-building process based on external consultation: 'We believe high-functioning teams can improve the experience, outcomes and cost of health care. The National Center for Interprofessional Practice and Education is advancing the way stakeholders in health work and learn together.' (https://nexusipe.org)

The National Center is working to create a new kind of relationship between health professions education and care delivery systems, which it refers to as the *Nexus* (Fig. 2.1). The leadership agrees that the alignment between education and practice must be strengthened to advance the field of IPECP and impact on the triple aim. Research and evaluation need to be targeted at triple aim outcomes and involve longer-term studies and issues pertaining to sustainability. 'A principal aim' is to provide sustainable national leadership while focusing on large-scale systems. To produce data of national (and indeed global) importance, multiple methodologies are required as well as collaboration between evaluation sites and centre personnel.

Overall the National Center is committed to developing and advocating for national models, definitions and standards. This requires rigorous evaluation and innovative uses of technology to connect and motivate large numbers of stakeholders scattered over a geographically large area.

The Team and Collaborators

The National Center team has expanded over its first two-and–a-half years. Knowing the optimum composition of a team at the inception of a large initiative is always difficult. Leadership involves planning for growth

and being alert to future requirements before crises develop. It is also important that leaders regularly solicit opinion, involve stakeholders and recruit advisors to give balanced, impartial and constructive feedback.

Barbara's background is in continuing education and, as well as being director of the National Center, she continues in her role as associate vice president for education within the University of Minnesota's Academic Health Center. The particular demands on Barbara's time and extra-curricular activities (such as invitations to speak about IPECP and the National Center across the USA and internationally) led to the creation of a deputy director role in 2014. Communication is a key process and necessitates the positions of communications manager and technology programmer. In addition, of course, there are research scientists, informatics consultants and evaluators, as well as administrators and project managers.

The National Center is supported by a number of external advisors organised into councils for specific purposes (e.g. National Advisory Council, executive coaches for large-scale transformation and National Center Data Repository). Members include health care professionals, students, patients, community representatives, and health services leaders and strategic thinkers.

The Work of the National Center

The first year of the Center was about forming and developing the team, creating a strategy and building the infrastructure. From the first day, interest in the National Center and its resources was extremely high—both nationally and internationally. The infancy was chaotic because the demand for advice and inputs around the country impacted on the formation process. The leadership staff were frequently absent due to consultations, service on national advisory committees and invitations to speak about IPECP, as they were seen from early on as experts. With processes in place, the second year saw an even greater reaching out to the wider community, disseminating the vision and recruiting participants and projects for the evaluation of existing and planned models. The second year also witnessed the development of the specially constructed

research platform—the National Center Data Repository (Pechacek, Cerra, Brandt, Lutfiyya, & Delaney, 2015). As a data sharing facility this required negotiated agreements with data gatherers and processes to ensure standardised metrics, surveys and confidentiality. It was a challenging and difficult time during which it was also important to take stock. Given that the grant application had been written more than 3 years previously, and the draft evaluation vision and plan had been developed at a time of national change in US health services delivery and funding, a period of reflection was needed to ensure that the vision and strategy were still relevant, achievable and timely.

A National Center sub-team spent time with a HRSA representative to work through the existing evaluation logic model and firm up the goals and evaluation methods. A logic model was used to represent the programme theory and suggest how an intervention contributes to a chain of consequences that results in a measurable impact, which may be positive or negative; the components are usually inputs; processes; outputs; and outcomes/impacts (McLaughlin & Jordan, 1999). Jill Thistlethwaite was fortunate to be on her scholarship at this time and took part in the lively, constructive and collegial discussions (see below). This process resulted in a streamlined focus with measurable outcomes and the identification of resources required. The experience highlighted the necessity during a longitudinal project to take time away from day-to-day commitments and pressure in order to re-engage with the founding principles of an approach. It is easy to prioritise service commitment over reflection; good leadership acknowledges that time spent on consensus building is never wasted if there is a clear rationale communicated to all for their participation.

The National Center now (April 2016) has 71 projects at some stage of data collection and development in 31 states as part of the growing Nexus Innovations Network (NIN). The NIN is the learning 'laboratory' of the centre. Network members are field testing new models in real-world settings to:

- Identify, collect and analyse metrics and data to build the evidence base for IPECP
- Identify evidence-based models to educate students and health care professionals

- Train local faculty, clinicians, students and staff in leadership building skills and help them develop capacity for data collection and evaluation. (National Center for Interprofessional Practice and Education, 2014)

Examples of incubator projects and models are shown in Table 2.1. Each of the sites has its own leadership but shares the common goal of the Center. Sites are supported by a NIN coordinator and two data managers. Common themes within projects are electronic health records, the role of teams in improving education (for patients as well as professionals and students), the quality and safety agenda, primary care teams, the management of people with chronic conditions, new professional roles and transition of care from one location or team to another within the health system (National Center for Interprofessional Practice and Education, 2014). There are regular face-to-face and virtual meetings between the sites and the National Center to share ideas and progress, and to discuss any impediments and how these may be, or have been, overcome at other locations.

Table 2.1 Examples of incubator site projects

Location	Institution(s)	Project details
Arizona	Arizona State University Northern Arizona University University of Arizona	Student health outreach for wellness project, free student-run IP primary health care clinic
Colorado	University of Colorado	Involving students in collaborative case review
Kansas	University of Kansas Medical Center	Faculty development package evaluation
Kentucky	University of Kentucky	IP intervention to improve transition of care processes for patients after a stroke
Minnesota	University of Minnesota Physicians Family Medicine	Evaluation of enhanced patient care staff role
Oregon	Oregon Health & Science University	Electronic health record in intensive care units to enhance collaborative care and outcome
Pittsburgh	University of Pittsburgh	Non-physician-led interprofessional teams in a trauma clinic

To support the incubators each team has a clear framework and workplan with defined timelines. They receive a starter kit for help with launching their project. There are legal, financial and data sharing agreements put into place. Each site is visited by a member of the National Center team to facilitate orientation and data collection. The National Center Data Repository (NCDR) is the first US-based data repository focusing on IPECP outcomes. Here incubator sites upload their de-identified data, which are subsequently aggregated across all sites. Data include information about demographics, learners, educators, patients, health outcomes (including information from electronic health records) and cost. Surveys have been specifically designed to capture students' and network users' views, technology readiness, details about educational interventions and critical incidents. The innovative approach of the NCDR is such that it is now housing other research projects funded by HRSA so that the same standardised metrics are used to allow even more robust analytics.

Beyond the research sites, the National Center is developing a community of practice focused principally through the nexus website, which provides a resource exchange and online community. In 2014, 968 items were added to the resource exchange (National Center for Interprofessional Practice and Education, 2014), including documents, measurement instruments and links to peer-reviewed publications. There are regular webinars and discussion fora. In addition, centre staff are regularly invited to speak at institutions and organisations about their work and vision. More specifically, they advocate for change and help support potential incubator sites by interacting with senior leadership at universities and clinical sites to promote participation. During 2015 staff gave over 150 presentations at meetings, site visits and webinars.

The National Center's Research Agenda

The research agenda, rationale and methodologies have been outlined and justified in a paper published in the *Journal of Interprofessional Care* in 2015 (Lutfiyya, Brandt, Delaney, Pechacek, & Cerra, 2015). The strength of the National Center is that it is indeed national and can coordinate efforts that have previously been disparate and frequently solely locally

evaluated. Lutfiyya and colleagues (2015) cite existing problems within the US health care delivery and education systems as including: delivery being fragmented and siloed; disconnection between education, training and the health service; lack of involvement of local stakeholders in community service delivery re-design; poor integration between workforce planning and interprofessional team-based orientation; and sub-optimal knowledge being generated by existing interprofessional research teams. To influence the transformation of a health service calls for 'the examination of as yet untested associations and sequential pathways between and among the domains of IPE, collaborative practice [and the triple aim outcomes]' (p. 3). The Center's researchers believe that comparative effectiveness research (CER) shows promise in this challenging and complex area. In particular, intervention research has been chosen as the optimal approach to generate data and to facilitate the transformation of information into knowledge, and the subsequent translation of that knowledge into practice.

The National Center wants to influence change at the organisational or 'meso' level and at the societal, institutional, state and national or 'macro' level (Lutfiyya et al., 2015, p. 4). In addition, those working in the interprofessional field around the globe are watching with interest for the first outputs from the Center's research initiatives in order, potentially, to use these to leverage change within their own countries. Change at these levels requires development of appropriate infrastructure and resources but what works at one location, in one state, in one country may not be transferable as is to another location. There are 'a multiplicity of ecological variables' (Lutfiyya et al., 2015, p. 4) that impact on what may be achieved in terms of such infrastructure and sustainability of developments. Evaluating interventions at different sites, with variations in team composition and goals, are likely to yield rich data that can inform others even though local conditions may differ. Barbara has called the sum of the interactions, developments and exchanges the 'IPE movement' in which more and more people are becoming engaged.

To facilitate a successful outcome for any research and evaluation programme, particularly one of the size, scope and ambition of the National Center's, it is important to define robust and achievable research questions. The National Center has five such questions stemming from the overall aim of exploring whether 'intentional and concerted IPE and IPP':

- Improve the triple aim outcomes on an individual and population level
- Result in sustainable and adaptive infrastructure that supports the triple aim outcomes of both education and practice
- Identify ecological factors essential for achieving triple aim outcomes
- Identify factors essential for systematic and adaptive infrastructure in the transformation of the process of care and education
- Identify changes needed in policy, accreditation, credentialing and licencing for health care provision and education. (Lutfiyya et al., 2015, p. 4)

This is certainly an ambitious programme, which is being informed by a logic model developed in partnership with HRSA. The model links the goals of the HRSA grant with the National Center's objectives and data to be collected through the Nexus supporting activities. Important elements of this process will be dissemination and advocacy so that outcomes and lessons learned are available to the wider community.

Leadership

While the National Center models the type of collaborative interprofessional (and interdisciplinary) working that it aims to research and foster, an enterprise of this nature requires strong, experienced and committed leadership. Moreover, if change is to be effective and sustainable within health services and education there is a need for national policy changes at government, licensing and accreditation levels (Earnest & Brandt, 2014), so the leadership must include personnel that are credible, respected and connected at such levels. Leadership needs vision but also practical and pragmatic attributes to make that vision happen (or at least the ability to recruit team members with the right competencies to realise the vision in practice). In addition, the leadership needs to be seen as stable. The interprofessional field is littered with stories of champions who have developed local initiatives only to have them dismantled when the champion moved on. Leaders must engage with succession planning as well as development (Meads, Jones, Harrison, Forman, & Turner,

2009). The National Center started with a six-year mandate, a luxury in grant funding allowing longer-term planning and careful consideration in relation to recruitment. Work to ensure sustainability is ongoing with the development of business models, while capturing the imaginations of educators and practitioners, and particularly health systems personnel and funders.

Recruitment is always more complicated than envisaged in relation to advertising, interviewing, contracts and delays. Subsequently teams take time to bed in, particularly as members join and others leave. There needs to be a central core of permanence to uphold and develop the vision and values, act as a repository of institutional knowledge, be the historian and interpreter of the process, and have a facility to listen and be listened to. While leadership may be evaluated during a project, its success is ultimately linked to outcomes, meaning that there is always uncertainty and pressure to perform.

Hugh Barr, himself a globally respected leader of IPECP, writes of the qualities of interprofessional champions as those who have 'grounded their IPE initiatives in a well-articulated rationale tested on successive occasions in a spirit of critical self-appraisal [and] shared their experience openly and honestly in ways in which others can replicate' (Barr, 2014, p. 15). Such champions are leaders but, in addition for programmes on the scale of the National Center, leadership that is charismatic and transformational (Rickard & Clark, 2006) as well as administrative needs to interact to ensure integrity and responsibility to funders, stakeholders and the local team itself. Successful leaders from the complex adaptive system of health care are familiar with the concept of shared leadership rather than a solely hierarchical model. Shared leadership involves the adaptation of team members, including the hierarchical leader who is seen as having legitimate power, to assume leadership when necessary based on their experience and expertise and the context (Dow, Appelbaum, & DiazGranados, 2015). In the case of the National Center contextual factors are the distributed nature of the projects and the distinctive expertise of team members in various areas of research, evaluation, education and practice. For functioning teams, leadership and team members must define clear goals, share commitment, and have role clarity, interdependence and integration (Reeves,

Lewin, Espin, & Zwarenstein, 2010). In addition, teams need not only to agree on values but members should also be encouraged to share their personal values as well as their understanding of their professional and organisational values (Thistlethwaite, 2012). Such sharing is often forgotten; values may only be noticed when a problem arises—the 'squeaky wheel' principle (Fulford, 2004). Core staff of the National Center therefore meet regularly to discuss work, goals and results. Such meetings are one of the hallmarks of functioning teams (Dawson, Yan, & West, 2007).

Personal Reflections of a National Center Guest Scholar

I heard about the National Center in 2012 with envy. Having been involved in advocating and evaluating IPE for 15 years, usually on a minimal budget and a local scale, the notion of a properly funded centre with a mandate for evaluating IPECP on a longitudinal and national scale was truly awe-inspiring. In Australia I had been fortunate to work with colleagues on national projects (see for example Dunston et al., 2015), although I had had less success with translating these into practical national change. The idea of applying for a Fulbright scholarship took shape and I was fortunate to meet Barbara Brandt in Vancouver at the Collaborating Across Borders Conference in 2013. She was as enthusiastic as I was about the prospect in spite of her heavy commitment in the early days of the Center's establishment.

My subsequent time in Minneapolis was thought-provoking, instructive, collegial and collaborative. It took time for me to understand the complexities of the task and the team. The leadership was grappling with the framework of the evaluation and research processes required. The successful grant application had been written a few years before and the public funder (HRSA) wanted to revisit the aims of the project to ensure timely and relevant outcomes. I was included in the fortnight-long discussions with the small sub-team and the HRSA representative as the reinvigorated logic model was thrashed out. While

Barbara herself was not present at these meetings, which were led for the Center by Professor Frank Cerra MD, the senior advisor, experienced physician leader and highly respected educator, she was updated daily on discussions and progress. These meetings highlighted the need for projects and teams to take stock and reflect. Once the initial enthusiasm and novelty of a new initiative make the transition into hard work and challenges, it is important to review goals—goals relating in this case to the interprofessional research and evaluation agenda generally and the work of the National Center specifically. There could be no ego in these discussions. While opinions were frankly stated (no pun intended) and conflicts arose, the meetings were conducted in a spirit of wanting optimal decisions and outcomes for all stakeholders. This ensured that the resulting plan and vision were reached by consensus through negotiation.

Of course no endeavour of this size and complexity is without conflict. Differences of opinion arose and were articulated frequently. Barbara's and the senior leadership's workload increased as invitations to speak were received from around the country—national interest is high in the work of the Center and people are waiting for incubator findings to help promote IPECP in their contexts. The day-to-day management needed to be reconsidered and eventually a deputy director was appointed to be chief operating officer.

Personal Reflections of the National Center Director

I have worked in IPE for nearly 30 years and as a vice president of a major US comprehensive university leading IPE implementation across 21 schools and programmes on three campuses for the last 15 years. For most of my career, as a faculty member or a senior administrator, IPE has been at the margins, led by a passionate few. In 2006, many in the USA thought that the future of IPE was bleak because the last vestiges of funding and implementation since the 1970s were nearly extinct. The one organisation that hosted many professions around IPE, the Association

of Academic Health Centers, ended its programme that year. This was the time that the committed few hundred created the Collaborating Across Borders conference with the Canadian Interprofessional Health Collaborative (CIHC) and eventually the American Interprofessional Health Collaborative (AIHC). Because I believed in IPE, I committed staffing resources at the University of Minnesota to keep AIHC and its relationship to the CAB conferences alive.

In 2012, the four funders of the National Center saw that it was time to create a coordinating centre for IPE and CP. Ironically, a 'clearing house' for interdisciplinary education was one recommendation in the original Institute of Medicine (1972) *Educating for the Health Team* report. After a long incubation period of teams and IPE in the USA in no way could I, or the National Center leadership, foresee the tsunami of interest in IPE that we are experiencing today. In three years, more than 1300 organisations have contacted the National Center for some form of information and consultation. What has stimulated the interest?

In the USA, there is no question that the mandate for the health system to transform into a safer, more cost-effective system. coupled with new payment models or bundled, global and value-based payments, is stimulating significant interest in new models of care, community-based practice, and a culture of health teams, and collaborative practice. This transformation is leading to a renewed focus on the need for new learning systems and the promise of IPE to align with transforming health care across the career development continuum from foundational education through continuing professional development. New accreditation standards have been written for the educational programmes of many health professions with little understanding of what the evaluation criteria within and across professions will be; and, certainly the data and evidence to guide large-scale implementation of IPE are slim.

The extent of the recent changes in the US healthcare delivery system, and the simultaneous need for a transformation of health professions education, has meant that many people cannot appreciate the magnitude and speed of the alterations required to improve both systems. It is why we have assembled the interdisciplinary team of committed experts who are creating the research agenda and platforms to engage in the US—and hopefully international—IPE Movement.

Conclusion

The National Center is a large enterprise of which there are huge expectations. Data are coming in from participating sites and will undergo analysis and synthesis. Findings will be disseminated to ensure discussion and ongoing research in the field of IPECP. The National Center itself will be evaluated against its aims and impact. All outputs will be scrutinised nationally within the USA and globally. There should be much to learn, to debate and to consider in terms of context and transferability to settings with different levels of resources, varying health services and funding models, and educational delivery systems.

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3

Reviewing Pre-Qualifying Interprofessional Education in the UK: From Recommendations to Implementation

Hugh Barr and Marion Helme

Introduction

We summarise the rationale, methodology and findings from our review of pre-qualifying interprofessional education (IPE) in the United Kingdom (UK) since 1997 (Barr, Helme, & D'Avray, 2011, 2014a, 2014b) before outlining the strategy agreed with the Centre for the Advancement of Interprofessional Education (CAIPE) to present its recommendations to interested parties, including commissioning, regulatory and professional bodies and universities. We focus within the confines of a single chapter on those findings concerning the delivery of IPE and recommendations addressed to universities, referring more briefly to those under discussion with bodies responsible either for commissioning or regulating their professional programmes. We include feedback from universities which have benchmarked their current IPE provision against our recommendations.

The review of pre-qualifying IPE in the UK from 1997 to 2013 picked up where a previous one left off (Barr, 2007), to update a story that began in the 1960s. Our purpose was to inform the ongoing development of

IPE in health and social care by capturing and synthesising themes from the literature and collating evidence regarding its form and incidence in universities, as reported in an online survey, enlivened with first-hand accounts by teachers.

Our research design was a pragmatic mix of qualitative and quantitative methods. The former included elements of grounded theory, such as theoretical sampling, constant comparative analysis (Glaser & Strauss, 1967) and multiple case study research (Yin, 2002; Stake, 2005) in eliciting and comparing data from the accounts and interviews. The online survey drew on principles of good practice (Sue & Ritter, 2012), data from professional and regulatory bodies, and surveys of IPE in the UK conducted since the mid-2000s. These each differed in the boundaries drawn, the criteria for inclusion, the questions asked and the methodologies employed but provided guidance for the questionnaire structure. Our overall approach was one of 'engaged scholarship' (Van de Ven, 2007); we were not positioned as experts but were immersed in IPE through our experiences as researchers, teachers, past health and social care practitioners and writers. This enabled us to enlist the collaboration of others.

We present this chapter accordingly as an example of collaborative leadership at every stage and level: collaboration between researchers; with survey respondents; with invited IPE coordinators, themselves engaged in endless and exacting negotiation and accommodation in search of consensus to effect change in an ever-changing environment; and not least, with our colleagues in CAIPE working with interested parties to encourage them to address our recommendations.

Implementation of the recommendations is ongoing. Continuing progress depends on the readiness of the interested parties to collaborate in and between the four countries of the UK within devolved systems of government determining legislation, policies and priorities for education, health and social care. That depends on collaboration between commissioning bodies (for each country), regulatory bodies (for the UK), universities (enjoying degrees of autonomy under Royal Charter) and, not least, statutory, commercial and charitable services as students' future employers and practice learning agencies.

Context

The turn of the century was a watershed for IPE in the UK when the Labour Government, elected in 1997, put pre-qualifying education at the heart of its strategy to generate a more flexible workforce to help modernise the National Health Service (NHS). From then on students were to expect their education and training in the classroom and practice to include 'common learning' with other professions to give them the knowledge, skills and values to respond effectively to patients' individual needs. Universities would put 'multi-disciplinary education' at the top of their agenda in collaboration with the NHS and regulatory bodies to make education more flexible and more transferable. Flexible working required flexible learning (Department of Health, 2001a, 2001b, 2004; Secretary of State for Health, 1997).

The proposition was as seductive as it was simple: learning together would deliver not only a more collaborative but also a more malleable and more mobile workforce that was responsive to the exigencies of practice and the expectations of management. Reference to the previous 30 years of IPE experience was conspicuous by its absence. New wine was not to be put in old bottles. IPE teachers responded with difficulty as they struggled to reconcile the government's expectations with its interprofessional antecedents in search of consensus amongst educational, professional and political perspectives.

The Review

We reviewed pre-qualifying IPE in the UK from 1997 to 2013 to understand how it had developed, celebrate achievements and identify what needed to be done to improve efficiency and effectiveness in a changing and complex context. We began by exploring significant themes and progress in IPE from UK documentary sources (Barr et al., 2011) before conducting an online survey of all UK universities known to provide pre-qualifying health and social care courses and analysing the data on IPE in 51 universities. We then invited teachers from selected universities to

contribute detailed reflective accounts of their experience in instigating and sustaining IPE. Two of the research team subsequently interviewed those responsible for writing the accounts. Finally, we compared and contrasted findings from the three stages of the research.

Forces found to be driving the implementation of IPE in universities were internal and external. Internally, teachers and managers were seeing merit in students learning the same topics across health and social care courses by optimising the use of specialist teaching expertise, gaining from economies of scale and furthering collaborative practice. Externally, universities were responding to government policies and findings from inquiries into errors and failures in care, sometimes encouraged by additional funding.

All the universities contributing accounts had prior interprofessional experience on which to build. Some ran pre-qualifying courses for many of the relevant professions, others for only one or two of those professions, restricting the scope for IPE unless and until partnerships were forged with other universities. Some were relatively isolated in rural areas; others were in close proximity to other urban universities with professional courses suitable for inclusion in IPE. One university started IPE by introducing shared learning to large numbers of students from many professions. Others selected smaller groups from fewer professions. Yet others combined these approaches, opting for larger and more diverse interprofessional cohorts in the early years of study followed by smaller tailored opportunities for senior students in later years. The spread of professions included was wide, but instances came to our attention where one or more professions opted out of all or some of the interprofessional learning even though it was required by the regulatory bodies.

Universities and service providers were joined in a common purpose that was enshrined in competency-based outcome frameworks for IPE, but achieved in diverse ways. Curriculum design, content, educational approaches, learner interaction and assessment all differed. Diversity, in our view, was a necessary response to context but made for difficulties when comparing IPE process and content. Universities did not always provide clear information for students about how they proposed to include interprofessional learning.

During the period under review ambiguity between the terms 'common learning' and 'interprofessional learning' was largely resolved. Contributors to the survey and authors of reflective accounts were clear that interprofessional learning outcomes should be common across different professions, also that 'real interaction' was required between students from different professions. IPE was integrated into the curriculum for many professional courses, at least in the classroom. 'One off' interprofessional events towards the end of training tended to give way to staged, cumulative, progressive and assessed learning for all the professions involved. We noted a 'turn to practice' as an addition to classroom learning in recognition of the need for IPE to be authentic and to engage students. Teachers saw IPE in practice as fitting the person-centred agenda, which they were trying to accomplish through partnerships and orientation towards workforce needs. Underlying problems regarding the development of effective interprofessional practice learning remained.

Competency-based frameworks served to identify common ground in the formulation of learning outcomes responsive to current policies. The preferred mode of learning was interactive in facilitated groups, using case studies and practice-oriented material. E-learning was almost ubiquitous. Most of the materials were developed in-house with less sharing than we had expected, given the many UK conferences and funded projects focusing on the use of technology in IPE. E-learning seemed at first a relatively easy option for implanting IPE with minimal disruption and low running costs while putting the onus on students to manage their own interprofessional learning outside class contact time. However, indications were that it fell short unless complemented by face-to-face learning.

Institutional Support

Support from university management was generally positive if occasionally passive, although it seemed that for some the rationale was achieving economies of scale through shared learning rather than the potential benefits of IPE. Implementing IPE often relied on goodwill between teachers of different professions, between university and practice, and between

facilitators and students. Although the accounts and the survey provided clear evidence that IPE was thriving, interviewees questioned whether goodwill was sufficient to project IPE into a permanent, integrated and valued position within curricula. There was still a sense of IPE being a campaign to be won rather than an institutional imperative.

Where developments were large scale they were typically guided by a committee of heads of schools and other senior personnel espousing a mission with stated goals. Advantageous though that was in raising the profile of IPE, top-down management did not translate into quality teaching unless the people responsible for implementation were effectively involved in the decision-making.

Partnerships

Earlier arrangements for joint planning and management commended by government (Department of Health, 2001a, 2001b) had fallen into abeyance, often at the end of additional funding periods. In the early 2000s partnerships between universities became less formal and promoting IPE more entrepreneurial in the climate of the times. Partnerships were more likely to survive if universities were close by, relations between senior personnel were well established and positive, institutional agreements predated IPE, the courses offered were complementary not competitive, and technology was compatible.

The prevailing culture influencing IPE differed depending on its location, type of university, and whether the institution included a medical school or a health sciences faculty. The less numerous professions felt more included where the culture was 'health' rather than 'medicine' or 'nursing'. Either way, social work could feel marginalised.

Findings from our survey, cross-checked against informed sources, found a residue of universities with courses for three or fewer health and/or social care professions had yet to introduce IPE formally. Progress might be made through discussions between personnel in adjacent universities on how they could work together to mutually enhance interprofessional learning opportunities, although future solutions could depend upon the location and relocation of new and existing courses.

Provision of IPE required partnerships not only within and between universities but also with service agencies to inform curricula and provide practice learning. One of the surprises from the survey was the apparent lack of formal partnership arrangements with those providers, although respondents may have omitted to include the established educational ties necessary for the prescribed hours of placement learning. Partnership with agencies came through more strongly during the interviews.

Alignment

Alignment problems had dogged pre-qualifying IPE since courses were set up. Patterns of study in different professional sequences typically did not align, curtailing opportunities to introduce IPE in the classroom or on placement. The significant developments, led by committed, innovative, thoughtful and capable teachers, often occurred against the odds. Misalignment between programmes, timetables, placements, faculties, regulators, validation and review cycles and other factors meant that introducing and sustaining pre-qualifying IPE was complex, subject to year-on-year adjustments requiring considerable negotiation skills and time from IPE leaders. In some cases managing alignment problems involved 'letting go' of well thought-of IPE inputs as well as adapting others.

IPE was 'shoehorned' into professional courses with few if any concessions made in their requirements, structure and prescribed outcomes. Dovetailing the same interprofessional learning into two or more professional courses meant surmounting numerous difficulties. Professions often held different assumptions about IPE, with implications for ways in which it could be accommodated within their systems, structures, requirements and habitual ways of working. While espousing an 'interprofessional philosophy', some universities allowed professions to opt in or out of IPE at the discretion of their programme leaders, so that a large group such as medicine or nursing might not participate at all.

Readiness to re-jig timetables, terms and semesters, and validation and review cycles to accommodate IPE was needed. Problems were exacerbated where the personnel charged with planning, coordinating and

teaching IPE did not have authority and position to negotiate changes in the uniprofessional education systems and lacked active endorsement from senior management. Lack of alignment—for example, different modular structures or e-learning platforms—also inhibited IPE developments between universities.

Problems were not confined to universities. Service providers routinely supported students on placement from a number of courses with the potential for interprofessional practice learning, only to find that it was constrained by inflexible interpretation of requirements such as assessment by a designated person from a specified profession. At least one university justified its decision to delay building in interprofessional practice learning by the absence of an interprofessionally sympathetic culture and mentorship.

Alignment was most problematic regarding formal assessment of interprofessional learning, including equitable allocation of academic credits. There was still some way to go in achieving consistency and parity in assessment requirements for all the professions learning together. Some universities were working towards summative assessment for all the student groups; others left responsibility for assessment solely in the hands of course leaders for the students' respective professions.

Despite some understandings between regulatory bodies, IPE remained subject to validation profession by profession. The interprofessional learning was either scrutinised by different panels working to different requirements, or set aside as being too hard to handle. The more professional the groups, faculties and universities included in IPE, the more complex and costly parallel validation became. Hidden costs incurred across outmoded regulatory systems could not be discounted.

Arguments to introduce a quality standard for IPE are seductive. We would, however, resist any move to separate IPE validation from that for the professional education in which it must be integrated. A more constructive way forward would be to build on the experience that regulatory bodies have already gained, complemented by the growing evidence base for IPE and the experience of CAIPE members, to clarify and codify requirements for interprofessional within professional education.

Coordination and Leadership

Interprofessional teachers had a strong sense of 'growing with the job'. What began as a sideline for many became a major part of their role with clear benefits in getting to know colleagues in other professions, learning new teaching methods and cultivating cohesion between faculties and schools. Many of the universities provided some staff preparation for IPE teaching, although this was not necessarily recognised in terms of professional development. Assumptions were made in the early years that IPE facilitation was something any teacher could do, but experience demonstrated that particular knowledge, skills and approaches were required for effective facilitation of interprofessional learning.

IPE coordinators were not line managers in departments and faculties. Getting buy-in from colleagues across all academic courses could be a sticking point. Resolving that problem depended on the establishment of good working relationships with managers who could then ensure their staff were actively committed.

Only one of the universities providing the reflective accounts had a staff member wholly employed in coordinating IPE; the others had posts in which profession-specific teaching made up at least 40% of their time. In most cases, provision of facilitators for IPE was arranged year on year on a pro rata basis from the relevant schools and departments depending on student numbers. This seemed to work well enough with occasional temporary 'reluctant conscripts', but riding two horses at once was a source of continual tension.

A recurrent message was the innovation, industry and imagination with which the IPE coordinators strove time and again to create interprofessional learning opportunities compatible with requirements for each of the constituent professional education systems. Their role had become more sophisticated and more complex as the scale and diversity of IPE activities extended and evidence was brought to bear.

The substantial teaching and managerial experience that most coordinators brought with them to the role was sometimes less than sufficient to prepare them for working within and between institutional and professional traditions and cultures, systems and structures, expectations and requirements, policies and priorities, and budgets and resources.

Many of the universities created new IPE posts, especially to coordinate some of the larger programmes in the early stages, although few of these were full-time. Others assumed that IPE coordination could simply be added to the remit of one or more existing teaching posts. Both approaches failed to recognise that introducing or maintaining IPE in a culture of uniprofessionalism required more than merely organising exercises for students. IPE leads found themselves challenged by cultures that valued professional above interprofessional priorities and that protected established patterns of education with curricula that had no room for IPE.

Our contributors were candid in sharing the joys and sorrows associated with the role. While some were enthused and energised by their experience, others were stressed and pressured. While some succeeded in engaging colleagues in sustained and concerted action, others were not able to do so despite repeated efforts. Coordinating IPE could be lonely and frustrating when the responsibility was assigned to a single person. Parallel appointments spread the load, countered isolation and built in mutual support. Growing up together in IPE, as many of the first generation of IPE coordinators did, strengthened collegiality and interdependence as they travelled the same road.

It became increasingly clear from our survey that the grading accorded to the IPE coordinating posts not only failed to reflect the responsibilities carried by the post holders but also the appropriate status necessary in comparison with course leaders.

Endorsement for IPE from commissioning and regulatory bodies has built up over the years, although responsibility remains divided in each of the four countries that constitute the UK. There was a pressing need for coordinated support for IPE from relevant national and UK bodies to promote and sustain IPE, addressing problems that could not be resolved at local or regional level.

Weaving IPE into the fabric of teaching and learning within and between pre-qualifying health and social care courses proceeded steadily throughout the UK during the period under review. Competing claims were largely resolved, outcomes agreed and foundations laid for continuing interprofessional development. One size did not fit all. Implementation differed in context and progress was impeded by misalignment. Institutions teaching single professions faced particular problems in introducing IPE

which collaboration with other universities may yet resolve. Strengthening partnerships between universities, and with service providers, called for top-level agreements underscored by commissioning and regulating bodies to harmonise policies and procedures. Reconciling course structures and professional requirements needed action at every level to implant IPE more expeditiously, efficiently and effectively.

As agreed, the review was presented to relevant UK and national commissioning and regulatory bodies requesting meetings.

The Follow Up

The sections of the review were published and distributed as they were completed in a variety of formats over a period of 3 years. They included an Occasional Paper published by the UK Higher Education Academy (HEA) (Barr et al., 2011), electronic reports of the survey findings in 2012 (Barr, Helme, & D'Avray, 2013) and the final report including the reflective accounts on the CAIPE website with a paper publication by CAIPE (Barr, Helme, & D'Avray, 2014a) and in brief, focusing on the recommendations (Barr, Helme, & D'Avray, 2014b).

Discussions with Commissioning Bodies

Higher Education England (HEE) convened a pilot workshop with CAIPE, inviting participants from its constituent bodies and related universities with a view to convening other such events in English regions. It then arranged for one of its regions to canvas the views of the others throughout England in response to our recommendations. Findings were being considered by HEE with a view to renewed discussions with CAIPE.

Discussions with Regulatory Bodies

CAIPE prioritised consultations with those regulatory bodies committed to preparing students for interprofessional teamwork and, to that end, actively engaged in developing IPE, including the General

Medical Council, the Health and Care Professions Council, and the Nursing and Midwifery Council. Each body undertook to re-examine its policies impacting on IPE and collaborative practice (previously summarised for some by Barr & Norrie, 2010) in the light of our review and its recommendations. The Health and Care Professions Council commissioned the University of Keele to review pre-qualifying IPE provision for the 16 professions within its jurisdiction. Work was ongoing.

Discussions with Universities

CAIPE sent the review in brief directly to the 51 universities that had participated in the survey, drawing attention to the ten recommendations addressed to them, the last five of which were also addressed to practice providers and commissioning bodies.

In summary the recommendations were to:

- relate the grading of IPE coordinators to that of course leaders;
- include a critical appreciation of IPE in certificated/accredited courses for all new entrants to health and social care professional teaching;
- provide and require professional development in IPE for all existing teaching staff in health and social care;
- introduce consistent procedures and criteria for the assessment of IPE across professions and courses;
- combine and align e-learning in IPE with face-to-face learning;
- publish the interprofessional learning pathways in course descriptions;
- foster competence in interprofessional teaching, including it in appraisal and review processes;
- forge partnerships to develop IPE in the practice environment;
- realign the constituent professional courses to optimise interprofessional learning, with particular reference to timetabling and placement patterns;
- optimise opportunities to involve service users in the planning, teaching, mentoring, assessing and reviewing of IPE.

Members of the CAIPE Board agreed to discuss the review (where applicable) in their universities and others with which they liaised for CAIPE. Some universities took the opportunity to benchmark their IPE against the evidence assembled in the review, of which we cite three from England:

> At Oxford Brookes University receipt of the report was a timely opportunity for a wholesale review of our IPE strategy and prompted us to designate a principal lecturer as our IPE lead. He facilitated a workshop and the consultations that followed throughout the Faculty. All recommendations were considered. The review was shared with all health care leads and included in consultations with NHS Trusts. It was taken as a discussion paper during an away day for the Nursing Department engaged in designing a new nursing curriculum for re-approval, and in anticipation of re-approval for physiotherapy and midwifery programmes, for which it has been used also for evidence. These experiences gave us opportunities to rethink the most effective ways of delivering IPE and to review how we prepared our teaching staff including practice teachers for IPE. We shall be concentrating next on interprofessional learning as experienced by students in their relevant practice area and enhancing this by use of action learning sets and a more structured focus for IPE work. A new IPE strategy is being drafted with local partners, users and students informed by the review.
>
> Liz Westcott, Department Head Clinical Health Care

> King's College London University (KCL) is utilising the review as a benchmarking tool in developing its strategic direction for IPE; following presentation and discussion at its Interprofessional Education Committee. At first glance, it was clear that KCL was already meeting several of the recommendations addressed to universities. For example, during the last academic year we had rolled out a programme to all final year medical, midwifery, nursing and pharmacy students concerning the prevention of medication errors. This programme has a bespoke e-learning package which is complemented by a face to face workshop which all students attend. There were, however, other recommendations where we still had work to do to fulfil the criteria. For example, we needed to explore ways to be more consistent where the assessment of students' interprofessional learning had been accorded different weighting across professions.

The Committee agreed that the review was not only a useful tool around which to build an internal strategy, but also, grounded in the evidence base provided by the review, would give such a strategy greater credibility within the college, our service organisation partners and commissioning bodies. It might also strengthen arguments for the greater alignment of timetables and placements across the various professions, the complexity of which should not be underestimated.

A revised IPE Strategy will be drafted over the summer and presented to the IPE committee in the autumn. There has been discussion of KCL hosting an internal conference regarding IPE early in 2016; this would be an excellent forum for presenting a revised strategy based around the CAIPE Review.

Jane Frisby, Lecturer in Interprofessional Education

The review findings resonated strongly with our experience at De Montfort University where, despite the considerable progress we have made, IPE is still largely seen as separate from the main curricula of participating courses and as the preserve of a smallish group of IPE enthusiastic staff. Participation in IPE facilitation is encouraged, even required, by managers but does not sit easily with the other commitments of teaching staff whose primary loyalty is to their own professional courses. Almost all relevant university systems are designed around individual programmes rather than joint working. Many of the logistical factors highlighted in the review, different regulatory requirements, timetable considerations, terms, teaching and assessment arrangements, placement patterns and so on continue to present major obstacles. We concluded that further progress (fully embedding IPE in all curricula, extending the amount of IPE, developing more practice-based opportunities, embedding IPE facilitation into everyone's teaching roles and so on) depends directly on our ability to tackle the most challenging of CAIPE's recommendations—the realignment of participating courses. Merely recognising this necessity and having the conversation has been a major step forward. This 'light bulb moment' has also coincided with aspirations at senior management level to work in a far more integrated way across the Faculty; our initiative has therefore been welcomed. We have set aside dedicated planning time for the IPE leads to consider aspirations, barriers and opportunities both for classroom and practice learning across all participating courses. This will be supported by

a short-term project to gather and collate this information in more detail. This work has coincided with proposed developments in practice-based learning in primary care initiated by the NHS commissioners. We may be on the verge of a watershed in our local IPE story.

Jenny Ford, Principal Lecturer in Speech and Language Therapy

Discussions in Scotland

Richard Gray (CAIPE's chair) with one of us (MH) met interested parties in Scotland during a series of meetings in Edinburgh arranged by Sundari Joseph (CAIPE's Vice Chair) who reported as follows:

In Scotland, we considered the review strategically. The report was distributed to senior managers in health and social care education and practice who cascaded it further within their networks. After the initial dissemination, I was tasked as the CAIPE lead for Scotland with coordinating a nationwide response. Two strategic organisations were identified: NHS Education Scotland (NES) and the Scottish Heads of Academic Nursing & Allied Health Professions (SHANAHP) with medicine, pharmacy and social work added. For the first time during a SHANAHP meeting, every health and social care profession participated in discussions regarding the future of interprofessional education and practice. This was an unanticipated but welcome outcome setting a precedent for future collaboration with all key partners.

CAIPE held meetings with NES and SHANAHP during January 2015 to discuss the review which was well received and its recommendations considered timely with particular reference to the Scottish government's health and social care integration agenda (Public Bodies (Joint Working) (Scotland) Act, 2014). The discussions were overwhelmingly positive denoting strategic 'buy-in' for IPE. Mindful of the review's implications for the Scottish government's plans for the NHS workforce (Scotland, 2013), representatives highlighted the need for closer inter and intra collaboration within universities and disciplines.

There was a will to endorse the review's recommendation at both a national strategic level and in local academic and practice settings. Health and social care education and practice in Scotland has the potential to

deliver a nationally coordinated approach to interprofessional and interagency person centred care. Other outcomes are expected to occur within universities and practice settings resulting in wider dissemination of the recommendations within individual organisations by the strategic leads who attended the meetings.

Sundari Joseph, Lecturer Research Degrees Coordinator

A similar meeting followed in Cardiff for Wales and was anticipated in Belfast for Northern Ireland.

Ongoing Work

Some recommendations are turning out to be easier than others to adopt. Amongst the more difficult are those designed to strengthen interprofessional practice learning where CAIPE has instigated further work. Most difficult is the realignment of the professional courses in which the pre-qualifying IPE, to respond fully, depends on readiness to engage in 'root and branch' reform across university and practice settings.

Consultations are taking longer than we anticipated. This was the second occasion when CAIPE had made recommendations for the future of pre-qualifying IPE, but the first when they were addressed to interested parties by name or category and followed up in expectation of a response. Some perhaps needed time to relate to CAIPE in a changing context. If the outcome is a more mature relationship, the investment made in following up the review will have been amply rewarded.

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Part II

Examples of Research Projects in the Field

4

Steps to Transdisciplinary Collaborative Practice, The Way Towards Building Communities of Practice in Early Child Health Care: A Case from Colombia

Francisco Lamus-Lemus and Rosa Margarita Duran-Sabogal

Introduction

In 2011 Colciencias (the Colombian National Research Agency) opened a grant invitation to submit proposals around strategic public health problems. Such problems had to require the collaboration of different social actors able to conduct research on the determinants of health and to generate processes that acknowledged community appropriation of learned lessons, while constructing a knowledge network that could support a sustainable capacity building environment. A team of around 40 professionals from different disciplines submitted seven action research projects that constituted the comprehensive programme 'Even Life Start' (ELS). The purpose of the programme was to explore and understand risk and protective factors from an ecological approach related to early child health care and the possibility of achieving developmental goals in children under six years of age in 16 different municipalities in two states of the Central Region of Colombia. This chapter reports strategies and resources that contributed to leading change and the transition from a multidisciplinary to a transdisciplinary experience. The collaborative

practice experience of participant professionals is presented from the perspective of the directors, who reflect on how leadership dealt with different challenges, how contrasting theoretical approaches to collaboration were handled and what lessons were learned.

Seizing the Opportunity for a Structure to Collaborate and Promote Innovation in Child Health Care

In 1999 Colombia adopted the Integrated Management of Childhood Illnesses (IMCI) strategy to approach child health care in a more effective way (BID, 2010). Several academic groups and public health departments at the national, regional and local levels, as well as different independent health practitioners, became involved in the process of diffusing different independent components of the comprehensive strategy.

A major challenge of the IMCI strategy was to achieve the integrality of the approach. This meant that different levels of the ecology of early childhood growth and development would be undertaken with a strategy designed to achieve key determinants in childcare behaviours. The overarching goal was to prevent complications of prevalent early childhood diseases, such as infectious respiratory diseases and diarrhoea, while improving health promotion behaviours, such as growth and development follow-ups, adequate nutrition and appropriate health care seeking behaviours among others. Integrality was to be achieved through technical guidelines on delivering interventions at family and community levels, together with the improvement of health workers' skills and health system quality progress (Bryce, Victora, Habicht, Black, & Scherpbier, 2005).

Other initiatives such as the Baby Friendly Hospital Initiative (BFHI) were promoted by organisations including the United Nations Children's Fund (UNICEF) at the national level, with the objective of improving health care services directed to maternal and child populations by evaluating and certifying their processes in health service delivery. This initiative approached health institutions which voluntarily participated in the evaluation process that was carried out by trained personnel. These evaluators provided feedback to the institution through predesigned questionnaires and checklists

about whether the institutions complied with high quality maternal and child health care delivery. Major areas evaluated in the BFHI process were breastfeeding support and promotion, and maternal care through pregnancy (WHO, UNICEF and Wellstart International, 2009).

Countrywide, the implementation and diffusion of IMCI and BFHI strategies to new audiences and health care delivery networks was advanced by groups mainly consisting of physicians, nurses and nutritionists representing different universities and health services across different regions. These groups achieved different levels of population coverage that brought recognition by health authorities. They also achieved progressive understanding of the underlying determinants of early childhood health and well-being and the importance of acknowledging, planning, implementing and evaluating grassroots ecological approaches to early childhood health care.

In 2011 Colciencias launched a grant offering which invited research groups to submit proposals for investigating health determinants of early childhood in Columbia. With the grant offering, Colciencias pursued a seeding effort to construct knowledge networks that could provide sustainability in evidence-based child health care through capacity building in the research programme. The requirements stated that participating groups should express interest in collaborating with different institutions such as local and regional health authorities, universities, hospitals, private enterprises and/or civil society organisations.

The interest of pursuing the development of new alternatives that could allow the achievement of higher goals in maternal and child health mobilised the group at the Centro de Estudios en Salud Comunitaria de la Universidad de La Sabana (CESCUS) to approach, re-connect and start collaboration among partners with whom previous projects had been developed in primary health care. This was how the Centro de Estudios para Investigación en Salud at Fundación Santafé de Bogotá (CEIS), Organización para la Excelencia en Salud (OES) and Fundación Corona joined forces with CESCUS to submit a proposal and participate in the grant offering.

Key players in the process were 16 municipalities—eleven in the Department of Cundinamarca (Chía, Cajicá, Cota, Cogua, Tabio, Tenjo, Zipaquirá, Nemocón, Gacháncipá, Tocancipá Sopó) and five in

the Department of Boyacá (Tunja, Duitama, Sogamoso, Tibasosa and Soatá)—located in the highlands of central Colombia. Public health departments and early childhood offices of these territories had previous experience and the political commitment to explore innovative means to advance maternal and child health care.

Among the collaborating partners, CESCUS and CEIS had formerly been involved in working with maternal and child health programmes: CESCUS with action research and health education in different components of IMCI, and CEIS with training and accreditation of health institutions in the BFHI. Fundación Corona, as a private non-governmental organisation (NGO), had a history of supporting local efforts to monitor quality of life in their mission to promote social development mobility for the most vulnerable populations. OES, was a recognized consultant in health care quality management improvement.

A set of guiding principles constituted the base of the structure that would turn the collaboration into a formal alliance, starting with participating institutions' commitment to share funds totalling 30% of the expected research programme costs, matching 70% of the expenses to be provided by Colciencias. The second commitment was that the programme would be conducted as one integrated research programme with seven articulated research projects, each investigating a system that would contribute to an ecological understanding of early childhood health care in the target territories (Earls & Carlson, 2001). The third agreement was that early childhood health care issues would cover the range of events influencing childhood growth and development from the time of conception until 6 years of age, along the illness–wellness continuum (Shonkoff, 2010). The final commitment was that the programme would have three connected phases: the first raising and analysing data in the different systems, the second designing evidence-based strategies for capacity building at the local level, and the third to monitor and evaluate implemented strategies and the knowledge network.

Participation in the grant offering required the preparation of a proposal for a core programme of seven projects, with each project designed to explore different systems involved in early childhood health care in the participating territories. The sever core projects were: (1) Assessment of early childhood health and health care conditions; (2) Description of early childhood health care beliefs and patterns; (3) Assessment of

monitoring and evaluation systems in early childhood health care; (4) Review of governance and policy cycles in early childhood programmes; (5) Appraisal of health professional training in early childhood care; (6) Description of primary caregivers' knowledge, beliefs and practices in early childhood care; and (7) Early childhood-related networks analysis.

Colciencias accepted the proposal, and the grant was assigned to the alliance formally constituted as Social Knowledge Network–Even Life Start (ELS), in Spanish—Red Social de Conocimiento–Inicio parejo de la vida (IPV). The organisational structure defined a core executive group to lead the action research programme, reporting to a Board of Directors representing the members of the four institutions belonging to the alliance, with the lead of the major contributor Universidad de La Sabana. The core executive group had a triangular structure with a general programme executive leader, who was assisted by a technical and an administrative director. Each of the seven projects had a team research leader with two to five research associates, with a total of 41 researchers when the programme was at its full technical supporting capacity. The whole structure had the administrative and managerial support of four people, with outsourced consultations in legislative and treasury issues.

Scenario: Setting the Stage for a Rationale to Explore Early Childhood Development from an Interdisciplinary Perspective

Different arguments support the rationale for a research programme focusing on an interprofessional approach to understanding the ecology of early childhood health care and development at the local level, and the importance of understanding childhood health conditions and determinants for a healthy life from the early years. The arguments behind the rationale expose the challenges of organisation, innovation and implementation that the teams of researchers confronted when accepting the goal of improving early childhood health and development through an action research programme that involved different disciplines.

According to World Bank standards, Colombia is a high middle-income country, meaning that for 2015 its gross national income (GNI) per capita

was more than US\$ 4126 but less than US\$ 12,735 (World Bank, 2015). As with other countries in this economic range, health indicators reflect an epidemiological transition that can be traced through the evolution of the burden of diseases. Between 1990 and 2012 life expectancy in the country increased continuously, together with changes in the epidemiological profile. Studies analysing the effect of different diseases and external causes over life expectancy and the probability of dying have shown how ischaemic cardiovascular and neoplastic conditions have reached the first place in prevalence, while violence and other external conditions have moved to second place and infectious transmissible conditions continue to move down the ranking (Acosta & Romero, 2014). The epidemiological argument comes together with contributions from translational research that have increasingly shown how epigenetic influences in the early years have a major role in gene expression, tissue formation, brain architecture and, ultimately, long-lasting behaviours and risk exposures that are intimately associated with non-communicable chronic conditions and early deaths (Kuzawa & Sweet, 2009; Felitti et al., 1998).

The demographic and epidemiological transitions in the country indicate a window of opportunity for sustained economic development known as the 'demographic dividend' (Mason, 2005). Sustained decreases in fertility rates lead to a reduction in the younger age groups, while there is not yet an accelerated growth of the population in the older age groups; thus the major proportion of the population is concentrated in the economically active age groups (15 to 59 years). In Asian economies, it was shown that the demographic dividend could translate into sustainable development supported by social and economic policies with the capacity to capitalise on this window of opportunity. Based on projections of estimated ratios for Colombia the demographic dividend started in 1999 and the national department of statistics estimates that the dependency ratio will be less than 2/3 by 2035 (Martínez, 2010). Achieving the potential benefits of such a dividend will depend on the investment of human capital with the competencies to deliver better health care to younger population groups to enable them to achieve their developmental capabilities.

The relevance of investing in improved health care for mothers and children passes through the lenses of equity, social justice and cost effectiveness

of investment in social programmes. Heckman (2008) has consistently shown how societies can receive high rates of return and economic benefits by investing in early childhood development from as young as possible, and by focusing on disadvantaged families. There is also consistent evidence confirming how substantial and progressive differences in neurodevelopmental performance can be attributable to economic gradients at early ages, suggesting the importance of targeting wealth disparities early in life because poverty can cause early developmental deficits to be carried forward for a lifetime (Wehby & McCarthy, 2013).

Organising the Teams for Action Research in Early Childhood Health care and Development

Assigned according to the systems of the ecological approach, teams were organised with the purpose of collecting and analysing data on the different dynamics involved in delivering childhood health and development in the partner municipalities. Teams were constituted by allocating professionals according to their former experience, knowledge and participation in the design of the original proposals and their membership of the different participating institutions. Each team had the initial challenge of adapting the original proposals in order to validate research methodologies and instruments in the field. The overall aim was to explain and contribute to the understanding of the system in a way that could provide clarity for the bigger picture of issues related with early childhood health care and development.

Team leaders were selected according to their expertise and seniority. Associate researchers were interviewed and assigned according to their personal interests, their team leader's request for support and their rapport in a first interview, with the participation of the project leaders and programme director. Different curricular aspects were considered when specific skills were required to balance the constitution of each team, such as scholarship, academic status, research experience, and qualitative or quantitative orientation according to the type of project that was to be developed.

The action research programme was designed to implement the first of three phases in a 24-month period that, with an approved extension, ultimately lasted 32 months. In this period the programme faced the dual challenges of communicating the proposal to the participating communities (16 municipalities and two departments), funding institutions, and of Colciencias implementing the programme in local institutions working with young children. Overall the teams of researchers belonged to at least 20 different disciplines including: anthropology, biostatistics, computer engineering, communication, economy, education, epidemiology, law, medicine, nursing, nutrition, paediatrics, physiotherapy, political science, psychology, public health, social work, and sociology.

The Leadership Dilemma for Interprofessional Experience and Collaborative Practice in the ELS Research Programme

During the first phase of the programme, a conceptual framework defining a series of stages was constructed and shared with the wider group of researchers in order to build consensus. This phase involved researchers within their own teams adjusting the proposals in order to validate instruments of data collection according to their objectives and topics of interest, and in accordance with the programme goals. Field data collection was performed according to each research project's agenda in coordination with the programme direction general plan. Teams analysed data independently, providing feedback on results and advances to the programme director. The identification of relationships and co-ocurrence of findings provided the rationale for the construction of capacity building tools to be shared with participating communities. A final conference to share the findings and results of the first phase gathered communities with representatives from all sectors of the 16 municipalities, the two departments and institutions participating in the research programme.

The principal leadership characteristic required in the context of interprofessional experience and collaborative practice within the ELS programme is the recognition of the need for different levels of cooperation or attempts to find agreement, as described by Chivers and Trodd

(2011). Ultimately, the required mindset is one that looks for ways to work together: firstly among participating institutions and communities; secondly among professionals from different fields, assuming the challenge of investigating different systems together and reporting their findings in relation to the complexity of an ecological construct (Cooper, Braye, & Geyer, 2004); and thirdly in disseminating, sharing and utilising the findings and narratives of what was found with participating communities (Connelly & Clandinin, 1990).

Observation of the ecology of early childhood health and development implicitly questions the constructs and frontiers of many of the existing disciplinary fields and institutionalised practices. The impression of chaos emerges easily and continuously in the face of what has to be explored because those exposed to what they ought to see face the challenge of personal deconstruction while confronting the risk of proposing a structure to fit those undefined new beings referred to as "infants", a term that interestingly has the etymological meaning that refers to persons not being able to speak, therefore not having a voice for their opinion.

As described by Graham and Jarvis (2011), uncertainty is an inherent aspect of current 'early years' practice in which multidisciplinary work is required to innovate and articulate new ways to change relationships with children, families, and communities, and among professionals. Furthermore, many who have or have had a child or an altruistic achievement with children claim the seniority of empirical 'expertise'. Nevertheless, collective capacity lies fragmented in dispersed talent that requires continued and sustainable re-engineering to achieve the required integrality of services and support for care givers. In many cases this is obstructed by the barriers of professional cultures (Hall, 2005) and, in others, by the difficulty of displaying the necessary competencies for collaborative practice such as disciplinary awareness of the roles of other professions and the capacity to communicate with them (Suter et al., 2009).

In the ELS programme, early childhood health and development as a field of applied research had uncertainty as a major force that determined different practices of collaboration. In setting up the organisation for the research programme there was also uncertainty in the way the research programme was designed, in the grant offering made by Colciencias, in the selection of the institutions that were invited to become allies, and in

the roles and working practices that the researchers were invited to play: all dealing with several questions and variables with technical languages that many times used different names for the same concept.

Professionals who work with young children should be prepared for the idiosyncratic communication of 'infants'. Early years practice is then an opportunity to rise to the challenge of uncertain contexts by innovating in practice and developing new ways to relate among professionals and diverse social institutions, in order to provide the required support and back-up for families and children growing and developing within their communities.

Structurally it can be said that the ELS partnership was set into place in a hasty and artificial manner. Researchers continued to belong to their original institutions, but were seconded to the temporary alliance to work in the programme. Also, from the beginning, allied institutions trusted that Colciencias would sustain the possibility of renewing the programme, based on the evaluation of results from the first phase, into the second and third phases of the original proposal, something that is currently at risk because of financial instability in institutions that are funded by national budgets.

Evidence of optimism when the programme started could be traced through the offerings of several academicians from different fields who were willing to participate in an exploratory and altruistic research programme. However, that early enthusiasm was progressively tinged with the clouds of uncertainty, together with the anxiety imposed by the rigour of difficult questions, conceptual clashes, demanding agendas, and the progressive installation of a structure of bylaws required to assemble the organisation.

A critical aspect for the construction of collaborative practice amidst uncertainty is that, as vagueness and ambiguities increase, the feelings of angst and stress can increase progressively in more individuals. This undermines the authority and the recognition of the leadership, through a process that is challenged in its capacity to provide cohesion from dissociated experience at the individual and institutional levels.

Within such an environment people were constantly moving on, giving new members few opportunities to build upon previous work. In the 30-month period at least 20 people resigned for different reasons from

an organisation of 45 direct members and another 20 related to the programme through allied institutions.

Critical Thinking Analysis and Appreciative Inquiry: Complementary Approaches to Raise the Leadership from the Ashes

Although critical thinking may be rooted in a problem-solving logic that contrasts with an appreciative inquiry approach focusing on the positive, the ELS research programme represents an eclectic scheme that used elements of both approaches to mobilise strategic change (Grant & Humphries, 2006). Initially a critical thinking approach was used to deal with crisis, followed by appreciative inquiry tools to consolidate required collaborative practice. A critical thinking approach to problem solving determines that problems should follow a set of steps involving reasoning, and reflection regarding accepting, rejecting or suspending a practical judgment with respect to an action or set of actions.

Previous discussion of the ELS programme has detailed the potential causes of difficulty for leadership sustainability because of increasing uncertainty arising from different root causes. Further illustration of the problem has expanded on the general uncertainty within the early childhood field to show the additional challenges of effective collaborative practice and how they apply to the ELS programme. Summarising the leadership dilemma in the ELS programme, in Table 4.1 we have broken it down into its components, showing our responses to the critical situations we faced.

On examination, we can trace characteristics of appreciative inquiry in the process of consolidating collaborative practice. Appreciative Inquiry is a useful perspective that allows the evolution of the programme into challenging levels of change management, by integrating research findings and lessons learned in developing the programme, to the promotion of systemic transformations in child health care. (Dematteo & Reeves, 2011) (Table 4.2).

Within the complementary approaches of critical thinking and appreciative inquiry for collaborative practice, we can trace both positive and negative attributes, but we can also track the evolution of characteristics

Table 4.1 Summary of leadership dilemmas and countermeasures taken to solve crisis in the ESP programme

Leadership dilemmas	Countermeasures
The stormy waters of instability in the national research policies and institutional build up	Continued checks and balances with the programme auditors in Colciencias and compliance with settled programme objectives to keep doors open for phases 2 and 3 in case they are declared feasible. Also demonstrated compliance with involved territories in settled agreements
Doubts in the board of directors about the alliance build-up turning allied institutions to protect their own vested interests. Doubts about the sailing maps and stewardship	Concentrating directive and delegated leadership into key leaders and collaborators together and their full time dedication to the programme, and active involvement of the board of directors in decision making
Uncertainty and insufficient illustration of the purpose of the programme creating tensions among allies to gain institutional and programme leadership. Financers wanting to separate the armada and govern independent ships	Standing up for the compliance of initial agreements among allied institutions regarding the unity of the programme as a whole as opposed to its fragmentation into seven independent projects
The ecological approach to understand early childhood health and development a complex multi method and multi systemic approach, as an armada of ships setting sail to an unknown harbour.	Advancing in the conceptualisation of early childhood health and development ecology with a rationale designed by the programme to plot obtained multifaceted data and the contributions of translational research
The variable capacity of participants to connect and deal with uncertainty	Schematising the programme in a conceptual framework, together with a participatory construction of detailed GANTT charts to display activities reflected in individual contracts to achieve objectives and committed outcomes. Opening doors for those willing to sail apart
A fragile and transitory organisation setting for a complex lasting display	Role models of collaboration, together with formalising availability of individual or team work spaces, also criteria for field operations and reporting of contractual compliance of individuals with contracts with the ELS programme

Table 4.1 (continued)

Leadership dilemmas	Countermeasures
The absence of a pattern language to connect, sail, and move on	Concentrating on lessons learned on the field, sharing them and reconstructing knowledge from own findings and learned lessons with participating communities
The assumption of premature challenges for future phases of the programme	Focusing on the first phase and promoting the diffusion and communication of first phase achievements

Table 4.2 Appreciative inquiry approach characteristics and measures of the ELS Programme to evolve in collaborative practice among professionals

Characteristics	Measures
What can mature, grow or sprout	Supporting first followers and promoting dialogue for understanding and learning from dissent, together with promoting collaboration in practice understanding through open awareness of others' values, knowledge and paradigms through active communication
Thinking positively: good, better, possible	Shifting attention from difficulties and uncertainty towards progressive achievements and understandings that the programme gained. Also sustained challenge to attain higher standards in social accountability
Thinking with the larger picture in perspective, and how it's nourished by the current roots	Leadership constantly connected with the vision of the greater good. Clarifying the guiding mission of children's health and development.
Creating a new dynamic with a shared vision	Advancing in the conceptualisation early childhood health and development ecology with a rationale designed by the programme to plot obtained multifaceted data and the contributions of translational research
Based on the assumption of a limitless source of creativity and capacity within available appreciated resources	Assuming the challenge to enter an active stage of communication of results and lessons learned in academic literature, together with the initial use of developed tools to seed needed citizenship collaboration that can benefit real children in early childhood

of effective teamwork: from multidisciplinary, to interdisciplinary and finally transdisciplinary action. Below we describe a trend in the mesh of different elements towards cohesion in intention and coordinated response, leading to the integration of independent agencies with the power to create change through the synergy of collective action.

The programme's leadership strategies to deal with crisis and move towards the consolidation of collaborative practice can be summarised as TEAMWORK (see Choi and Pak (2007)): **T**eam, **E**nthusiasm, **A**ccessibility, **M**otivation, **W**orkplace, **O**bjectives, **R**ole and **K**inship. Each of these strategies has a series of defined factors that promote or constitute barriers for effective collaboration. Among promotion factors are: good selection of team members, good team leaders, maturity and flexibility of team members, personal commitment, spatial proximity, the internet and email as a supporting platform, incentives, institutional support and changes in the workplace, a common goal and shared vision, clarity of roles, communication among team members, and constructive comments among team members. Possible barriers are: poor selection of the disciplines and team members, poor process of team functioning, lack of proper measures to evaluate the success of interdisciplinary work, lack of guidelines for multiple authorship in research publications, language problems, insufficient time, insufficient funding for the project, institutional constraints, interdisciplinary conflicts, team conflicts, lack of communication between disciplines, and unequal power among disciplines (Choi & Pak, 2007).

The initial design of the programme submitted to Colciencias had seven projects which brought together professionals from different disciplines with little or no explicit consideration of how they would interact. The creation of research teams for each project with a variety of professionals according to their focus was characteristic of a multidisciplinary collaboration perspective. Further on, when projects had to be harmonised and coordinated to validate instruments and raise data in field work, teams had participants from two or more disciplines moving into new levels of integration; boundaries and silos started to come down and a common language started to emerge. This stage was no longer an addition of parts and could be equated to an interdisciplinary collaboration. Finally, during the dissemination of information findings and lessons learned to communities, when professionals had to be reorganised to cover different territories and

audiences, the programme had become transdisciplinary in nature. It had succeeded in integrating multiple disciplines into a conceptual framework that enabled it to share a new paradigm with communities which wanted to demonstrate changes in child health care. In this stage the whole became more than the sum of its parts and we claim that at the community level the benefits of transdisciplinary collaboration were achieved to the extent that the available resources allowed (Stock & Burton, 2011).

Conclusion

Away from ambitious solutions, this case provides the authors' personalised insight into how the leadership dealt with uncertainty and was supported through critical thinking and appreciative inquiry approaches to meet the goals of the ELS programme and to mobilise communities towards systemic change in the provision of health care for early childhood development.

The programme's rationale was based on the higher aspiration of ensuring that all citizens can achieve their neurodevelopmental potential in their early childhood years. Meeting that challenge demands the resources for new generations to continue to develop in a sustainable way. It also means that the older generations, who have the responsibility of caring for and nurturing them should be able to organise in a way that meets the challenges of providing quality care for young children, regardless of the emerging difficulties that modernisation has brought into social and family structures. This also signifies that innovative and effective ways of collaborative practice are required in order to develop means for transformation of what is currently done in an insufficient way.

For many societies, the challenge of guaranteeing the right to an equal start for every child lies in the future when they have reached the education level and necessary competencies to sustain such a project. From what we learned in the ELS programme, it is through understanding and acknowledging the lessons learned in CP that change can be achieved. Individuals will never achieve their full potential without support in their early years. The basis of a society in which professionals can pursue the ideals of a community with the support of its citizens lies in early childhood development, one child at a time, and each child should have the chance to experience the same benefits.

The challenge ahead is to give life to ongoing communities of practice through the dissemination of results, proposed methodologies and concepts that can contribute to strengthening social services by building personal, institutional and community competencies.

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Implementing Interprofessional and Citizenship Education in a Regional University: Carving Paths, Crossing Boundaries in Complex Adaptive Systems

Hassan Soubhi, Sandra Coulombe,
Dominique Labbée, Liliane Asseraf-Pasin,
Sharon Hatcher, Ariane Girard and Stéphane Allaire

Introduction

Barr (2007) and Carpenter and Dickinson (2008) have argued that context helps define the content and strategies required to design, implement and evaluate interprofessional education (IPE). Two aspects of context—strategic and theoretical—define the ongoing initiative we present in this chapter. On a strategic level, this project is at the confluence of two opportunities at Université du Québec à Chicoutimi (UQAC): a relentless drive by the university's senior leaders to integrate interdisciplinary practice in teaching and research, and their firm commitment to strengthen the links between the university and its surrounding community (UQAC, 2013). Like other universities in North America, UQAC faces the challenge, amid shrinking financial resources, of readying its students in the health professions for the increasing complexity of chronic care, an ageing population, and the higher digital connectivity and rapid transportation of people, goods and services (Fraser & Greenhalgh,

2001; Soubhi, 2007). Although the financial environment has placed discouraging challenges on several professional programmes, by combining resources and aligning visions, partnerships between university departments and between the university and community organisations can help resolve some of these challenges. The present initiative seeks to leverage the strength of these joint alliances by adopting Interprofessional and Citizenship Education (IPECE) as an organising principle to prepare graduates in the health professions for collaborative practice and civic engagement, two essential skills sets in a rapidly changing and complex health care environment (Committee on Quality of Health Care in America—Institute of Medicine, 2001).

On a theoretical level, this project is founded on the premise that interprofessional learning and practice in chronic care emerge from what the patient, family members, and health professionals do to achieve specific health outcomes within the evolving opportunities and constraints of chronic illness. Both chronic care and interprofessional learning in this view are ecosystemic responses to illness—collective and more or less adaptive responses of the patient, family and health professionals to the changing biological and psychosocial manifestations of the illness (Soubhi, 2007; Soubhi et al., 2009). Such a complex view of care delivery entails uncertainty and high levels of interdependence among all the participants—including their technology (Greenhalgh & Stones, 2010; Brooks, Atkinson, & Wainwright, 2008). In this context, interprofessional learning is about living communities of people who interact regularly, mutual and changing dependencies among several competencies, and challenges to adjust care strategies to the unique and changing demands of patients' illnesses and resources to meet them—all requiring a broad view of the encounter between patient, family and health care professionals to nurture a balance between head and heart, cognitive and non-cognitive abilities, technical skills and insightful compassion, system design and ethical dimensions of professional practice (Soubhi, 2007; Soubhi et al., 2009). Meeting these challenges requires iterative interactions among participants rather than sequential handoffs; it requires not just flexibility and ongoing coordination, but also collaborative and knowledge-intensive activity to connect and amplify the professional know-how of all involved into coordinating complex assessments and

continuous interprofessional care that goes beyond biomedical needs (Soubhi et al., 2010). This is an ongoing activity that subsumes a dynamic balance between knowing and doing: appraising and interpreting what is unfolding at any given moment and responding appropriately; recognising the right thing to do and doing it at the right time with the right resources (Fraser & Greenhalgh, 2001; Soubhi et al., 2010). At the group level, we call this ability 'collective capability' because it helps professionals deliver complex care and adjust their collective response to patients' needs over time. This is a learning process through which professionals tune their competencies to new circumstances and combine structure with renewed improvisations in the face of uncertainty, uniqueness, and conflicting values (Soubhi et al., 2009; Best et al., 2012; Macfarlane et al., 2011; Greenhalgh, Macfarlane, Barton-Sweeney, & Woodard, 2012).

These elements of context establish the rationale for joining disciplinary boundaries and for carving paths toward a more socially embedded university. They also raise several questions: How can we translate these elements into designing an interprofessional and citizenship education (IPECE) platform? What kind of leadership do we need in order to cultivate the necessary alliances and create a shared vision for the future? What learning experiences to implement, what disciplinary boundaries to join and what local resources to engage for our future health professionals to become team players and engaged citizens ready for complex care delivery? To answer these questions—given the scope and novelty of the project—we opted for a gradual approach to design and implementation conceived as knowledge generation processes on their own. In the following pages, we describe our methodology, focusing on the principles of programme design, leadership and the formative evaluation we are using. Next we report what we are learning from this developmental work, and conclude with future directions.

Methodology

At the heart of our rationale for crossing multiple disciplinary boundaries are two powerful sources of cross-fertilisation: complex chronic care delivery as an ecosystemic response and the collective capability it entails (Soubhi, 2007; Soubhi et al., 2009). It is our premise that these concepts

offer accurate signposts for the complex requirements for interprofessional learning, particularly when IPE is enriched with frontline goals of community improvement and civic engagement (Soubhi et al., 2009; Barr, 2007). As we have argued elsewhere (Soubhi et al., 2009), we cannot predict or design this type of collective learning. But we can design for it (Soubhi et al., 2009; Soubhi, 2007).

Principles of IPECE Design

Chronic care activities are rooted in the biological, psychosocial, cultural, and dynamic realms of human experience. As such, they raise issues of shared meanings among the participants (Soubhi, 2007). And so does collective learning (Soubhi et al., 2010). Collective learning is known to be experiential, happens in specific social contexts, and is driven by the idiosyncratic motivations of participants (Soubhi et al., 2009; Sterrett, 2008; Headrick, Wilcock, & Batalden, 1998). As living structures, communities of interacting individuals are better conceived as complex adaptive systems with interdependent parts—individuals and health technology components—joined together to form an emergent structure that cannot be predicted from the parts (Fraser & Greenhalgh, 2001). In such contexts, an ecosystemic approach highlights three units of analysis: the group of participants (teachers, tutors, students, patients, family members, community organisations), their environments (biological, psychosocial, health care organisation, university department, family unit) and their adaptive responses (Soubhi, 2007). The primacy in this triad goes to the adaptive component: the evolving arrangements of mutual dependencies and linkages among the participants and their environments. These linkages are likely to be effective when they allow the participants to act as a unit, with shared goals and meaning, mutual understanding of the contributions of each participant (representations, emotions, skills, behaviours), and well-timed communications (Gittell, Godfrey, & Thistlethwaite, 2013. Collaborative practice and collective learning in such contexts imply shared knowledge, trust and respect for the autonomy of participants, and a shared set of values regarding appropriate responses to shared definitions of need (Gittell et al., 2013; Hudson, 2007). How then can we integrate these features into our conception of IPECE design?

Two perspectives are necessary (Soubhi, 2007). Both draw on Human Ecology, Complexity Theory and Activity Theory (Plsek & Greenhalgh, 2001; Hawley, 1986; Engeström, 2011; Engeström, Engeström, & Kärkkäinen, 1995). The first, designing for community, harnesses the potential of relationships. The second, designing for emergent learning and practice, focuses on collective learning over time.

Designing for Community

Designing for community implies that the participants cultivate cohesive relationships through regular contact, definition of common goals and recognition of shared skills (Wenger, McDermott, & Snyder, 2002; Soubhi, 2007). Such relationships evolve best from small groups who build trust and cohesiveness by identifying their joint interests to cultivate what Wenger calls a community of practice (Wenger et al., 2002). Guided by the type of knowledge required to accomplish tasks, these initial communities may then expand to include other members. An important corollary is that the encounters of the participants are also those of a learning community—a group of individuals who through language and conversations negotiate meanings and learn about each other and about themselves (Wenger et al., 2002; Wenger, 1998). A communal view therefore highlights the need to integrate the identities, skills and resources of all the participants (Wenger et al., 2002; Wenger, 1998). It also underlines the co-creative nature of the group's response (Plsek & Greenhalgh, 2001; Hawley, 1986).

Designing for Emergent Learning and Practice

Professional practice is an evolutionary process whereby only effective solutions can thrive under the constraints of cost, efficiency and other human and organisational factors (Soubhi, 2010; Soubhi et al., 2010). The content of what community members learn results from their ongoing conversations and interactions with their environments. In this evolutionary process, successful solutions are likely to emerge as members adopt the best solutions through imitation of successful members or through an informed process of learning, experimentation and continual trial of varied solutions (Fraser

& Greenhalgh, 2001; Soubhi et al., 2010). To design for emergent learning entails providing an adaptive context that supports this kind of learning.

Two components of the social context of a community of practice are essential for an effective design: the relationships among members and the various products they develop and share (Engeström, 2011; Engeström et al., 1995)—assessment tools, care plans, flowcharts, follow-up sheets, etc. In a sense, these artefacts help create order out of the free-floating brainpower of the participants; they give form to the group's experience and provide a basis for continual learning and experimentation (Engeström, 2011; Wenger et al., 2002; Soubhi, 2007; Bahar, Hausmann, & Hidalgo, 2014). Designing for emergent learning and practice would then leave ample space for imagination, improvisation and creative adjustment to the more or less predictable experiences of participants. To be anchored in the communal engagement of practice, imagination and improvisation would rely not only on periodic review sessions and keeping up with new technologies and evidence-based literature, but also on the development of an organisational culture that favours a sense of community, trust and openness to experimentation and discovery (Soubhi, 2007; Wenger et al., 2002; Bohmer, 2013). Ongoing experiences with process change methods such as the Plan, Do, Study, Act cycles suggest that the 'try it and see' attitude, combined with group processes and leverage on the health care organisation through its senior leaders, is an essential element of successful collaborations (Soubhi, 2007).

In summary, to cope with the complexity of the adaptive ecosystem of IPECE design, we must accept nonlinearity and unpredictability, incorporate the creativity of the participants and respond adaptively to the emerging demands of the learning situations considered, the available resources and the evolving encounters of the participants. The goal is to guide and manage the communal response, recognise its value and develop ways to document its collective and continual learning (Soubhi et al., 2009, 2010; Fraser & Greenhalgh, 2001).

An Adaptive Leadership Model

UQAC, like other universities, incorporates decentralised departments and programme units that embody diverse professional norms and boundaries of expertise (Morrill, 2010). The blend of stakeholders from programme

directors, faculty teams, tutors, students, patients, family members and community organisations that would be involved in IPECE all adds to the complexity and ambiguity of both the processes of learning and the means to measure its outcomes, resulting in what Rittel and Webber (1973) and Cuthbert and Forman (2015) call a 'wicked issue'. The challenges of designing for community and emergent learning are then those of negotiating meanings, in addition to those of dispersed communities, time and the fluctuating demands of the learning situations of IPECE. The challenges also reside in how to organise the relationships among the participants: how to coordinate, value and leverage their engagement to the shared purposes of IPECE.

In this perspective, leadership is better understood as an adaptive process: the enactment of shared purposes through empowering and engaging individuals and groups in a collaborative strategy process (Morrill, 2010)—what Heifetz (2006) describes as mobilising people to do difficult work with no clear technical solution: a relational process of collective change and motivation toward the progressive building of social capital (Coleman, 1988), rather than the promotion of the specific attributes of any one individual and without necessarily involving the authority of a traditional hierarchy. As Morrill (2010) articulates it, leadership is here about adaptive 'sense making and sense giving' within communities to help enact common values and pursue shared goals in response to change and conflict.

Description of the Case

Our case is based at UQAC, a regional university in Northern Quebec, Canada, with a range of programmes spanning several departments: Engineering, Mathematics and Informatics, Health Sciences, Education Sciences, Humanities, Arts, English Literature and Numeric Design. The initial move in developing the case was the official creation in January 2014 of a steering committee to focus reflection and dialogue on IPE in the health sciences. This was the formal first step toward cultivating a community of people interested in this topic. It was also the birth of the possibility of developing IPE at the University. Chaired by Hassan Soubhi (HS), the committee initially included programme directors in the Health Sciences Department (Nursing, Kinesiology, Psychology, Physical Therapy and Experimental Medicine) and any interested faculty member. Meetings were convened three times during the year and emails were

exchanged throughout the project. The email list was quickly enlarged to include representatives from Social Work, the Education Sciences, and the Arts departments through contacts initiated by the Chair to stimulate discussions and expand the interdisciplinary effort to other departments.

Early in the 2014 spring session, the conversations centred around two participants: HS (representing Physical Therapy) and one of the Nursing Programme directors. The readiness to develop a three-credit IPE course for pre-licensure students from Physical Therapy and Nursing, and the convergence of interests in patient, family and community-centred care were the ingredients that drove these conversations. The initial curriculum framework and learning objectives were determined by a mix of literature searches and structured conversations around the idea of combining patient-centred IPE with service learning (Bringle & Hatcher, 1996) and reflective practice as tools for students to learn about teamwork and civic engagement. Initial plans were made to develop a pilot project for the 2014 fall session to test this approach. The pilot lasted 4 weeks and divided 38 students from a second year nursing course on family-centred care and 27 students from a second year physical therapy course on professionalism into 13 interprofessional groups of 4 to 5 participants. Each group was to meet for a 1–2-hours interview with a chronically ill patient selected from a list of community organisations in the region. The patients were invited to tell the students about their lived experience with chronic illness. Students were in charge of working as teams, setting up their schedules, contacting the patient, organising the meeting and preparing the interview. Each student had to complete a self-reflection guide at the beginning of the course session, a few days before the meeting, after the meeting and following a reflective group session at the university where students were to share their perceptions of teamwork and their experience of listening to the patient. Initial contacts with community organisations, supervision of group meetings and review of the reflective guides were jointly facilitated by the Nursing director and HS. Students received credit for this assignment for up to 25% of their final grade.

In the winter of 2015, with the success of the pilot, discussions intensified around the design of a fully-fledged 45-hour course that would cover all the IPE competencies identified at the national level (Orchard et al., 2010). The course would follow a thematic structure similar to the pilot with learning experiences centred on teamwork, service learning and reflective

practice. There was now the added option of involving students from a Distributed Medical Education Programme hosted by UQAC. Several conversations with colleagues from the Arts, Education and Human Sciences departments were also moving toward specific collaborative engagements to contribute to both teaching and research. These conversations were encouraging enough to have us prepare a proposal to UQAC Academic and Research Deans for the creation of the course. The proposal follows the proper (elaborate) administrative procedure that started in the fall of 2015 for a possible beginning of the course in the 2016 winter session. Meanwhile, encouraging conversations with the Deans (in a few formal but mostly informal meetings) clarified the need to gather as much data and evidence as possible to reflect clear priorities and goals regarding feasibility and the contributions of the course to participating professional programmes, their faculty members and the university's strategic plans. A scoping review of the literature of the last 20 years related to IPE combined with service learning and humanities education is ongoing. And we still took time for an interdisciplinary workshop to gather some more data.

On 17 June 2015, a workshop titled 'Crossing Interprofessional Boundaries' brought together nine faculty members from Kinesiology, Neuropsychology, Orthopedagogy, Medicine, Nursing, History, Ethics, Social Work and Theatre, representing four UQAC departments: Arts, Health, Humanities and Education Sciences. The workshop combined perspectives from activity theory and co-development pedagogy, and provided a forum for exchange on interdisciplinary boundaries and patient-centred care as a collective competency. The workshop lasted a full day, was audiotaped and observed using a grid adapted from Engeström Activity System model (Engeström & Sannino, 2010). It was one of the richest events in the history of the case.

A Transdisciplinary Framework for Evaluation

If our goal is to cultivate and manage, within the boundaries of our case, the communal response to IPECE design and practice, how can we inform the empirical investigation necessary to document our collective and continual learning (Soubhi et al., 2009, 2010; Fraser & Greenhalgh, 2001)?

We considered how our theoretical lenses—an ecosystemic perspective on chronic care, the collective learning it entails, activity theory and the complex adaptive systems (CAS) view—might be combined to guide an empirical investigation and help account for the embeddedness, the contingency, and the central contribution of human agency in building change (Greenhalgh et al., 2012; Engeström, 2011). We opted for a transdisciplinary approach combining a realist evaluation (Tremblay et al., 2014) nested in a macro framing of CAS and activity theory (Best et al., 2012; Engeström, 2011). As an analytic framework, realist evaluation assumes that variations in outcome result from the interplay between context and the mechanisms of change that a given intervention implements. The mechanisms of change in our intervention relate to the design for community and emergent learning and practice in the specific context of UQAC departments. Activity theory, particularly in its view of educational research as formative interventions (Engeström, 2011), draws attention to the longitudinal, economic and sociocultural dimensions of that context, including its artefacts, regulations and interpersonal influences that give rise to change (the object of activity in educational interventions) and give it local meaning and significance (through the expansion and active reforming of the object of activity) (Greenhalgh et al., 2012; Engeström, 2011; Best et al., 2012) . Finally, a CAS view draws attention to simple rules in a system and its environmental parameters that can guide flexible transformation and allow for a formative adaptation (Fraser & Greenhalgh, 2001; Greenhalgh et al., 2012; Plsek & Greenhalgh, 2001; Best et al., 2012).

Study Aims

Adopting a CAS perspective, a realist and a formative view of educational interventions, meant that our evaluation would focus on the movement of change and whether it supports improvement (Greenhalgh et al., 2012; Engeström, 2011). In particular, we found that the combination of intervention-focused and system-dynamic lenses would be most instructive (Greenhalgh et al., 2012; Best et al., 2012). The intervention-focused analysis asks: what is our intervention doing? The system-dynamic analysis

asks: what is changing? In our particular case, we wanted to explore the organic processes of adaptive leadership and emergent learning that result from our intervention. Our general aim in the remainder of this chapter is therefore to report a series of propositions to explain what we observe and whether the relationships and interdependencies among local agents are evolving in a positive direction (Greenhalgh et al., 2012; Plsek & Greenhalgh, 2001; Best et al., 2012).

Study Design

Ethics approval was obtained from UQAC's Ethics Review Committee. The design is a qualitative organisational case study with multiple data sources collected reflexively and bounded by time and location of events (Boblin, Ireland, Kirkpatrick, & Robertson, 2013; Abma & Stake, 2014). The study is also led by a team of investigators from different disciplines (Public Health, Education Sciences, Nursing, Physical Therapy and Family Medicine). The study, still ongoing, was initiated in November 2014. We will report in this chapter on what we are learning from study events up to July 2015. We are building the case study from four main data sources: (1) documents such as the University's strategic plan, course syllabi, and minutes of meetings; (2) students' reflective practice from the pilot project; (3) guided observation and audiotapes of the workshop; and (4) in-depth, semi-structured interviews with workshop participants.

Data Analysis

We are organising the qualitative data into broad themes using our combined theoretical lenses. We are using themes from each successive student reflection, workshop participant interview and observations, or other free-texts including university documents, minutes of meetings, and other field notes, to enrich and modify the emerging account of the case using the constant comparative method (Boeije, 2002). We are now using narrative to synthesise our qualitative findings into meaningful accounts, generating theory and teasing out ambiguities, with particular attention to 'disconfirming cases': individuals or groups who do not fit our initial

explanations. Keeping in mind that there is no such thing as a perfect data set in an organisational case study, the emerging case study was nurtured most notably through discussion of the students' pilot study with collaborating partners and a presentation at the International Nursing Congress in Montreal on 4 June 2015. We are preparing our syntheses for workshop participants to obtain their feedback on the general thrust and specific details. This is not only because we need to enhance trustworthiness or credibility of qualitative data, but because human agency is a central source of change in educational research (Engeström, 2011). The content of this chapter is part of these syntheses. While some of what we are learning may be relevant in many settings, it applies most specifically to our case study. Therefore, we will state these learnings as general propositions that we will test in subsequent iterations and that others may adapt in their own institutional settings. Given space limitations, we will focus our review of lessons learned on exemplary parts of the pilot project and a few extracts from the workshop.

What We Have Learned So Far

Establishing IPECE in a university context led us to think differently about educational design and implementation, leadership and research. We offer insights into two areas for those who participate in university-based IPE: (1) Learning about establishing IPECE for complex care in a university setting; and (2) Learning about adaptive leadership. In each of these areas, we will examine what our intervention seems to be doing and what seems to be changing.

(1) Learning about Establishing IPECE for Complex Care Delivery in a University Setting

The context for learning is just as untidy in a university setting as it is in the front lines of health care practice (Soubhi et al., 2009). There is presumably a coherent structure crystallised in curricula, syllabi, specifications of content, learning objectives and so on. However, the needs

of faculty, students, committees, teaching units and departments can diverge because of differences in schedules, accountabilities and disciplinary frameworks. Changes in curricula, for example, involve long series of negotiations. Governance at UQAC, like other North American universities, involves several department-level committees including undergraduate and graduate studies. Decisions made by these bodies need to be approved by the board of department directors. In our case, the Physical Therapy, Nursing and Medical Education programmes must also be able to satisfy their individual accreditation standards within any proposed IPE curriculum—diplomacy, patience, unflinching resolve become central in this kind of work. As a self-help exhortation, this may sound all too familiar. But we are in fact learning that complex interventions in educational settings must respond and build on the energy of conflict, tensions and contradictions wherever they may be—they are sources of change and development, and as such must be documented, explored and understood in formative interventions (Engeström, 2011). What is our intervention doing in this regard? And what is changing?

Our intervention is focusing on human agency and creating a social context for its expression. By bringing together people with joint interests (in a steering committee, in small groups to discuss the pilot project, in a workshop to share and reflect on IPE concepts) we are in fact assembling embodied knowledge, tacit knowing and local know-how that would otherwise remain dispersed. As reported earlier, it was the readiness to develop a three-credit IPE course and the joint interests in patient, family and community-centred care that helped crystallise the conversations between Nursing and Physical Therapy teachers into specific plans to try out new ideas for teaching teamwork and civic engagement. Differences in timing, contents and learning objectives all had to be transcended and the conversations focused on new arrangements for when the students would meet the patients, what they would reflect on and when. We also had to establish new contacts with different community organisations and communicate with each other, and all of this across the divides between professional and non-professional, community and university-based structures and ways of being. Part of the change we wanted was in our own learning. We were in fact learning to do what we were asking our students to do, as this reflective comment from a Physical Therapy student reminded us:

I think that because preparation for this work started late in the session, I think we were a bit lost and confused about what we were supposed to do. Students in Nursing had different information than we did, we did not really understand what we were supposed to do at the beginning and that got many of us stressed. I believe that if explanations were clearer and more detailed, that would avoid a lot of stress for the students.

This comment underlines also the need—as Cuthbert and Forman (2015) argue—for adaptive leadership and enhanced transparency about the complexities of IPE and service learning. We could not answer all questions and we did not have everything pre-planned. We were going to discover and learn with our students as we moved ahead.

Initially implicit in our efforts, our learning was slowly becoming explicit, and a workshop seemed a good place to expand it. We gathered colleagues from different disciplines for one day to organise their conversations around one common task: understanding the requirements for individual and collective competency in patient-centred care. While crossing boundaries was externally enforced with students, it was voluntarily observed and diligently discussed during the workshop—another expression of human agency. For participants, the workshop seemed to have created a space for an interpretative dialogue, a collective conversation in which, as Engeström put it, 'an expansive transformation process led and owned by' the participants is provoked and sustained (Engeström, 2011; Engeström & Sannino, 2010). The following extracts illustrate an example of that interpretative dialogue around the concept of disciplinary boundary:

Researcher: OK, let's have your inputs on what this idea of disciplinary boundary means. …. What is it, or how do you see the limits between disciplines, or how you may have lived this concept in your field?

Historian: I wouldn't use the word boundary. I have been teaching for a long time now, and in practice that's not it. In a small university like UQAC, we necessarily work together and there are no boundaries really …

Ethicist: … the problem is that for people who live inside the boundary, the specialist for example, can have difficulty to go beyond his way of seeing and he tends to bring back the issue within his boundary. That can be harmful … if we cannot work cooperatively with the other within his

boundary, if the other does not understand that we are not here for a debate, for imposing his own boundary, but that we are here to co-construct or for say a constructive collaboration, as an end in itself, if we don't agree on that end, it doesn't work.

Family Physician: I often need to do interdisciplinary work with nurses or in the hospital we have interdisciplinary teams, and all for the sake of patient care. … I have always seen the boundary as a space for exchange; I have never seen it as a zone of conflict, but rather a zone for exchange. There is a kind of conduit between your disciplines, my discipline. We are all together in a shared terrain. We put things together because, what we're doing is try to help another person, an objective that is higher than oneself.

Theatre Director: In theatre, there is the issue of the encounter and at the same time the loss and you have to play with these and remain flexible … so it is no longer a question of interdisciplinarity, but rather a question of what is the medium? What medium will influence our language? As new media enter the scene in a theatre (video, audio, etc.) we ask the question how are these media changing our relationship to what is in the scene. … We still have our territory, but it remains open. But with this openness there is a potential for a loss. What becomes important is what we might call 'intermedium'. At some point, the encounter of two media creates a third space, an in-between space. So that's why boundaries are interesting to me, because it's a space for an in-between two, an interlude. … In fact from the moment you institutionalise a creative space, you dominate that space and you're no longer in a responsive relationship with it.

Social Worker: I would like us to ask collectively how to get to the boundary, and how to dwell in it? Something like what you are saying (turning to the theatre director) … anyway, that's how I hear what you're saying, but I think that to work in that space which is not a space to cross, a space to dwell in, to invest in, and a space in which there is, I think, a lot to invent, and perhaps, as you were saying earlier (turning to the psychologist) a space where you have to be careful not to oppose two kinds of logic: one that is to the care that needs to be delivered in the best of times and in the best interest of the patient, and one of objects that perhaps are harder to grasp, less tangible, or perhaps more abstract as you seemed to say. I think we have some abstraction work to do in relation to our disciplines so that we can create a boundary object, an object that will be formed to the image, I would say, of what we are capable of being together. But honestly, it's been years that I'm teaching social work, and I still don't have an answer, I don't know.

We can see in these extracts an expansion and a progressive 'naming' (Engeström, 2011) of the concept of disciplinary boundary. They also illustrate the cumulative 'sense making' in a collective where similar ideas are developed under different labels and with different emphases. Most notable is the progressive shift and stabilisation of the 'we' in the conversation. Maintaining an interprofessional approach will require a continuous interplay between what is shared, what is evolving and what may be co-created with one or more of the participating disciplines (Brandon & Knapp, 1999).

(2) Learning about Adaptive Leadership

Leadership is not about suppressing conflict and does not necessarily reside in the conventional authority (Heifetz, 2006). Adaptive leadership engages individuals at all levels in steering the change efforts; it also guides the communal response and recognises its value. Among the concrete values of the workshop was the expressed desire to continue the work started as a community of practice. This is an example of an 'emergent' event in a CAS that could not have been predicted. This was a call from all the participants (deepened in the interviews) to continue the conversations in support of IPECE. We take it as a sign of success of the design for emergent learning and the co-creation of an adaptive context that can support collective learning—the relationships among local agents seem to be evolving in a positive direction.

We see two additional benefits for the leadership of this initiative. One is that the members of this new community of practice are likely to contribute to an effective team of IPECE champions and facilitators with representations across a wide range of disciplines. The second is the potential for more fluid lines of communication across departments and across the university and community boundaries. As long as faculty and practitioners are willing to engage in learning, continually tune their competencies to new circumstances, and stimulate cultural and structural change, IPECE has a better chance of becoming central to professional preparation (Brandon & Knapp, 1999).

Conclusion and Future Directions

We embarked on this project for a complex educational change to help prepare our graduates in the health professions for collaborative practice and civic engagement. To foster that change, we are focusing our efforts on engaging colleagues and developing alliances and partnerships toward the co-creation of a context that centres on human agency as the main engine—within identifiable constraints and opportunities—of educational change. In doing so, we are capitalising on the interdependence between cognitive and social dimensions of that agency to help mobilise and build on the knowledge, wisdom and energy of faculty members, programme directors, students, patients, family members and community organisers—all stakeholders who adapt to daily challenges in their lives and work (Soubhi et al., 2009). With this view, the co-creation and collaborative implementation of IPECE are necessary strategic requirements of sound educational design. They are also central to the process of research and evaluation that must take into account the open-ended, continually reconfigured nature of educational innovations (Engeström, 2011). Our analytic framework is emerging alongside our data collection and informing our current analyses, and will add value to future iterations—a formative process to nurture an interpretative dialogue conducive to collective learning, leadership development and continual course correction and feedback; a process that can help build a solid empirical knowledge base and enhance stakeholders' capability to engage and apply that knowledge (Fraser & Greenhalgh, 2001; Greenhalgh et al., 2012; Engeström, 2011; Engeström et al., 1995; Soubhi et al., 2009, 2010).

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6

Going 4D: Embedding the Four Dimensional Framework for Curriculum Design

Gemma Sinead Ryan, Kate Cuthbert, Tanya Dryden, Denise Baker and Dawn Forman

Introduction

The University of Derby has a history of interprofessional development, initially called Shared Learning, since 1992. When the initial research investigation was conceived, the Government in the UK had already been advocating the value of shared learning teamwork for professionals within the NHS for almost 30 years. The Government saw this as a means of providing better care for the service user as well as a way of reducing costs in terms of higher education. In contrast, the profession and professionals themselves perceived that the sharing involved in this type of teamwork was a way of eroding their professional base. They believed that eventually several generic workers could be employed instead of the professionals themselves, and so resisted the challenge of sharing information in teams and, at the time, sought to protect their own individual professional base (Forman, 2000). Nevertheless the University of Derby saw the development of shared learning and interprofessional learning as an opportunity to bring occupational therapists, diagnostic and therapeutic radiographers together with

a curriculum designed to enhance the sharing that could take place between their studies. Due to the changes in leadership of these areas the profile of interprofessional education and practice was not seen as quite so important. The appointment of a new Dean in 2004 however re-engaged the teaching teams to learn from practice internationally and to include education practice and research on the interprofessional agenda at Derby. One of these changes will be covered in this chapter based on the writing team's involvement with action research using a model developed over seven years in Australia.

The team have been using the 4D framework (Dunston et al., 2015) to structure and guide the curriculum decisions made during an interprofessional programme development. This chapter outlines the University of Derby's experiences using an action research technique to closely monitor the change taking place.

The 4D Framework

Dunston et al. (2015) promote the use of the 4D framework to ensure the effective delivery of interprofessional learning (IPL). The framework's four dimensions cover contextual requirements, capability demands, pedagogic options and pragmatic elements. The 4D framework encourages us to:

- critically reflect on the notions of integrated care and the ever-present demands of a health care culture where patients are central (Dimension 1)
- locate graduate capabilities within the dynamic interplay between practice context and university learning (Dimension 2)
- sift through the historical developments in IPL at Derby as part of the review, from the first shared learning initiatives in 1992 towards more integrated interprofessional learning experiences (Dimension 3)
- negotiate the structural elements of managing an interprofessional programme within the institutional context (Dimension 4) (Fig. 6.1).
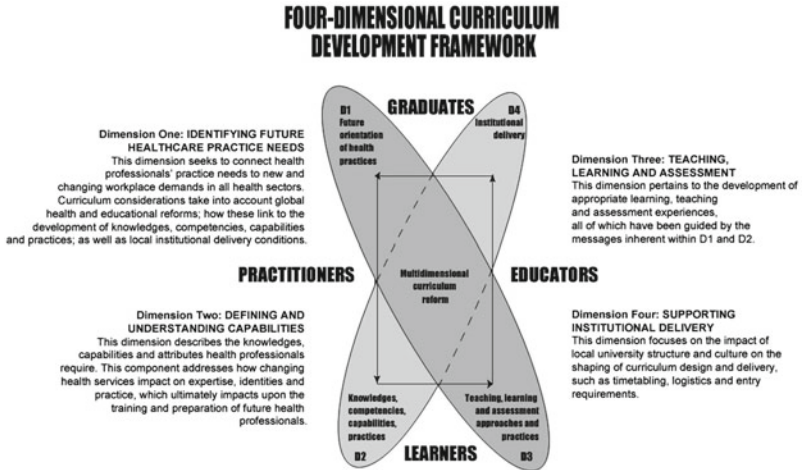
Fig. 6.1 Four dimensional curriculum development framework (Dunston et al., 2015)

Employing the 4D Framework in Action Research

As a form of self-reflective enquiry, action research enabled the team to employ the 4D framework dimensions to assess, analyse and identify good practice that facilitates IPL, and also to highlight areas where we could improve (Carr & Kemmis, 1986). The Model for Improvement (Langley, Nolan, Nolan, Norman, & Provost, 2009) and the associated Plan, Do, Study, Act (PDSA) cycle reflected our aim of continuous quality improvement in our curriculum. The model uses the following questions as catalysts for change through the PDSA cycle:

- **What are we trying to accomplish?**
  High quality IPL embedded in our curriculum and continuous improvement
- **How will we know if change is improvement?**
  Our outcome, process and balancing measures will be built around learner and stakeholder feedback loops

- **What change can we make to ensure improvement?**
  Working through a number of change concepts including a better understanding of where value is added through the curriculum lifecycle we will critically reflect on our strengths and areas for development

The PDSA cycle is increasingly being employed in health care settings to analyse and reflect on team practices and locally implemented interventions (Institute for Innovation and Improvement, 2008). It could be said that this personal, reflective and local approach limits transferability of process and outcomes in both health and health care education because of the uniqueness of the context in which the process of enquiry occurred (Damschroder et al., 2009; McNiff & Whitehead, 2009; Powell, Rushmer, & Davies, 2009). However, we proposed a structured process of investigation using the evidence-based 4D framework to reflect, code and theme our findings. This meant that our results were not only relevant to our context, which is essential for us to successfully improve our curriculum (intervention) (Damschroder et al., 2009; Herr & Anderson, 2005; Powell et al., 2009; Taylor et al., 2013), but further assisted us in refining an action research approach (complemented by the 4D framework) that can be employed in a wide range of health and social care education contexts.

The use of the 4D framework enabled us to focus on the four dimensions, guiding reflection and critical analysis of how our team and curriculum were performing in relation to each dimension, and/or how each dimension might impact on the future of our curriculum. Furthermore, it was possible to continue building on this data as an ongoing reflective process with this first PDSA cycle leading into another, and with the intention of continuously evaluating our progress and enabling our curriculum and team to be responsive to the ever-changing health and social care landscape (see Fig. 6.2). This approach will be essential for us to demonstrate impact and effectiveness, and along with the 4D framework it makes clear how we have applied the action research process so that it can be utilised by those outside of our team.

First stage of enquiry: using 4Ds framework to identify themes

Second stage: initial curriculum changes and evaluation using the 4Ds

Next stage into next level evaluation and assessment of any changing political/health and social care landscape
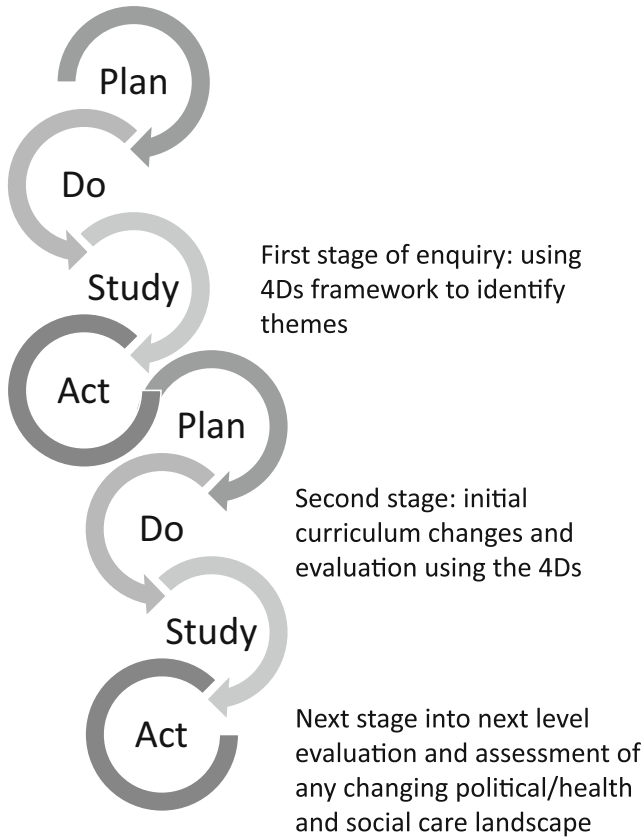
Fig. 6.2   The action research journey using PDSA cycles

The structure of enquiry in our 'study' phase was as follows:

- Dimension 1—Identifying the future of health care practice needs
- Dimension 2—Defining and understanding our capabilities
- Dimension 3—Teaching, learning and assessment
- Dimension 4—Supporting institutional delivery

A wide range of data informed our critical reflection, including programme documentation across our health care practice provision,

self-reflective journals, observation of course committees and observation of students participating in IPL.

A More Considered View of the 4D Framework

Since the year 2010 a network of Australian universities has introduced the use of a four dimensional curriculum development framework, developed originally by Lee, Steketee, Rogers, and Moran (2013), and built on by The Interprofessional Curriculum Renewal Consortium (2013a). The framework can be seen as a conceptual tool for curriculum development by depicting the dimensions that need to be considered for effective IPL. The framework takes into consideration the interconnected elements required for interprofessional curriculum development, pulling together resource attainment and active engagement with practice and stakeholders. Crucially, the framework promotes a shift away from linear curriculum design. Its intention is to act as a guide or reference point rather than a prescriptive set of instructions. Referring to all four dimensions allows curriculum developers to shape curriculum and offer the most comprehensive set of learning activities (Dunston et al., 2015).

The Derby Foundation Degree in Health & Social Care

The University of Derby was commissioned to develop a programme for higher-level support worker roles at band 4 of the NHS career framework (Skills for Health, 2008). There had been significant expansion of the workforce at band 4 and, given the stretched economic climate in the NHS, these roles offered a solution to maintaining standards of care (Matthews, 2015). Edmond, Aranda, Gaudoin, and Law (2012) highlight not only the growth of assistant practitioners within the NHS workforce but also chart the political wrangles associated with the 'modernised professionalism agenda'. The authors demonstrate how the professionalism of 'auxiliary' support workers has redefined both the workforce and the educational arena through the emergence of foundation degrees in

higher education. In addition to providing a course for support workers, foundation degrees in the UK for nursing and allied health professions are designed to allow the student to progress to the final two years of their chosen honours degree programme.

Venturing into the provision of foundation degrees for this workforce group necessitated sophisticated curriculum development, and thus an opportunity to embed the 4D framework arose. The course was initially commissioned by the local workforce development team, practice based partners e.g. National Health Service Trusts, mostly community nursing-focused, for their Health Care Assistants (HCAs). The course was designed to develop reflective, knowledgeable support workers who could be trained 'in-house' to undertake some duties that would previously have been the remit of registered staff, thereby making the HCAs more 'fit-for-purpose'. The curriculum development team were cognisant of the fact that the final curriculum needed to be flexible if it was to accommodate all health and social care students.

The 4D framework was embedded through an action research PDSA cycle whereby the framework was explored at the curriculum design stage and throughout the first year of delivery. Learning observations prompted by the framework dimensions were collated and used to inform curriculum decisions.

What follows is an account of our curriculum development presented through the 4D lens. We explore the context of the programme, locate this within the UK health service and understand the dynamics and mechanics of developing an IPL programme within the University of Derby. There is a summary statement about how we interpreted each dimension for our programme, and then we give examples of curriculum decisions that were prompted by each dimension.

Dimension 1: Identifying Future Health Care Practice Needs

The Health and Social Care Act (Department of Health, 2012) was the stimulant for a number of momentous changes in care delivery in the UK. Not only are we witnessing a reshape of acute services, there is evidence

of radical change in the interface between acute and primary care (Future Hospital Commission, 2013). Analysis of the following five years of the NHS change must focus on the following priorities:

- prevention and public health
- patients experiencing far greater control of their care
- concerted effort to break down the barriers in care provision

Shortell, Addicott, Walsh, and Ham (2015) argue that the above changes require integrated care. Leading up to the Act, there were calls for a more integrated model of care—from 'virtual' integration through shared protocols to integrated teams and in some cases shared budgets and organisational integration (Ham, Dixon, & Chantler, 2011). The justifications were simple; highly integrated primary care systems that emphasise continuity and coordination of care are associated with better patient experience (Bodenheimer, 2008; Starfield, 1998).

The calls for more collaborative working in the NHS are ever present. The Francis (2013) report on sub-standard care in Mid-Staffordshire put forward 290 recommendations focused on the need to create a positive and common culture within organisations in order to achieve zero-tolerance on sub-standard care. Nurturing and sustaining this culture is of course thoroughly dependent on effective interprofessional working across the whole system of care. The Mid-Staffordshire Inquiry was resolute in advocating professionals to be prepared to collaborate effectively and negotiate the complex professional and structural dynamics inherent in the NHS. In fact, there was/is a call to arms for an interprofessional framework with integrated care at the heart, which effectively combines theory and practice.

Integrated care and the notions of interprofessional learning were deliberated by Barr (2012). 'One strives to knit services together, the other to cultivate collaborative practice amongst their workers.' p. 1568. She points to the symbiotic relationship between the two terms and calls for the active engagement of the workforce within interprofessional ventures.

> *Integrated care falters without engaging the workforce actively as partners in change whilst interprofessional care falters without organisational support.* (p. 1568)

Reviewing the needs of our health care practice, brought into sharp focus what was required from our curriculum. Our learners would need to participate in a tight web of professionals, not necessarily tied to a static location, but able to demonstrate agility and flexibility to population demands (Cuthbert, Glover, & Forman, 2015). The review of Dimension 1 also stressed the importance of bringing together the academic context with the practice context.

Sample Curriculum Decisions in Dimension 1

- Learning on the foundation degree had to reflect the changes in how health services were being commissioned following the Health and Social Care Act (Department of Health, 2012).
- As an emerging workforce it is important to consider how they would deliver care within an integrated system
- The focus on the individual is a high priority
- The way professionals and health organisations are accessing learning opportunities is shifting in response to limited funds and increased demand for more flexible approaches to learning. Different stakeholders were beginning to request stand-alone modules or module combinations. It is therefore important for the programme to remain flexible enough to accommodate service requirements.
- Establishing bridging opportunities to enable learners to continue to further study, for example progression into the University of Derby's BSc (Hons) Diagnostic Radiography or BSc (Hons) Nursing programme depending on their clinical experience.

Dimension 2: Defining and Understanding Capabilities

The UK has experienced a period of significant health policy development in response to the timely reflection on the health needs of the population. The King's Fund collated a review of the key drivers for health and social care based on the first 100 days of the 2015

Conservative Government (The King's Fund, 2015). The review points to structural changes with devolution, solutions to financial constraints and, of course, the quality of patient care and safety of patients sits squarely in the set of challenges. This in turn has instigated education commissioners and providers to check the requisite skills present in curricula for the health workforce.

The high profile cases illustrating poor standards of care in the NHS, including the report of the Mid-Staffordshire NHS Foundation Trust Public Inquiry, (Francis, 2013), have resulted in the learner journey having check points for compassionate care and upholding the NHS values.

Articulating the priority needs within health care practice (the task of dimension 1) helped set a solid foundation from which to consider the learning demands of our programme. Whilst the content and knowledge capabilities were easier to define, the points of integrated practice and the skills for collaboration needed focus. What IPL capabilities were we going to define as indicators of success on our programme? Furthermore, the non-technical skills and attitude development for the health graduate has been amplified. How should this be recognised within our programme?

Sample Curriculum Decisions in Dimension 2

- Continually review the relationship between intellectual skills and transferable skills that facilitate team working, communication, collaboration, understanding of their scope of practice, changing contexts in the workplace.
- Promote the development of relationships for collaboration and teamwork centred on the care of the client.
- Extend the application of the i-STAT interprofessional capability tool (The iTOFT Consortium & Australia, 2015) to ascertain the specific interprofessional competencies which need to be developed across the health support workforce.

Dimension 3: Teaching, Learning and Assessment

> *IPE [is] a pedagogical process that purposefully utilises relational and interactive methods within settings that mirror, as much as possible, future practice.*
> (The Interprofessional Curriculum Renewal Consortium, Australia 2013)

As a backdrop to Derby's journey, UK governments had been advocating the value of shared learning teamwork for professionals within the NHS since 1992 (Forman & Nyatanga, 1999). The strategic mandate was in part seen as a means of providing better care for the service user but also as a way of reducing costs in terms of higher education. In contrast, the professions and individual professionals sensed the impending erosion of their professional identities with the real possibility of discrete professionals being replaced by generic workers, and so they resisted the challenge of sharing information in teams and, at the time, sought to protect their own individual professional base (Forman, 2000). This turbulent melting pot demanded a brave move in educational preparation and for Derby this meant initiating shared learning as a means of nurturing the necessary collaborative practice.

Derby's shared learning journey began with bringing together students from occupational therapy, diagnostic and therapeutic radiography, physiotherapy, operating department practice and nursing during sessions designed to enhance collaborative working. This student grouping had never studied together within a higher education environment. As such the hoped-for collaborative outcome could not be guaranteed. However, analysing attitudinal data collected over four years of undergraduate students demonstrated that shared learning was gaining traction and importantly learners were reporting a greater understanding of one another's profession (Forman, 2000; Forman & Nyatanga, 1999). Greater social engagement of the students, as facilitated by the curriculum, increased their understanding not only

of one another's profession but of the individuals themselves, thus ensuring that trust could be developed and a sharing of experience could be enhanced and taken forward long into their professional careers and interprofessional way of working.

By responding to further strategic and governmental directives such as *Every Child Matters* (Chief Secretary to the Treasury, 2006) Derby built on this early shared learning initiative and made moves towards interprofessional learning. The remit this time was to be more inclusive with professional groupings, involving not only the health professions but also the teaching and housing professions, to enable communication for the benefit of children throughout the county. Importantly there was increased focus on the quality of interactions between the student groups, and the learning activities were designed to cultivate a culture of co-dependency and teamwork between the learners. An example of this step-change in the interprofessional learning offered by Derby was the court room learning experience, in which the students could act out various health and social care cases which had been taken to court. This initiative was recognised by the first John Horder Award provided by the Centre for the Advancement for Interprofessional Education (CAIPE) (CAIPE/Department of Health, 2007; Meads, Jones, Harrison, Forman, & Turner, 2009). The court room experience was purposeful in its endeavour to make learning together a necessary ingredient for success; the co-dependency on each other was made extremely explicit to students.

Like many UK universities, the IPL offer at Derby experienced an ebb and flow between being present in all curricula with modularised content to a more flexible state whereby students opted into interprofessional learning experiences. Whilst there are many commentaries on which approach produces the greatest impact the speculation is high because of the dependency on context. The importance of context must not be underestimated; any IPL activities need to match the context from the university, faculty and student body and then be set alongside the prevailing practice agenda, any professional body requirements (e.g. the standards for professional registration at the end of a degree programme of study) and professional development. Professional body requirements often serve as a barrier to IPL. For example, programmes that lead to professional registration may advocate IPL but require professionally specific

competencies to be achieved in a programme over a limited time frame. IPL may then become formative or given less priority.

A study with student participants from the health care practice department enabled us to identify some of the limitations in our IPL curriculum, but it also highlighted the possible role of students in developing an IPL curriculum that is likely to meet their learning needs and be received enthusiastically (Ryan, 2015a). As part of this we learned that enthusiasm for IPL is often a direct reflection of those facilitating the process, the academic staff. But we also learned that a well-organised IPL module—constructively aligned to programme outcomes with clear assessment that requires collaboration—that is interprofessionally delivered (e.g. team teaching with people working in practice) can improve student academic confidence and performance in assessment (Ryan, 2015a). This study employed action research under a critical realist paradigm. The results proposed a critical realist framework of modifiable factors that may be influential for student academic performance; the pedagogy of IPL was part of this framework.

Over two decades IPL within the Derby context has harvested the following learning points to inform the next IPL venture:

- **Interdependency is paramount**: Interprofessional learning needs to cultivate and harness an interdependency between learners from the professional groupings—this needs to be created and reinforced through learning activities, the set-up of the programme/module content and the creation of a cohort identity. The key message here is that effective learning is dependent on effective teamwork.
- **Pedagogy is as important as professional mix**: All too often there is an excessive focus on interprofessional activities and effective pedagogic practice is ignored, whereas the focus needs to be on engaged learning through high impact pedagogies as a primary lever for good interprofessional learning experiences.
- **Practice need rather than availability of professions** should shape the curriculum and interprofessional encounters. As Derby's IPL experience grew so did our bravery to challenge and question which professional student mix was right against the learning objectives of the curriculum and the experience offered in the practice learning environment.

- **Practice and theory working together**: The practice context needs to be integrated with the academic learning activities—thus taking into account the elements highlighted during our reflections on dimensions 1 of the framework.

Sample Curriculum Decisions in Dimension 3

- The learning experiences within the work-based environment will require close scrutiny. The team are planning to capture work-based experiences not only for the purposes of assessment but also as a means of understanding the interplay between university-based learning and practice-based learning.
- With the potential for private provider students joining the programme, the curriculum team will need to consider the equity of the IPL experience and focus attention on creating a cohort identity in the group. Similarly learners who wish to access relevant modules from across the university may experience structural barriers such as timetabling.

Dimension 4: Supporting Institutional Delivery

Updating their review of UK interprofessional learning, CAIPE presented a commentary on the developments of IPL from 1997 onwards (Barr, Helme, & D'Avray, 2014). The report points to the growth of blended learning approaches and the ways in which technology-enhanced learning has reduced the geographical boundaries which had previously acted as a barrier to IPL. For example, online social networks and virtual learning platforms such as closed Facebook groups or Values Exchange can facilitate a collaborative learning process, giving students ownership but also for enhancing the role of peer support in education (Ryan, 2014, 2015a; Values Exchange, 2015). However the case studies located in Barr et al. (2014) also suggest that IPL tutors and curriculum leads experience similar frustrations to those of their counterparts almost 10 years earlier, and while innovations in technology

bring a wealth of opportunity, those such as online social networks also present new challenges, including professionalism, plagiarism, accuracy of shared information (Ryan, 2015b). The main frustrations stem from the organisational and practical considerations needed when delivering complex interprofessional programmes. Learning environments, the impact of professional body requirements within programmes, budgets and locating students with host faculties are ever present, doubly so when the remit also includes practice-based learning. Indeed, Ryan (2015a) found that the difficulties associated with the university environment, logistics and timetabling were often factors that also frustrated students on IPL modules, but they felt this impacted on their engagement and success in learning and assessment as well. Conversely, it has been suggested that such institutional factors have a significant impact on how students develop professionally (Weidman, Twale, & Stein, 2001).

Curriculum Decisions in Dimension 4

- To modify or redesign the curriculum, in addition to designing the programme, to ensure students are able to give care to the individual.
- The foundation degree programme experienced a shift in the host faculty, which meant transferring to another campus and requiring a modification of online study materials alongside the introduction of online applications.
- Consideration of room bookings and administration of the programme, including the return on investment, are critical success and sustainability factors. Room bookings continue to be a challenge. The logistics of student learning on this programme also has knock-on effects for practice with stakeholders who have to arrange back-fill for their staff member on the programme. Sometimes this cover is provided by agency staff at considerable cost.
- Assessment boards and programme committee meetings have to align with existing structures where possible.
- By allowing each student to select (with their employers) three interprofessional option modules as part of the programme, flexibility and profession-specific content is assured. This also provides a

place in the curriculum for new modules to be developed as the workplace requirements of students change in the evolving health and social care arena.

- Student feedback has indicated that the Anatomy and Physiology (A&P) module carries a high workload. The proposal is therefore to swap this with the Reflection and Learning module. This module was one of the 'long-thin' modules that are threaded through the first year. It is thought that extending the time period for learning A&P will benefit the students. We will however be emphasising that they will have to study the subject continuously across the year in order to gain maximum benefit. The risk is that with 'in-between' sessions spread across the year, learning will not be consistently built upon. The flexibility built into the programme in the initial development stages, however, allows for changes to be made to aspects of curriculum delivery relatively easily. It is acknowledged by the programme team that this will need to be constantly monitored and evaluated to ensure it remains a quality experience for learners and a quality product for commissioners.

Action Research and the 4D Framework: How Will We 'Act'?

Figure 6.2 outlined the ongoing learning process in action research by employing PDSA cycles. As action research suggests in its name, it requires 'action'. In order to embed a continuous quality improvement cycle our findings here need to be implemented and evaluated through a series of PDSA cycles. As a result it is important to restate one of our aims:

- How will we know if change is improvement? The process of building PDSA cycles will lead us to evaluate our journey and outcomes

Hence, we propose a quality improvement strategy which will lead into a subsequent cycle of PDSA to assess whether the changes demonstrate improvement and what improvement will look like. Table 6.1 illustrates a sample high-level strategy that might be used to inform our next PDSA cycle, but it is also essential in assessing what types

Table 6.1 Example learning outcomes across levels 4–5 that encourage engagement in interprofessional working

Transferable skills	Solve problems by selecting and applying appropriate approaches within different work-based situations, including new or unusual situations in the work context.
Transferable skills	Demonstrate awareness of some issues within team working and collaboration with others.
Transferable skills	Analyse issues within team working and collaboration with others and demonstrate skills of collaboration and teamwork.
Knowledge and understanding	Demonstrate knowledge and understanding of well-established ethical concepts and principles within the broader context of the health and social care setting.
Subject specific skills	Utilise personal and professional learning to develop a broad understanding of their role and area of professional practice, recognising the limits of their knowledge and scope of practice.

of intervention have been an improvement and where further improvements can be made. Conversely, the value of the 4D framework is that it enables us to critically reflect not only on what is happening locally but also on how the wider health care arena is changing and how we can respond effectively. A vision, operational plan and more specific and detailed action plans are essential in moving forward (Ritchie, 1995; Stringer, 2014). Our college vision provides the overarching focus of our continuous improvement and commitment to IPL:

• To make a REAL difference to the lives of individuals, families and communities within our region. Be the university of choice for our health and social care partners' education and training needs across the region. Excellent student experience, delivered by highly credible and well qualified lecturers. A true personal touch (Table 6.2).

Furthermore, we acknowledge the growing importance of stakeholder engagement, including our clinical partners and students (Stringer, 2014). Any further evaluation and improvement will require a shared approach to the 4D framework with both staff and students engaging with the reflective process and critical analysis of IPL and how this 'theory' may be employed in the practice environment to enhance interprofessional practices. Not only will this enable us to understand the wider role IPL

Table 6.2 An example of high level/operational strategy as a result of our learning

Dimension	Area of implementation	Aim	Key performance indicators	Methods of evaluation
1	How will students work in an integrated care system? Focus on the individual Value for money	To facilitate the education of professional, accountable and compassionate practitioners Enable students to understand the value of IPL in the classroom and in practice To facilitate career progression and continuous professional development To ensure that the student and our collaborators are satisfied our programme is fit for purpose Being responsive to a financially constrained environment	–Increased % of students being satisfied with their modules and programme –Improved collaborator satisfaction –Increased student numbers –Design, development and validation of bridging modules and/or progression routes –Student achievement and competencies relating to IPL and linkage with interprofessional practice –evidence flexible learning options	–National student survey –Organisational student survey –End of module evaluations –Qualitative feedback through observation and narrative –Monitor student statistics –Team/ committee meeting minutes & meetings with external partners –Evaluate the barriers preventing progression to BSc (Hons) –Validation feedback –Observation of those in practice –Shared reflection with students using the 4D framework –Students reflections of the four dimensions in practice

plays in a range of contexts but it will also enhance other transferable and essential skills such as reflective practice, critical analysis and practice improvement.

Conclusion: Learning from Four Dimensions

Given the history of the University of Derby in shared learning, interprofessional education and integrated learning, it seems appropriate to build on this rich experience. However by employing the 4D model our previous experience needs to be applied to curriculum development in a structured manner.

The programme to date has had a total of 75 students (in cohorts of between 11 and 24 students) and brings the students together on one day a week. Feedback from the students highlights that they value the close link between university learning and the confidence to make changes in practice.

As Stringer (2014) states:

> *A good action research project often has no well-defined ending. As people explore their lifeworlds together and work towards solutions to their common problems, new realities emerge that extend the processes of inquiry … still, there is usually a time when it is possible to stand back, metaphorically speaking, and recognize significant accomplishments.*

The role of action research and PDSA in education has proven to be useful, more so by employing a structure for reflection and enquiry with the use of the 4D framework. Along with this we believe it has enhanced the overall validity of the findings in both the local and wider context. As part of this process we have been able to generate new knowledge through employing an evidence-based framework to structure reflection and critical analysis (dialogic and process validity). With use of the PDSA cycle, required actions have been informed by a range of observations and data collection, and have also enabled us to focus on those factors we can change (outcome validity). It is important to reaffirm the learning that has taken place within the team and how it has given us understanding

not only of the student experience but also of how our programme facilitates IPL. Furthermore, this forms the basis for moving forward, enabling us to be responsive to an ever-changing environment (catalytic validity). Our results are specifically relevant to our environment and our programme development (democratic validity) but, conversely our process, structure (4D framework) and method presented here are transferable to a wide range of health and social care environments; not simply education in the university but also out in placement and practice areas (process validity) (Herr & Anderson, 2005).

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Part III

**Evaluation in General:
Implementation and Challenges**

7

Implementing and Evaluating Interprofessional Education and Collaborative Practice Initiatives

Matthew J. Oates and Megan Davidson

Invariably the challenge for those of us at the coalface of implementing an interprofessional education (IPE) or collaborative practice (CP) initiative is overcoming the resistance of our colleagues to the perceived significant change to the status quo. Reading this book you will see that our colleagues from all over the world share in experiencing the challenges of developing and implementing IPE and CP.

In this chapter we discuss the process of implementation: the 'making it happen'. Perhaps it is something of a cliché, but programme implementation requires some thought about the *Who, What, Why, When, Where* and *How*? Where relevant, we draw on our own experience of implementing a multi-campus interprofessional common first year programme within a suite of pre-qualifying nursing and allied health programmes at La Trobe University in Melbourne, Australia. Our faculty, like many other providers of health professional training, wanted to ensure that graduates were equipped with the skills required to work collaboratively with other health and human service professionals in order to provide safe and effective health care to their patients or clients. A common first year programme also afforded an opportunity to consolidate curriculum

duplication that appeared to be occurring across our health professional training courses.

As discussed throughout this book, research and evaluation play an important role in improving the quality of educational experiences for students, but they also help to establish and build the evidence to support the work that we do and the programmes we deliver. In this chapter, we consider the design of programme evaluation in its broadest sense. What are the intended outcomes of our IPE or CP intervention or initiative? At a fundamental level, what outcomes might we expect our intervention to achieve? How will we know if it has been effective? How do we ensure that we collect the right data to enable us to measure effectiveness or to know if our intended outcomes have been achieved? We use our first-hand experience to highlight key aspects of this very important and necessary dimension of programme implementation.

Implementation: *Making It Happen*

Establishing the Need for Change

Before embarking on the design and development of an IPE or CP initiative, thoughtful consideration needs to be given to the purpose of the proposed change as well as the need for change (the *Why*). That is, we need to make sure that we are not implementing 'change for change's sake'. Those who report on their experience of implementing IPE within their faculty, university or health organisation frequently draw comparisons with change implementation and the need to manage a change process. The reader is directed to any number of texts on the topic of change management for further reading (Paton, Calman, & Siebert, 2008; Bolman & Deal, 2013; Buller, 2015). In the context of our common first year programme, the need to change was multifactorial. Higher education in Australia was changing and universities needed to distinguish themselves from other providers in order to compete in the market. Diminishing resources and funding meant that traditional models of course delivery needed to adapt to the environment and work to avoid unnecessary duplication of curriculum across different health

professional programmes. There was also a belief that pedagogy needed to change drastically from one that was teacher-centred to one that was more learner-centred. Above all else, students needed to learn skills for contemporary clinical and professional practice, including the ability to work effectively in health care teams and to think critically and creatively to solve problems.

Design and Development of IPE and CP Initiatives

The design and development of any IPE or CP initiative requires a great deal of groundwork before its implementation. This initial planning work may be undertaken by a *planning team* with the *design team* appointed to develop the initiative and all its detail. However, it would be commonplace for both the planning and design processes to be managed by the same team. This reflects the often limited availability of resources to support the implementation of such initiatives. Typically, this team will report to a steering committee or advisory group that provides high-level oversight of the project while also assuming responsibility for the provision of the required resources (funding, equipment, staffing) for the development and implementation of the initiative.

Effective leadership and oversight of the change process plays a key role in the implementation of the IPE programme. Administrative and logistical obstacles are frequently cited as significant barriers to the implementation of IPE (Oandasan & Reeves, 2005b). Leadership by senior administrators who control the allocation of resources and have the power to influence others and change educational policy is required for successful IPE implementation (Oandasan & Reeves, 2005b). Political leadership can also support programme implementation. In Australia, for example, government policy has highlighted the need for change in health professional education to ensure that graduates have the capabilities and competencies required to work collaboratively with other health and human service professionals to deliver sustainable health care that is responsive, safe, effective and efficient (Productivity Commission, 2005). Similarly, by setting standards for health professional training programmes that include requirements for the development of

CP knowledge, skills and competencies, accreditation authorities can influence the implementation of IPE and CP initiatives (Oandasan & Reeves, 2005b).

The design and development phase typically consists of:

1. Stakeholder consultation—students, staff (academic/clinical), patients/clients, management (the *Who*)
2. Determining outcomes (the *What*)
3. Design of the curriculum or activity and any relevant assessment (the *How*) which for IPE might also consider *When* (in terms of timing) and *Where* (in terms of location) the learning might take place.
4. Staff development
5. Planning evaluation

Stakeholder Consultation

Consultation with key stakeholders in the proposed IPE programme or CP activity is an important first step and will help identify the key outcomes to be achieved, facilitate 'buy-in', overcome resistance and build commitment to the programme. Key stakeholders will, of course, depend on the nature of the initiative and the intended participants. Is this an initiative primarily involving pre-qualification health professional students or post-qualification health professionals? For the latter, is the initiative a continuing professional development (CPD) activity or is it designed to improve service delivery to patients/clients attending the health care service? Perhaps the health service's management team has identified concerns in relation to quality and risk through a recent accreditation programme and this is driving improvement in collaboration among health care professionals in the service. In each circumstance, active discussion between those charged with the design and development of the initiative and key stakeholders must occur.

Consultation with key individuals may also assist in identifying potential 'champions'. The role of champions is considered in further detail when we discuss the implementation of IPE and CP initiatives below. However, there is consensus among IPE researchers that champions play

a key role in the success of such initiatives (Barker, Bosco, & Oandasan, 2005; Ho et al., 2008; Kelley & Aston, 2011).

From our experience, the identification and selection of role models or champions who enthusiastically support the proposed initiative is paramount to the success of its implementation. Stakeholder consultation occurred across all disciplines and meetings were established (face-to-face and videoconference) to engage staff at each of our five campuses. The project implementation team would report monthly to a faculty-level steering committee and senior management staff. Meetings with key support staff (IT, student services and marketing and engagement staff) occurred, as did consultation with student council representatives. This ensured that there was sufficient 'buy-in' to the initiative at all levels of the organisation.

Senior academic staff also consulted with relevant registration and accreditation authorities, and professional associations to ensure that stakeholders in the health care industry were informed of the developments in the faculty. A change to the health professional curricula may have implications for course accreditation which, in turn, can impact on the employability of graduates. Consultation with industry enabled the faculty to identify any potential issues that might arise in relation to course accreditation. It also allowed industry to have input into the design of the curriculum by identifying elements of contemporary health care practice that may not have been suitably addressed in the discipline-specific curricula.

Determining Outcomes

When planning and designing any curriculum or workplace initiative, it is essential to 'begin with the end in mind'. A clearly articulated statement of carefully crafted intended outcomes provides the backdrop for the design of the curriculum for an IPE initiative or the service model where the initiative is to be situated in the practice context. In the case of the former, intended learning outcomes communicate a clear understanding to both the learner and the facilitator (tutor or clinical educator) of the learning that is to be achieved following completion of or participation in

the learning activity. The challenge for the design team is then to develop an appropriate curriculum which forms the basis of the IPE initiative and provides sufficient opportunity for the learner to achieve the desired outcomes. Any assessment associated with the activity would measure the degree to which the learner has attained the intended learning outcomes. Biggs and Tang (2011) refer to this as the *constructive alignment* of the curriculum.

By definition, the ultimate outcomes of IPE are to (1) improve collaboration amongst health professionals in order to (2) improve the quality of care provided to patients. IPE curriculum and CP initiatives are designed to facilitate achievement of these outcomes. To expect, for example, that a semester-long programme which brings together students from a range of disciplines to work through a series of authentic case studies will both improve collaboration and quality of care provided to patients would be naïve. However, it may be feasible that an IPE programme at the pre-qualifying level will enable students to achieve a series of short-term learning outcomes that, with further development and learning, may bring them closer to realising the longer-term outcomes of improved collaboration and quality of care.

As part of the first Cochrane Collaboration systematic review conducted by the *Joint Evaluations Taskforce (JET)*, a multinational group of academics with a special interest in IPE, a typology of IPE outcomes was developed (Zwarenstein et al., 2000). This typology of educational outcomes is discussed in Chap. 1.

In their review of the literature relating to learning outcomes for IPE, Thistlethwaite and Moran (2010), propose three categories of learning outcomes for health professional education:

1. Profession specific outcomes—uniprofessional outcomes relating to the acquisition of knowledge, skills and/or attitudes that relate to a specific profession.
2. Generic outcomes achieved by two or more professions—this learning relates to the acquisition of knowledge, skills or attitudes which could be delivered uniprofessionally or multiprofessionally but where neither mode of delivery has any effect on the outcome. For example, client-centred care or knowledge of anatomy and physiology could be

delivered to an audience of a number of different health professionals where the need for such learning is common across the professions.

3. Generic outcomes achieved by all professions or *interprofessional outcomes*—this learning relates to the acquisition of knowledge, skills or attitudes where IPE value-adds to the learning experience because of the interaction between participants which facilitates the achievement of interprofessional outcomes such as communication, teamwork, and CP skills.

Thistlethwaite and Moran (2010) sought to identify the learning outcomes (both pre-qualification and post-qualification) for health professionals that could only be achieved entirely through IPE as indicated in Category 3 above. The pre-qualification outcomes identified in their review are presented in Table 7.1. The outcomes could be divided into two major groups—those relating to teamwork or collaboration and those relating to 'roles and responsibilities'. Two other large groups of outcomes emerged from Thistlethwaite and Moran's analysis which they labelled as those related to the 'patient' and those related to 'learning', with a smaller group of outcomes related to communication, ethics and attitudes. While their review identifies and categorises interprofessional outcomes, they stop short of suggesting which of these outcomes can only be achieved through effective IPE. Rather, they suggest that this should be the starting point for discussion with a view to reaching consensus within the health professional educator community about those educational outcomes achievable through IPE (Thistlethwaite & Moran, 2010).

In establishing our interprofessional first year programme, it was necessary to define outcomes at both the individual subject level and programme level. At the subject level, outcomes were obviously oriented toward the subject's content. For example, a physiology subject would have clear outcomes relating to knowledge of physiology. However, even at the subject level, there was a need to articulate outcomes that related to the interprofessional and CP domains of learning that were embedded within the first year programme as a whole, such as those related to teamwork and communication. Furthermore, a statement of programme-level outcomes provided subject coordination staff, teaching staff, workshop

Table 7.1 Synthesised outcomes of IPE

Outcome	Sub-theme
Teamwork	Knowledge of and skills for (including recognition of importance of common goals)
	Knowledge of, skills for and positive attitudes to collaboration with other health professionals
	Assume the roles and responsibilities of team member
	Barriers to teamwork
	Team dynamics and power relationships
	Cooperation and accountability
Roles/responsibilities	Knowledge and understanding of the different roles, responsibilities and expertise of health professionals
	Knowledge and development of one's own professional role
	Similarities and differences relating to roles, attitudes and skills
	Understanding of role/professional boundaries
	Being able to challenge misconceptions in relation to roles
	Philosophies of care
Communication	Communicate effectively with other health professional students
	Express one's opinions to others involved with care
	Listen to others/team members
	Shared decision-making
	Communication at beginning and end of shifts (handover, handoff)
	Awareness of difference in professionals' language
	Exchange of essential clinical information (health records, through electronic media)
Learning/reflection	Identification of learning needs in relation to future development in a team
	Identification of common professional interests through reflection
	Learning through peer support
	Reflect critically on one's own relationship within a team
	Transfer interprofessional learning to clinical setting
	Self-questioning of personal prejudice and stereotyped views
The patient	The patient's central role in interprofessional care (patient-focused or patient-centred care)
	Understanding of the service user's perspective (and family/carers)
	Working together and cooperatively in the best interests of the patient
	Patient safety issues
	Recognition of patient's needs
	Patient as partner within the team

Table 7.1 (continued)

Outcome	Sub-theme
Ethics/attitudes	Acknowledge views and ideas of other professionals
	Respect
	Ethical issues relating to teamwork
	Ability to cope with uncertainty
	Understand one's own and others' stereotyping
	Whistle blowing

Source: From Thistlethwaite and Moran (2010)

facilitators and students with an indication of the purpose of the common first year programme.

A clear statement of intended outcomes is necessary for participants and facilitators alike. These outcomes will provide the framework for the design of the curriculum or initiative and any assessment, where relevant, so that outcome achievement can be measured. Determining whether these outcomes are achieved is part of the evaluation process.

Design of the Curriculum or Activity and Any Relevant Assessment

There is no intention here to detail the various approaches to curriculum and assessment design as they are numerous. The IPE and CP literature highlight the depth and breadth of initiatives and approaches to curriculum design employed by educators. Needless to say, curriculum and assessment design needs to align with the intended learning outcomes of the planned IPE initiative. For example, if an intended learning outcome is, 'Able to conduct a clinical handover to health care staff from other health and human services disciplines', then it stands to reason that the syllabus will provide opportunity for the participant to develop the skills associated with clinical handover to other health disciplines. The assessment of the participants' achievement of this outcome would likely occur, for example, as either a simulated performance of the task or perhaps as a peer-assessed task on the ward as part of a fieldwork experience. To assess this outcome as a short answer question in a written examination would not afford participants an opportunity to demonstrate their ability to perform the task.

The interprofessional curriculum will usually have process-oriented outcomes which relate to team function, communication, decision-making and team working. Invariably, there will be some material that the team is required to produce for assessment, such as a team-prepared report or group presentation to the class. How then, do we assess these process-oriented outcomes? We can make some judgment about the quality of teamwork based on the quality of the product presented by the team, but this may not provide the information we need to make a judgment about an individual's ability to work effectively or productively as a team member. Perhaps the presentation was largely put together by two members of the team of six because other members were disengaged and did not complete assigned tasks. Alternatively, perhaps the two members who did the majority of the work did not provide other members with an opportunity to contribute to the task or did not feel that the quality of the others' contribution was up to their standard. This is undoubtedly the most complex aspect of assessment in IPE and collaborative learning and one that we have experienced first-hand in the delivery of our interprofessional common first year programme.

We have used a range of strategies including the development of a team learning agreement at the beginning of each semester. The purpose of this document is for each team to establish expectations for working together, particularly in relation to communication, and to establishing agreed times for team meetings. Facilitators use this agreement when working with teams to resolve any conflict that may arise during the semester. Teams are required to keep a team journal as they work on an enquiry and group assessment task over a typical period of 4 to 5 weeks. Team meetings are chaired and minuted, with this information included in the team journal. Finally, teams are asked to collectively assign a percentage weighting to each individual team member's contribution to the final product. This is not used to proportion marks to individual students. Rather, facilitators use this along with other information, such as class attendance and consultation with individual students, to make decisions in relation to the awarding of a grade to a student who has not made a significant contribution to the group task. There are, of course, a range of strategies and software available which can facilitate this sort of peer review of contribution to group work.

In the university context, student learning is typically driven by the assessment tasks set for a subject. This may be less relevant in

post-qualification contexts where participants may have developed a personal (or professional) interest in CP which provides the motivation for learning. Assessment should be both: (1) formative: to inform ongoing development of knowledge, understanding or skill performance and (2) summative: to provide a final determination of the participant's level of achievement against the stated learning outcomes.

In IPE, and depending on the participant's intrinsic motivation towards assessment, learner resistance may be a factor that needs to be taken into account when developing the programme. Learner resistance can arise because participants do not perceive collaborative learning to be as important or relevant as discipline-specific learning. Learners may also believe that teamwork skills are less important than other clinical skills, or perhaps previous negative experiences of team working or group assessment have created a resistance to this type of learning and assessment.

In pre-qualification IPE, consideration also needs to be given to the timing of the IPE initiative in relation to the students' course. While students may enter their university course with some level of professional identity, they may not fully understand the role and scope of practice of their discipline to a degree that would enable them to share this knowledge with students from other disciplines. This has been given as a reason to introduce IPE in the later years of pre-qualification courses (Pirrie, Wilson, Harden, & Elsegood, 1998. However, the fact that commencing students have not yet been acculturated to the stereotypes of other professions held by their own profession may make it an ideal time to introduce IPE. Harden (1998) argues that the important factor is that the approach to IPE is appropriate for the phase of education. Similarly, location is worthy of consideration. IPE in the university classroom may not provide the authenticity and connection to professional practice that may be afforded by IPE provided in the clinical or fieldwork environment.

Staff Development

The importance of staff development and training for facilitation of IPE is well established (Oandasan & Reeves, 2005a; Reeves, Goldman, & Oandasan, 2007; Silver & Leslie, 2009). Facilitators of interprofessional learning need to be able to role model the attributes expected of collaborative

health care professionals, including knowledge of health and human service professionals, an understanding of contemporary health care practice, knowledge of interprofessional learning and experience in collaborating with other health care professionals (Reeves et al., 2007). Faculty (or staff) development programmes provide a way of ensuring that facilitators and others involved in the delivery of IPE or CP initiatives are equipped with the necessary skills for effective facilitation. Silver and Leslie (2009) suggest that faculty development programmes and effective IPE are conceptually similar because 'both focus on the need to effect change at the individual and organisational levels, are experientially based, and require expert facilitation and an education and organisational climate that values these interventions' (p. 173).

For many of the academic staff and facilitators involved in the delivery of our interprofessional common first year, facilitating and guiding student learning teams and team working within an enquiry based learning (EBL) paradigm was new territory. Significant investment was made in acquainting workshop facilitators with the skills to be able to facilitate EBL and to work with student teams to manage team processes, including resolution of team conflict. Where possible, peer support networks of facilitators were established to enable facilitators to seek the advice of experienced colleagues or to debrief challenging scenarios involving team conflict.

Planning Evaluation

It is important to give some thought to programme evaluation prior to its implementation. The planning and implementation team needs to decide what it is interested in knowing by formulating some key questions. An evaluation plan will need to identify the methods for gathering the data necessary to answer these questions. This is considered in greater detail in the next section of this chapter.

Evaluation: Measuring Outcomes

A brief scan of any prominent IPE or CP-oriented journal or attendance at a conference themed around IPE and CP will unearth an increasing volume of work that is being undertaken to evaluate IPE and CP

initiatives or programmes. A recent review of pre-qualification IPE evaluations by Thistlethwaite, Kumar, Moran, Saunders, and Carr (2014) highlighted the dominance of outcomes-based evaluations. However, the task of 'learning with, from and about each other' also requires consideration of a range of theoretical frameworks to fully capture and understand the complexity of the learning processes engaged by students in IPE. Academics, researchers, clinical leaders in the field of IPE and CP are starting to generate very important discussions about the nature of IPE evaluation. The use of theory-based evaluation to generate an understanding of how and why an IPE intervention might work appears to be gathering momentum in the field of IPE evaluation.

Outcomes-based Evaluation

Outcomes-based evaluation has dominated, and continues to dominate, evaluation of health professional education with many evaluations utilising the Kirkpatrick typology of learning outcomes or variations of the typology as a framework for evaluation (Haji, Morin, & Parker, 2013). An effective or successful educational intervention is one which can demonstrate achievement of its predetermined outcome(s).

To measure the effectiveness in IPE and CP, a number of instruments or measurement scales have been developed. Instruments and scales have been developed specifically for pre-qualification IPE, with others developed for post-qualification contexts. Typically, available instruments assess only selected outcomes based on the Kirkpatrick taxonomy. Moreover, a substantial number of instruments are self-report instruments that target the short term Level 1 and Level 2a outcomes of the modified Kirkpatrick taxonomy developed by Zwarenstein et al. (2000) (see also chapter 17). A critical appraisal of extant instruments that measure outcomes of IPE in pre-qualification health professionals identified a range of issues with existing scales (Oates & Davidson, 2015). Issues identified included limited validity and reliability evidence to support the interpretation of data, and inconsistent application of scoring protocols of widely utilised instruments, the *Readiness for Interprofessional Learning Scale* (Parsell & Bligh, 1999) and *Interdisciplinary Education Perception Scale* (Luecht, Madsen, Taugher, & Petterson, 1990; Oates & Davidson,

2015). Oates and Davidson (2015) suggested that the use of traditional test construction paradigms may be contributing to the poor responsiveness of available instruments to detect changes in variables of interest over time. This is consistent with the anecdotal experience of researchers and clinical educators who often report no significant difference in quantitative measures of IPE outcomes pre- and post-IPE intervention or programme, but qualitative evaluations suggest important changes have occurred.

If our assessment tasks are aligned to our intended learning outcomes which we have enabled our students to achieve through targeted learning activities (our IPE programme or intervention), then it stands to reason that student performance in assessment should provide an indication of the effectiveness of our programme. We might be able to see that across a student cohort there are assessment criteria (which link directly to our intended learning outcomes) on which students have consistently performed poorly. Our analysis might determine that we may not have provided effective or sufficient learning activities to enable students to achieve this outcome. Alternatively, it may simply demonstrate that such an outcome may be too complex for our learner cohort and so we may need to adjust our expectations of what is achievable at a given level.

Outcomes-based evaluation, using instruments that produce valid and reliable interpretations of data and are able to detect change over time, provides the educational researcher with an opportunity to evaluate the effectiveness of IPE. Outcomes-based evaluation can provide quantitative evidence of the effectiveness of an IPE initiative that can be obtained relatively quickly and efficiently. However, we need to consider other evaluation methodology which may better align to research questions that go beyond 'Did it work?' or 'Did it achieve our intended learning outcomes?'

Theory-based Evaluation

There is a growing interest among IPE and CP researchers in using a range of theoretical paradigms as a lens for understanding the nature of the learning taking place in CP and IPE contexts. Haji et al. (2013)

argue that theory-based evaluation in medical (and health professional) education provides an opportunity to look beyond the outcome-oriented question of 'Did it work?' to consider 'How did it work?' They also suggest that evaluation should capture *emergence*, in terms of both outcomes and processes. That is, evaluation needs to be open to the possibility that something else might happen as an outcome of a programme and an alternative mechanism or process by which it happens may emerge. Here the questions of 'What (else) is happening?' and 'How (else) is it happening?' are also considered as part of the programme evaluation.

Haji et al. (2013) identified seven essential elements of programme evaluation. They suggest that programme evaluation should commence with the inception of the programme and articulation of a planned theory that is a proposed understanding of why the programme will work. In order to understand how a programme works, the evaluation needs to capture both outcomes and processes. To understand what or what else happened, evaluation should capture both emergent processes and outcomes which might then inform the development of an emergent theory which explains what is occurring 'in the moment' (Haji et al., 2013). Consideration needs to be also given to the context within which the programme is operating.

This concept of emergence is not too dissimilar to that encapsulated in *realist evaluation*. Realist evaluation, grounded in the philosophy of 'scientific realism', recognises the complexity of educational interventions which may produce different outcomes in different circumstances. Realist evaluation seeks to establish what works, for whom, in what circumstances, in what respects and why (Wong, Greenhalgh, Westhorp, & Pawson, 2012). This is referred to as context, mechanism and outcome (C-M-O). As the programme is implemented, observations of processes and outcomes are made as they occur in order to identify and construct a theory (or theories) that might explain the mechanism between them in that particular context.

According to Reeves, Boet, Zierler, and Kitto (2015), the evaluation of IPE initiatives is enhanced by the use of a theoretical perspective which 'can ensure that evaluation work provides more critical explorations of the nature, purpose and broader contextual factors connected to the design and implementation of an IPE activity' (p. 306).

Theoretical paradigms offer a 'lens' through which we can attempt to formulate an understanding of the nature of learning taking place in an IPE intervention or programme. It is beyond the scope of this chapter to consider the numerous available theories in depth but according to Barr (2013), a number of theories may be used to explain the learning process and learning context in IPE. These are summarised in Table 7.2.

The emerging field of sociomaterial theory may provide further insight into the nature of learning taking place in interprofessional teams (Fenwick, 2014). Sociomaterial theory, which has its beginnings in professional learning, considers the learner within the larger social systems and structures in which they function. This challenges our traditional beliefs of knowledge acquisition and learning transfer which typically view the world and the learner as separate entities (Mulcahy, 2013).

Outcomes and theory-based evaluation contribute to advancing our understanding of the effectiveness of our IPE and CP interventions or programmes. Proponents of each type provide reasonable justification for each approach. Fundamentally, however, reliance on a single methodological approach to evaluation creates the potential for important aspects of the learning process to pass us by without the richness and complexity of the learning experience being fully understood. We argue that alignment of evaluation methodology with the proposed research questions is paramount. There is room for both outcomes and theory-based evaluation and, when used together, they may be able to

Table 7.2 Theoretical frameworks to explain the learning process and context in IPE

The learning process	The learning context
• Adult learning theory • Psychodynamic theory • Contact theory • Identity theories: Social identity theory, Self-categorization theory, Realistic conflict theory • Practice theory	• Sociology of the professions • General systems theory • Organisational theory • Activity theory • Situated learning

Source: Adapted from Barr (2013)

enhance our understanding of learning in IPE in a way that each alone cannot.

Conclusion

This chapter has only scratched the surface in relation to the complexity of implementing and evaluating IPE and CP initiatives. Implementation requires careful planning and a substantial amount of ground work needs to be undertaken before implementation can occur. Consultation with key stakeholders will be important in establishing support for the initiative. The development of explicit intended outcomes for participants is important to ensure that the design of a curriculum or initiative, and any associated assessment, is constructively aligned to these outcomes. Thought should be given to evaluation prior to implementation and a series of evaluation questions articulated. This will ensure, as far as possible, that the necessary data is collected to answer the evaluation questions. Outcomes and theory-based evaluation can assist in answering our evaluation questions and advancing our understanding of the learning taking place in IPE and collaborative learning environments.

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8

Building Evaluation into the Development of Interprofessional Education Initiatives

Susan Pullon, Ben Darlow and Eileen McKinlay

Introduction

Although many methods currently used to teach health professional students have not been evaluated and continue to be used without challenge, innovations need to earn their place in the curriculum. Interprofessional education (IPE) represents such an innovation. The value (or lack thereof) of an IPE initiative can best be demonstrated by robust evaluation processes (Institute of Medicine, 2015). Evaluation is important not only for indicating whether IPE programmes are effective, but also for exploring where, how, why and for what purpose (Freeth, Hammick, Reeves, Koppell, & Barr, 2005; Payler, Meyer, & Humphris, 2008). Evaluation provides the mechanism for accountability, using appropriate, justifiable methods that adequately consider the essential elements of a particular programme (in this case, interprofessionality) (Alkin & Christie, 2004). Hansen and colleagues usefully describe five key facets of various logic models of evaluation: underlying assumptions, evaluation context, evaluation activities, evaluation consequences and external factors which may limit the intended effect of the evaluation (Hansen, Alkin, & Wallace,

2013). While this chapter will focus primarily on discussing evaluation activities, these are considered throughout in relation to assumptions, context and consequences.

When constructing a new IPE initiative, a concurrent multifaceted evaluation framework should be included as an integral part of the design and development. This requires that programme-level leadership be exercised in the conceptual phases to advocate for and plan evaluation, considering the context for, and the possible consequences of, the evaluation from the outset. In turn, these evaluations enable educators to lead institutional governance boards and to justify to funders that IPE is an important element of health care education.

Evaluating an IPE programme can be much more complicated than evaluating a unidisciplinary educational programme because of the range of stakeholders, processes and outcomes that can be considered (Barr & Lowe, 2013). Evaluation of a single aspect of a programme can only inform a single aspect of development. Consequently, IPE evaluation activities need to be much more holistic than just considering student attitudes or perceptions, the subject of the bulk of IPE research to date.

Evaluations need to address three key areas related to the learners. The first is to improve understanding of any changes which may or may not have occurred in learner attitudes, behaviours and outcomes. Short-term changes in learner attitudes have been covered in relative depth in the literature (Chakraborti, Boonyasai, Wright, & Kern, 2008; Hammick, Freeth, Koppel, Reeves, & Barr, 2007; Lapkin, Levett-Jones, & Gilligan, 2013) but there is less evidence relating to the longer-term effects on learners.

The second area of learner evaluation is exploration of how these changes were achieved, why anticipated changes did not occur, and the effects on successive learner cohorts of changes in educational programmes over time. This has received very little attention in the literature, beyond general positive perceptions of IPE programmes. Process evaluations are vital for the evolution and improvement of IPE initiatives as well as informing the development of new initiatives. An ability to incorporate the elements of previous IPE initiatives which have been found to be successful, and to avoid pitfalls, can result in considerable efficiencies for those who are developing new programmes.

The third area of learner evaluation is looking not just at requirement is to look not just at specific programmes (often small components within professional training extending over several years) but also the collective effect of different IPE experiences over the course of a qualification, and then, ideally, into early post-registration years. This enables consideration of the impact of IPE on collaborative practice, teamwork and patient-centred care, and ultimately on whether patient health outcomes have improved—an important intended (or unintended) consequence of health professional educational innovation.

In addition to processes and outcomes related to learners, IPE initiatives can also be evaluated in relation to teachers, pedagogical approaches and curricula, community stakeholders including health professionals and patients, leadership at different levels, governance and institutional support structures.

Ideally, it is the combination of evaluation activities that creates a collective picture of the effect of an IPE initiative, more complete and more powerful than any one aspect alone. This combined view then better allows for a particular programme's context, and its wider effects, to be considered as integral to the evaluation, instead of standing apart from it. The complexity involved is considerable, but the findings will be of benefit not only for students, but also for educators, educational institutions, community and other stakeholders in developing and implementing IPE programmes.

Leadership and Evaluation

Leadership is integral to the evaluation as well as the development of IPE programmes (Missen, Jacob, Barnett, Walker, & Cross, 2012). The important first step is to identify the need for evaluation itself (Freeth et al., 2005). Leadership is needed at institutional levels to endorse this need as a critical element in the implementation of educational innovation (Frenk et al., 2010). Programme leaders must then identify which aspects of the programme need to be evaluated and formulate an evaluation plan which is appropriate to meet these needs. Evaluation, whether modest or comprehensive, invariably requires resources in addition

to those required to deliver the IPE programme itself. Obtaining the resources to enable the evaluation to take place is a key leadership role, which may well be required at institutional governance levels as well as at programme design and delivery level. Programme leaders subsequently need to plan the evaluation early, consult with appropriate stakeholders, and oversee the evaluation to ensure that the protocol is followed. They also need to make sure ethical review board conditions are met, and importantly, that data are collected in a manner that will ensure these can be used to answer the questions which are being asked.

Once data have been collected, other projects and responsibilities often distract educators from the most important aspects of the evaluation, which is a careful consideration of the results and implementation of changes based upon these, as well as disseminating the results so others can also learn from them. Researchers have an ethical responsibility to make use of the data collected. Results may be disseminated by way of presentations to stakeholders, reports, conference presentations and academic papers. Effective leadership will ensure that results are disseminated to suitable audiences for appropriate action and reflection. If a goal of the evaluation is to improve the IPE programme, leadership is required to institute these changes and then assess what further evaluation is required.

Interprofessional Education at the University of Otago, Wellington

The development of pre-registration IPE programmes has been a natural evolution for the Department of Primary Health Care and General Practice Department at the University of Otago, Wellington (UOW). This department has provided interprofessional postgraduate courses since 1999 (Pullon & Fry, 2005). The opportunity to lead two more recent pre-registration IPE initiatives arose through a combination of timing and circumstance. Although both involve pre-registration health professional students, they evolved in different contexts as a result of very different drivers and processes.

The Wellington Interprofessional Teaching Initiative (WITI; Case study 1) is a grass-roots, educator-conceived and led programme which is embedded within existing unidisciplinary curricula. In contrast, the Tairāwhiti Interprofessional Education programme (TIPE; Case study 2) developed via an initial high-level institutionally-led negotiation with a government funding body. An appointed programme director drew together an interdisciplinary educator team and a stakeholder team to rapidly develop and begin delivery of an integrated clinically-based rural educational experience using a transition-to-practice immersion model for final year students.

Case Study 1

Wellington Interprofessional Teaching Initiative (WITI)

Purpose

- Provide an IPE module on campus within existing unidisciplinary programmes which fosters interprofessional collaborative practice and implements principles of long-term condition management

Governance/Leadership

- A collaborative governance group including educators from each of the disciplines involved designs, refines and facilitates under the leadership of a senior academic

Learners and Teachers

- Students (80 per year) from the disciplines of dietetics, medicine, physiotherapy and radiation therapy
- Educators from each of the disciplines involved teach on the programme. Typically, three educators from different disciplines will collaboratively teach each student group

Programme Description

- A four-hour introductory workshop includes student and educator introductions, a shared meal, PowerPoint presentations, group discussions, small group work, and brief purpose-developed video clips of interviews with a person living with multiple complex long-term conditions and the various health professionals and community members involved in supporting the person to live well
- Interdisciplinary groups of three students arrange to visit a recruited person (patient-as-teacher) living in the community with one or more long-term conditions and interview him or her about their perceptions and experiences of their conditions and health care
- Interdisciplinary groups prepare and deliver a 10-minute presentation about the person they visited and insights they have gained to their student peers, educators, clinicians involved in this person's care, and other invited stakeholders
- The 11-hour programme involves seven hours of teaching contact time and four hours of independent learning
- The programme has developed a community of health educators model whereby local clinicians recruit patients-as-teachers and these clinicians also participate in presentation sessions.
- An e-learning platform is available to all students and local staff and includes pre-reading, relevant resource material, and facility for online discussion
- Students are assessed on the quality of their joint ten-minute presentation and their group participation

Case Study 2

The Tairāwhiti Interprofessional Programme (TIPE)

Purpose

- Provide a clinically-based IPE programme in a remote rural region (Tairāwhiti) with high social and health workforce needs, which fosters

interprofessional collaborative practice, enhances hauora Māori [Māori health], implements principles of long-term condition management and encourages graduates to return to work in rural New Zealand

Governance/Leadership

- A high level governance group is responsible for programme strategy. This includes local Māori leaders, a health board chief executive, heads of academic schools, the Pro-Vice-Chancellor for Health Sciences, programme director and programme manager
- On campus, the programme director leads an operations group involving academic programme leaders, while the TIPE programme manager is responsible for day-to-day operations
- Based in Tairāwhiti, a local academic leader and administrator lead an interprofessional team of part-time clinical educators and liaise with clinical workplace providers

Learners and Teachers

- Students (70 to 80 per year) from the disciplines of dentistry, dietetics, medicine, nursing, occupational therapy, oral health, pharmacy and physiotherapy
- Clinical educators from each discipline involved in the programme and from hauora Māori deliver the educational aspects

Programme Description

- Twelve to sixteen students start each five-week rotation together, with a formal Māori welcome, and live in shared accommodation with communal facilities
- Teaching and learning are provided across a diverse range of town and rural community health settings, Students' learning is split between their own clinical disciplines (c.50%); small groups in each other's clinical disciplines (c.30%); and group learning where the health professionals from all participating disciplines act as facilitators for

students working on pre-prepared case studies, hauora Māori and community projects (c.20%)

- For the community project, students work in interprofessional groups on a topic specifically chosen by local community-based health care providers. There is considerable pride in 'returning' this project to the community as a presentation of a ready-to-use community education resource
- An e-learning platform is available to all students and local staff and includes pre-reading, relevant resource material and facility for online discussion
- Students are assessed using discipline-specific and interprofessional learning outcomes, including group participation and the quality of their joint community projects

Building Goals-based Evaluation Frameworks

When developing an evaluation framework, underlying assumptions about the purpose, not only for those involved in programme delivery, but also for other stakeholders (communities, institutions, funders) need to be considered. Careful thought must be given to the purpose for which the evaluation is required, and what the consequences of the evaluation as a whole might be.

Reasons for evaluation may include the ability or need to meet a standard, the measurement and understanding of a variety of outcomes, congruence with recognised IPE competencies, consideration of pedagogical design, understanding and improving the programme from the perspective of different stakeholders, communicating aspects of the programme to others, or demonstrating the worth and quality of the programme to funders and stakeholders. The evaluation should be designed according to the information which it needs to generate. Sometimes evaluation needs will be modest, and evaluation resources limited. Because comprehensive evaluations require significant resource and stakeholder engagement, it must be clear how they are intended to provide benefit to learners, educators, institutions, funders, patients or communities.

The two undergraduate IPE initiatives at UOW evolved in different contexts. Consequently the evaluations had different purposes and goals.

The goals of the WITI evaluations were initially to understand whether this novel programme was beneficial for learners and educators, (Pullon et al., 2013) and subsequently to improve the programme, (Darlow et al., in press) quantify its effects, (Darlow et al., 2015) and demonstrate its benefits to the institution so that it (and similar experiences) could become a normal part of health professional education. Future evaluation activities are planned to explore its benefits (or not) for the community-based health professionals and patients who are part of the community of health educators integral to this programme.

The goals of the TIPE evaluation were to inform programme design in its rural clinically-based context during development stages and subsequently demonstrate the value of the investment to the funding agency in relation to specific health workforce objectives. As part of a comprehensive evaluation framework, subsequent evaluation activities have focused on how a community of interprofessional educators is developed and how these educators have been influenced by the TIPE programme change (McKinlay, E., Gallagher, P., Gray, L., Wilson, C., & Pullon, S., 2015); how specific disciplines respond to IPE as well as considering students' responses to a community-devised project (Gallagher, Pullon et al., 2015). Evaluation activities in progress are investigating the community's perspective of the programme, and a longitudinal cohort study of learners has recently commenced. Experiences gained through leading the development and evaluation of these programmes have highlighted the importance of integrating concurrent, multifaceted evaluation frameworks within the design and development of IPE programmes. Understanding the immediate experience of learners, educators, and communities is likely to require a somewhat different method to an evaluation activity aiming to demonstrate change in attitudes and other outcomes. Demonstration of changes over time for individual students or for programmes as a whole requires different methods again.

These different purposes of evaluation have required the use of different research methods for each of the questions to which answers have been sought. These methods are summarised in Table 8.1. Other rich data sources, such as those often drawn on in case study design (Yin, 2014) have

Table 8.1 IPE evaluation activities employed to date at UOW

Framework	Design	Data collection method	Analysis	Purpose/Rationale
Qualitative	Single point in time data collection	Unidisciplinary student focus groups	Content analysis	Understand participating student experience
	As above	Individual interviews educators, stakeholders	Thematic analysis	Understand educator, stakeholder experience
	Intermittent data collection over successive blocks	Educator focus groups	Content and thematic analysis	Understand educator experience
	Sequential data collection from participants over successive blocks	Interdisciplinary student focus groups	Content and thematic analysis	Understand student experience over time
	As above	End of block questionnaires—free text comments	Thematic analysis	Understand student experience
	Longitudinal survey	Successive questionnaires—free text comments	Thematic analysis	Understand student experience
Quantitative	Sequential post intervention data collection	End of block questionnaires—numeric data	Descriptive statistics	Understand student experience, over time
	Uncontrolled before and after study	Start and end of block questionnaires—numeric data	Descriptive statistics	Demonstrate change in student knowledge, skills, attitudes re IP competencies over 5-week time-frame

Controlled trials	Start and end of block or year questionnaires, participants and non-participants	Descriptive and ANCOVA statistics	Demonstrate differences between participating and non-participating students in knowledge, skills, attitudes re IP competencies over longer time
Longitudinal survey	Successive questionnaires, participants, non-participants, stakeholders	Descriptive and ANCOVA statistics	Demonstrate differences among and between participating and non-participating students in IP competencies transitioning from student to practice

included conversations about experiences and feedback from educators, students and community stakeholders. Document review is a further resource, for example the minutes from the many meetings involved in planning, developing, and implementing these initiatives.

Understanding the IPE Experience

Learners

The learners' experience of, and views about, an IPE programme are important for refining and developing the programme (Curran, Sharpe, & Forristall, 2007; O'Neill & Wyness, 2005; Ruebling et al., 2013). There are many variables which may affect this experience, including the class size, disciplinary numbers and balance, temporal alignment of skills across disciplines, timetabling opportunities, logistics of students meeting together, governance and institutional leadership, organisational and communication logistics, the readiness and preparation of the teaching staff to work in a team, suitability and sustainability of teaching topics, the learning activities involved, the grading process, and the relative time spent in facilitated versus independent learning activities, as well as total IPE time across curricula. It is important that IPE experiences not only empower students to participate in collaborative practice when they graduate, but that they also wish to engage in further IPE during their subsequent careers (Ravet, 2012). Educators must take care that they do not create an IPE experience which impacts negatively on students.

Consistent with a number of published studies (Hammick et al., 2007; O'Brien, McCallin, & Basset, 2013), evaluations to date of WITI and TIPE have demonstrated that students value IPE programmes and reflect positively on their experience. In addition, findings from interdisciplinary and unidisciplinary focus groups have highlighted the need for students to learn *about* each other's so that they can then effectively learn *with* and *from* each other. In the WITI programme, this has resulted in restructuring the initial workshop to enable students to better understand each other and their respective disciplines. These evaluations have also highlighted the need to be explicit about the contribution that each discipline

can make to IPE experiences, the need for balance in the disciplinary mix and the value of the programme to each discipline. Our experience is that learners share different perspectives when within a unidisciplinary focus group than when in an interprofessional focus group. This reinforces the need to consider both approaches.

Educators

It is equally important to understand the teachers' experience of learning about and delivering IPE because, although some may have experience of practising in a collaborative manner, most do not have experience of teaching in an interdisciplinary fashion (Egan-Lee et al., 2011). Forming an interprofessional teaching team needs careful preparation and ongoing skill development as well as the means to ensure sustainable practice (Steinert, 2005; Freeman, Wright, & Lindqvist, 2010; Egan-Lee et al., 2011). In the TIPE programme, as a result of the multifaceted evaluation process, the local academic leader has gained insight into the different strengths and concerns of individual educators and has been able to draw them together as an educator team. This has resulted in educators improving their facilitation of interprofessional student to student dialogue, leading to enhanced and positive understanding of respective disciplinary roles and skills. Focus group analysis of WITI educators has demonstrated the need to have a leader and champion within the education team to drive initiatives forward and maintain momentum, as well as the need for administrative and institutional support.

Evaluations in both programmes have also demonstrated that the formation of an interdisciplinary teaching team follows the same process as developing a health care team. This requires that team members learn about each other, develop trust and respect for each other, and find their own place within the team based upon the skills and resources they are able to contribute. In many ways this enables educators to model team development processes to the students they are teaching. Educators have commented on how their confidence and competency as interprofessional educators have developed over time, and how their view of themselves as a representative of, and having responsibility for, their own discipline changes to one in which they consider the entire interprofessional class to be 'their' students.

Community

Local health professionals who host students in their workplaces (clinical workplace providers) have described their experiences of the TIPE programme. Evaluation of this aspect of an IPE programme has been especially valuable in this context, giving insights into not only the experience of teaching students from a range of disciplines in a clinical context but also the effect of this on day-to-day practice at a workplace. Benefits and challenges emerge which are not necessarily obvious to students, and are not captured by demonstrating changes in student learning. These findings have provided TIPE leaders at programme and local level with key information to help mitigate the challenges (e.g. placement management) and enhance the benefits (e.g. new knowledge for the practice).

Similarly, the health professionals who recruit patients for the WITI programme over successive years find great value in attending the student presentations and often discover information which can help inform the support they provide to these patients. It has also been very useful to invite people who have university and health service leadership roles to the WITI presentation sessions because this has showcased the initiative and stimulated the interest of health services to support IPE opportunities for their own staff.

IPE initiatives involving patients or their communities should also evaluate the wider impact of the programme (both positive and negative) in terms of satisfaction and health outcomes (Thistlethwaite, 2012; Gilbert, Yan, & Hoffman, 2010). Although we have yet to formally evaluate patient perceptions in the TIPE and WITI programmes, patients who participate in the WITI programme have already fed back that they really enjoy the experience and often request to be able to see more students. Some of these patients have also experienced being visited by unidisciplinary groups of students, and often ask to see the interprofessional groups in the future. Patients report finding these visits to be more enjoyable than unidisciplinary visits. They also understand the potential benefits of improved health care collaboration from their own experience. This informal feedback provides an indication of the value patients place on the programme and how they consider themselves to be part of the community of interprofessional health educators.

Demonstrating Changes in Learner Attitudes, Behaviours, and Outcomes

Although there is evidence that postgraduate IPE results in improved interprofessional collaborative practice and patient outcomes, there is relatively little evidence of the benefits of pre-registration IPE programmes (Institute of Medicine, 2015; Sheehan, Ormond, & Wyles, 2013). It is difficult to generate such evidence without well-funded programmes and evaluations, but it is equally difficult to gain such funding without evidence of benefit.

WITI has used survey tools to assess short-term changes in student attitudes to interprofessional learning (the Readiness for Interprofessional Learning Scale; RIPLS) (Parsell & Bligh, 1999; Curran et al., 2007), interprofessional teams (the Attitude to Health Care Teams Scale; ATHCTS) (Heinemann, Schmitt, Farrell, & Brallier, 1999; Curran et al., 2007), and self-reported effectiveness as a team member (the Team Skills Scale; TSS) (Hepburn, Tsukuda, & Fasser, 2002). These evaluations have demonstrated changes as a result of IPE programmes (Darlow et al., 2015), but cannot indicate whether these attitudinal changes will be maintained over time, or translated into improved professional practice or patient outcomes. Similarly, focus group analysis has indicated that students perceive these IPE experiences as being useful for improving their understanding of other disciplines and breaking down barriers to professional communication, but are unable to indicate whether these expectations have been paralleled in clinical practice as students, let alone in practice when they graduate (Pullon et al. 2011; Darlow et al. in-press).

Because the TIPE programme had immediate funder-specific evaluation requirements, existing survey tools such as RIPLS proved insufficient in evaluating the multiple objectives of the programme. Necessary adaptation of standard student questionnaires resulted in a survey tool that was a better fit for purpose, enabling data to be collected systematically over successive student cohorts to assess short-term changes in students' perceptions of their knowledge, attitudes and understanding of not only interprofessional competencies, but also hauora Māori [Māori health],

long-term condition management and rural health care. Year-start and year-end surveys of TIPE and non-TIPE peers, exploring these same themes have gone further, and provided initial evidence of significant learning gains over a year as a result of the TIPE programme (Malatest International, 2015).

Evaluations such as these indicate that these programmes have been a positive influence on the students who have participated, but it is difficult to assess the impact of relatively short-term interventions such as WITI or TIPE on future practice without considering longer-term studies.

Demonstrating Cumulative Change: Translation into Practice

Even given the complexities of demonstrating the effect of any specific educational intervention within a professional degree programme (Nelson, Tassone, & Hodges, 2014), it is ultimately important to also investigate the cumulative effect of IPE experiences over the course of a student's qualification, and ideally, its eventual effect on practice (Bleakley, 2013; Oandasan & Reeves, 2005).

Pollard and Miers (2008) found that a redesigned curriculum focused on IPE resulted in sustained increased confidence relating to participants' communication skills and increased positive attitudes toward interprofessional relationships. The 'Linköping IPE model' (an integrated programme of study culminating in clinical experience in an interprofessional student-run ward now sustained for over 20 years) has shown significant differences in interprofessional collaborative practice ability between doctors from Linköping and other Swedish medical schools, with Linköping graduates consistently better at working with people in other health professions (Wilhelmsson et al., 2009). As a result of the TIPE programme, we have commenced a longitudinal study which will explore how attitudes to interprofessionality and skills change over the final year of pre-registration training and the initial three years of professional practice. The Longitudinal Interprofessional (LIP) Study (www.lipstudy.researchnz.com) is following a cohort of dentistry, dietetic, medicine, nursing, occupational therapy, pharmacy and physiotherapy students through their final year of study and first

three years of professional practice. It is gathering quantitative and qualitative data to find out how interprofessional attitudes and skills change over time, and the influence of participation in the TIPE programme on these. This study is investigating changes in participants' collaborative abilities as assessed by supervisors and preceptors using the recently developed and refined Interprofessional Collaborator Assessment Rubric (Curran et al., 2011). It is also exploring the influence of an IPE intervention on career choices and trajectories.

The small number of studies that have to date evaluated the effects of IPE over time have almost exclusively concentrated on changes in students' learning. But educators and experienced clinical workplace providers, communities and individual patients are also important stakeholders in health professional education. Evaluation frameworks that can demonstrate the effects of engaging in IPE on clinical behaviour and patient outcomes are also needed.

The Costs and Benefits of Evaluation

Evaluation of IPE programmes can be complex and resource intensive and must be considered in relation to the relative benefits. The costs include the human and financial resources required, the opportunity cost of not being able to use the time to do other things (including more interprofessional teaching), and the use of stakeholder goodwill. Students often report that they are over-evaluated within their pre-registration programmes. Our experience is that conducting evaluation also highlights to students that this type of education is different or unusual, and this inhibits the appearance of interprofessional collaboration as being a normal part of health care education.

The potential effects of the evaluation on the education team also need to be considered. During the early phases of development as an interprofessional educator, individuals often feel as if they are representing a discipline and feel responsible for their students. Consequently, negative feedback about 'their' students or discipline can be taken personally. In addition, by participating in an interprofessional role and being viewed by other colleagues, educators open themselves to much wider

appraisal than they may have experienced previously. Consequently, programme leaders need to be aware that educator preparation for evaluation requires careful consideration. Close mentoring within a trusting environment is necessary, with feedback acknowledging that all are learning new skills. We have also learnt it is important for students to see equal contributions from each educator according to their skill set as well as each educator being affirmed by the educator team. Collecting evaluation data through focus groups seems acceptable to both individual educators and the educator group because both individual and collective views can be gathered about teaching delivery and programme development.

There is also a potential risk with IPE research that the programme may lose ongoing support if expected benefits and outcomes are not demonstrated immediately. It needs to be remembered that IPE is relatively novel, as are the instruments to evaluate its effect. This means that the tools available are not always sufficiently sensitive or specific to answer the questions which are being asked. This risk may be mitigated by employing a range of evaluation approaches.

The benefits of evaluation are numerous. The most important outcome of the two IPE initiatives described in this chapter is that they have showcased the need for, and benefits from, IPE to the university. They have shown that these two different models are acceptable to students and both yield positive but different outcomes. As a result the University of Otago has created an umbrella governance group and IPE strategy for its Division of Health Sciences. Difficulties in finding opportunities when students could come together for IPE have raised awareness of timetable misalignment and disparities in resource allocation. The IPE forum has provided a reason to address these problems in order to improve the capacity for more IPE experiences. As a result the timetables of different disciplines have been collectively mapped and work is under way to institute some shared lectures and learning experiences using IPE principles, and interaction during orientation periods. The problem of funding inequities between disciplines may take longer to address. Evaluation has also shown the need to include a wider range of disciplines, including those from outside of the university, and work is under way to form partnerships with other comparable educational institutions.

The evaluations described in this chapter have highlighted the need to have a better understanding of the long-term effect and outcomes of IPE programmes as a whole. From an institutional perspective these results are important for the maintenance of funding streams to support programmes such as TIPE. From a health system perspective these may indicate where resources can be best allocated to achieve goals for the workforce. In addition, the current evaluations have raised questions that require further exploration or development and testing of new or modified IPE programmes. This includes the place, balance, benefits and disadvantages of different IPE activities, further development of communities of health educators and the balance of classroom workshop, simulation activities and real-time clinical experiences.

Summary and Reflection

Evaluation of IPE initiatives has taught us about ourselves, our leadership, our teaching, our students and our communities. Leadership at both institutional and programme level has enabled evaluation to be embedded within IPE programmes from conceptual planning through delivery to outcomes. This has allowed us to demonstrate what the programmes have achieved, and also to understand and modify them to meet the needs of the range of stakeholders involved. Equally importantly, it has allowed us to consider when evaluation needs to be scaled back in order to allow established IPE programmes to become a normal part of the curriculum and to let educators enjoy teaching without the associated, but necessary, time and resource costs of comprehensive evaluation.

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Part IV

Examples of Evaluation in the Field

9

Transition from Uniprofessional Towards Interprofessional Education: The Malaysian Experience of a Pragmatic Model

Seng-Fah Tong, Nabishah Mohamad, Chai-Eng Tan, Benny Efendie, Kanaga Kumari Chelliah and John HV Gilbert

Introduction

Changing from conventional uniprofessional education to interprofessional education (IPE) in health professions education requires strategic planning, especially in developing countries where resources are limited. Successful implementation of IPE is an important way to establish a foundation for interprofessional collaborative care that will improve the quality of health care. Although providing best quality of care is paramount, defining what is 'best' is contextual and is highly dependent on a national agenda (WHO 2010). Therefore, stakeholders and funders from developing countries need convincing data, particularly local data, before investing in an IPE approach. Piloting such initiatives on a smaller scale provides room for fine-tuning before it is implemented on a national or regional level. In this chapter, pilot projects for IPE initiatives in Malaysia are described. How interprofessional practices can pave the way for national policy change in IPE is also discussed. The framework for action on IPE and collaborative practice (CP) proposed by the World

Health Organization (WHO) (The WHO Framework for Action, 2010) was used to guide the project. A brief account of Malaysian health care is given, followed by our experience of developing IPE and finally a leadership model is offered.

The Current Climate of Health Care Practice in Malaysia

Malaysian health care is largely uniprofessional in its approach. In some situations, a multiprofessional approach has been adopted, particularly for management of complex medical problems. Specialisation of health care occurs for both physicians and other health care providers due to the increasing complexity of health care needs. To a great extent this has resulted in the fragmentation of care, especially in the management of complex medical problems and chronic diseases. Holistic care and quality of care are compromised by this fragmentation. In order to bridge the gaps a truly interprofessional approach (*not* multiprofessional) is greatly needed.

Communication across specialties in health care relies heavily on appropriate written referrals. Knowledge of other professions' roles is limited to the bare minimum. Patients who need further care from other health professionals are often referred by letter or phone call. Hence, at any one point of time, patients are seeing health care providers of one specialty and there is little dialogue between various professionals to discuss the best management strategy for individual patients. Although patients receive the services of multiple health professionals, these services are essentially fragmented in their approach, reflecting a multidisciplinary model of care that contrasts with interprofessional CP.

Collaboration between physicians and other health care professionals is still fairly superficial. For example, integration of pharmacists within the medical team was started *only in about last ten years* and now the pharmacists role has gone beyond dispensing medication. They provide medication counselling for patients and drug reconstitution services, and support doctors with detailed drug information. Pharmacists are gradually incorporated

into the team during ward rounds to contribute to patient care in most major hospitals with sufficient manpower. Since 2007, pharmacist-run Medication Therapy and Adherence Clinics (MTAC) in various specialised areas such as diabetes, asthma, renal diseases, anticoagulant therapy and methadone replacement have been set up to optimise patients' adherence to their medication regimes and achieve better clinical outcomes.

However, in the private sector, communication between Malaysian community pharmacists and general practitioners (GPs) is still rare (Hassali, Awaisu, Shafie & Saeed, 2009; Wong, 2001). Overall, discussion between health professionals in the presence of patients is uncommon. Interactions mainly occur when triggered by problems, for example when there are mistakes in the prescription or when patients complain of side effects. Therefore it becomes a multidisciplinary rather than interprofessional discussion to prevent potential problems.

Combined clinics have been created for specific complex disorders which require multi-professional care. For example, in cochlear implant clinics, otologists, audiologists and speech language pathologists are seeing patients in a single visit and centralised setting. Some specialised diabetic clinics in Malaysia are also jointly run by endocrinologists, dieticians and nurse educators. However, the problem of power dynamics may surface within the team. Physicians have traditionally had a more dominant voice because the various components of care are distributed by the physician to individual health care professionals rather than patient care being planned collaboratively. Greater effort is required to embrace the true values and beliefs of interprofessional care.

Moving On from Uniprofessional and Multiprofessional Education

Perhaps one of the main contributors to current practice is the traditional medical and health professional training, which is largely uniprofessional. Medical students are mainly taught by medical doctors during their undergraduate training. Other health professional faculties have similar educational models. Their exposure to other health care

professions during the practice education phase of training is limited to ad hoc informal brief contacts with other health professionals in a clinical placement. These opportunistic contacts often represent multidisciplinary practice rather than interprofessional CP. Team discussions among different professionals are relatively uncommon. Actual learning about other professions often occurs when health care professionals engage with other professions in their daily work after graduation. Hence, professionals' appreciation for interprofessional practice depends on the apprenticeship model they experienced and individual initiative.

Changing from traditional uniprofessional to interprofessional curricula requires a move to create formal opportunities for students to experience IPE, which is recommended as an element of transformative learning that breaks down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams (Frenk et al., 2010). To foster effective interprofessional practices, continuity of IPE throughout the professional training and education period and beyond is necessary (Dent & Harden, 2009). Thus, implementing IPE curricula should span from pre- to post-licensure exposure. It should be a structured formal learning experience delivered collaboratively by different professions. For example, collaborative learning for medical students should engage physicians, nurses, pharmacists and students from these and other health and social care professions. Additionally, formal attachment to interprofessional practices can be incorporated into the curriculum to experience the actual advantages and challenges of the practice. Upon graduation, health care professionals need to be continually exposed to interprofessional practice in the early years of their career to further consolidate their learning experiences (Dent & Harden, 2009).

Requirement of the University Curriculum in Malaysia

The Malaysian Qualification Agency (MQA), a national higher education accreditation body, supports teaching multidisciplinary practices in local higher education curricula. This was explicitly stated in two of the three national higher education curricula development guidelines. Imparting

skills of multidisciplinary collaboration is appreciated as a means of enhancing standards. This collaboration is not IPE per se. In the Code of Practice for Institutional Audit (MQA, 2009) and Code of Practice for Programme Accreditation (MQA, 2008), a curriculum teaching multidisciplinary practices may be placed under electives, study pathways or co-curricular activities. However, the MQA (2013) does not provide a detailed description of what a teaching and learning approach should be. Although the Guidelines for the Accreditation of Undergraduate Medical Education Programmes (Malaysian Medical Council, 2011) explicitly stated the need to inculcate an interdisciplinary approach, it lacks a definitive stance on interprofessional teaching and learning. In order to encourage interprofessional collaboration, there is a need to start introducing structured IPE.

Innovation in implementing IPE in Universiti Kebangsaan Malaysia (The National University of Malaysia) (UKM)

Although IPE is yet to be a requirement in the curriculum of university programmes in Malaysia, some universities have introduced IPE to improve the quality of graduates serving the needs of current and future health care systems and patient needs within these systems. Since 2007, in UKM, various innovations have been planned to incorporate IPE in our curricula. This was in conjunction with the restructuring of undergraduate curricula. The new curriculum was envisioned to be in line with learning outcomes recommended by the World Federation of Medical Education (WFME, 2015), with the emphasis on clinical problem solving and professional development. In order to achieve this, 11 learning outcomes were drafted (Table 9.1). Outcomes 3, 4 and 5 are directly aimed at interprofessional practice skills, and outcomes 6, 7, 10 and 11 are closely related to interprofessional practice. An integrated curriculum was designed to achieve the learning outcomes and includes modules to deliver the teaching of interprofessional skills. Within the faculty, the restructuring of curriculum took a top-down approach led by the Dean of Faculty of Medicine, assisted by Deputy Dean of Undergraduate Studies.

Table 9.1 The 11 learning outcomes of the UKM undergraduate medical programme Universiti Kebangsaan Malaysia, 2014

At the end of the programmes the students demonstrate:
1. Ability to apply knowledge and clinical skills to practise safely and competently;
2. Scientific approach and critical thinking to problem solving and decision making;
3. Ability to work collaboratively within a multi-professional team with integrity and enthusiasm and to assume a leadership role when appropriate;
4. Ability to lead and collaborate with other health professionals in health promotion and disease prevention;
5. Caring attitude and sensitivities to the needs of self, patients and their families, colleagues and the community;
6. Ability to adopt a holistic approach to patient management;
7. Effective communication and social skills;
8. Ethical, spiritual and moral principles and abide by legal requirements
9. Competency in information and communication technology and its management;
10. Appropriate teaching skills and willingness to educate patients, family, the community and colleagues;
11. Commitment to lifelong learning;

The strategy was to develop IPE modules and training of faculty members concurrently. Faculties from different professions were involved, as described below. Also, interprofessional collaborative practices and other faculty development programmes, such as a hospital home care programme and Citra UKM (explained below), were planned and would be further developed to support the ongoing efforts. The IPE initiative was spearheaded by the IPE working group, an ad hoc project team. The lead person was the Dean of Faculties involving Medicine, Pharmacy and Health Sciences. The innovations together with human resource development are described briefly below:

1. Comprehensive Health Care module (CHC) where the IPE concepts are explicitly introduced;
2. Working Together as a Health Care Team module; and
3. Interprofessional Problem-Based Learning (IPBL).

The Health Care Team module is a pilot project in co-curriculum activities, whereas the other two are part of modules in the main curriculum.

Comprehensive Health Care Module

The Comprehensive Health Care module (CHC) at UKM aims to introduce the concept of a holistic approach in managing the health issues of patients in the community. Introduced in 2007, CHC is the first IPE initiative by the Faculty of Medicine and Faculty of Pharmacy at UKM, and was chosen as the platform for IPE because the concept of a comprehensive approach to health care is relevant to both professions. The module is compulsory for second year medical students but offered as an elective for third year pharmacy students. Students are required to work together to identify the bio-psycho-social issues faced by the patients and to determine a potential community resource to provide relevant support for improving the health status of the patients.

Implementation

Both faculties collaborated to lay out the learning objectives during the initial stages of introducing the module. Logistic adjustments to programme schedules were required to allow participation by students of both faculties. Facilitators were appointed from different departments of the Faculty of Medicine, including family medicine, public health, medical education, parasitology and nursing, and the Faculty of Pharmacy. The different backgrounds and expertise of the facilitators was intentional to allow interprofessional exposure between the students and the teachers.

As part of faculty development, all facilitators attended a half-day workshop prior to the implementation of the module. During the workshop, they were introduced to the concept of IPE, the module objectives, activities and assessment. They were also given pointers on how to conduct small group discussions with students from other faculties, and were briefed on the importance and objectives of IPE to improve their receptivity to teaching students from other professions. Students were encouraged to discuss about the best management plan with their fellow group members, by considering the expertise of various health professions.

The usual cohort of students for every academic year consists of about 200 medical students and 50 pharmacy students. The number of

pharmacy students is limited to 50 in order to minimise the logistics issues in the running the module. The imbalance of students from each programme is unfortunately necessary to ensure that the facilities and teaching resources are able to cater for the large number of students. Not all medical students had the opportunity to work with a pharmacy student in their own subgroup. Hence, the grouping of students is done with care to ensure opportunities for interprofessional exposure. Nursing students are not enrolled because of difficulties in adjusting the CHC schedule to nursing schedules.

Contents of Module

Within the module, students are taught the comprehensive approach to managing patients' multiple health problems in a community setting. The 'comprehensive approach' is based on Engel's bio-psycho-social model of health care (Engel, 1997). An optimal comprehensive approach to patients' care commonly requires interprofessional services because of the complexity of their health care. Students are divided into small groups and each group is assigned a patient. Students are required to prepare a case study, which would include home visits. Arrangements are made to ensure each group includes students from medicine and pharmacy. Additional opportunities for interprofessional exposure are available through a learning visit to a community-based organisation which offers health care services relevant to the group's assigned patient. At the end of the module, all students are required to complete a few assessments which include writing a reflective journal on their views regarding working with other professions in managing health care issues, a group case report and peer assessments of teamwork.

Evaluation

Thus far, the feedback from the students has been mainly positive. They have been enjoying the experiences during the module and have suggested that students from other health care programmes be included

in the module. The visits to the community-based organisations have been beneficial in that they expose students to the available community resources which provide support for special groups of patients. As an evaluation of the programme, a qualitative analysis of the students' reflective writing has found that the students improve their awareness of the roles of various other health care professions (Tan, Jaffar, Tong, Hamzah & Mohamad, 2014). This analysis did not affect the students' grades/ marks in the module, rather it evaluated the actual learning outcome of their experience. Awareness of the different professional roles has helped to foster respect for one another, which is a prerequisite for successful CP in the future. In fact, some medical students who did not have pharmacy students in their groups wished that they had pharmacy students in their own groups as well.

Working Together as a Health Care Team Module

The Working Together as a Health Care Team module was developed and piloted in 2011. It aimed at testing the feasibility of introducing the concept of IPE and CP for year one students of various health disciplines. Upon completion of the module, the students were expected to be able to describe the roles of different health professionals, communicate effectively and work together with students from different health professions.

Implementation

This course was offered as a two-credit-hour co-curriculum module to all first year undergraduate students from Faculties of Medicine (including nursing), dentistry, pharmacy and health sciences in February to April 2011. The professions under the Faculty of Health Sciences included rehabilitation science, health psychology, dietetic science, nutritional science, diagnostic imaging, forensic science, environment & industrial safety and health education. In the co-curriculum module, all undergraduate students have to complete eight credit-hours of university-approved co-curricular activities. They have the option of choosing from a list of modules

or activities offered by the faculties, university centres and students' associations. Saturdays are specifically designated for co-curricular activities. Therefore, the policy for co-curriculum creates a common platform which allows for participation by students from different faculties. Recognition and approval of Working Together as a Health Care Team module was obtained from the Centre for Students' Accreditation.

A total of 87 students from medicine, dentistry, pharmacy, nursing, medical imaging, audiology and speech therapy were enrolled in the pilot project. The students were divided into eight groups, consisting of nine to eleven students from different faculties. Each group was facilitated by lecturers from two different professions.

Content of the Module

In line with the characteristic of co-curricular modules, our teaching and learning activities were mainly student-centred, tapping into exchange-based, observation-based and action-based learning approaches. There was only a one-hour interactive lecture at the start of the module. Subsequently the students were given tasks to present their own profession's roles and responsibilities to their group members. They were also given a case of CP in stroke management and were asked to identify the roles of different health professionals. The students visited a hospital department and observed the role of another health professional, which they self-selected. At the end of the module, the students planned and carried out a community project, such as a visit to one of the orphanages, nursing homes, shelter homes or health promotion campaigns. They were required to do a poster presentation at the end of the course.

Evaluation

The module had eight learning outcomes which focused on the attainment of generic skills. Assessments were done using the evaluation of personal and group portfolios, mentor and peer assessments, and poster presentations.

Eighty students successfully completed the course with good grades. Students observed 17 different health professions in practice and carried out eight community projects. Observation of another health profession was a real eye-opener for them.

> Before this visit, I have no knowledge about the role of optometrists. I feel happy because I get the chance to learn about other health discipline.
> JP, an audiology student.

> I am very happy that we work as a team. We planned the visit to the orphans at a shelter home, baked and sold cupcakes to raise fund. We taught the children the proper way of brushing teeth with a video and did some games with them. It was fun for everybody.
> CMN, a pharmacy student.

All students who participated in the programme reported increased understanding of interprofessional learning, and greater confidence to work with students from other health disciplines. The students favoured early introduction of IPE in their undergraduate study.

Interprofessional Problem-Based Learning (IPBL)

The UKM Faculty of Health Sciences introduced an Interprofessional Problem-Based Learning (IPBL) module in 2013 for students of various health professions. This module uses a problem-based learning approach to design tasks that mirror practice in diverse health settings. Three PBL packages are designed by members of the Faculties of Medicine, Pharmacy, Health Sciences and Dentistry. Scenarios pertaining to head and neck problems are selected as the background situations because they are the common scope of study for the programmes involved.

Prior to its introduction, institutional ethics approval (NN-18-2011) was obtained, followed by a survey on students' and academics' readiness for IPE. Favourable results from the survey provided the IPE working group with the confidence to introduce IPBL in 2013. A total of 150 students from different professions in the Faculty of Health

Sciences (optometry, audiology, speech sciences, physiotherapy, occupational therapy, diagnostic imaging and radiotherapy) were enrolled in the module. Unfortunately, despite inter-faculty efforts in designing the initial module, it was only offered to students from the Faculty of Health Sciences in 2013 because of logistic and time constraints. The module was expanded to include students from the Faculty of Dentistry in 2014. Similarly to uniprofessional PBL, two hours were used for each session, giving a total of 12 hours for three modules. After the completion of two sessions or a module the lecturer evaluation and student self-evaluation were completed for assessment purposes. The lecturers utilised Bloom's Taxonomy of higher-order thinking to evaluate the students at the completion of the course and the students were able to interpret evidence and justify key results (Bloom, 1956). At the end of the IPBL the students were given a 20-question questionnaire to measure their level of critical thinking and were invited to give feedback. About 85% of the students were able to identity the basic assumptions and make inferences justified by data, and 90% were able to appreciate differences in opinions (karim et al., 2014). Comments from students were generally positive: the module improved their confidence in communication skills and their ability to develop interprofessional relationships, self-directedness in learning and critical thinking

> Diabetes causes blurring of vision and other complications. It is amazing how different professions manage a patient.
>   Audiology student

> I assumed a speech therapist only guides the patient to speak correctly, well they assess the swallowing function and the dietician suggest the correct food intake for a nasopharyngeal carcinoma patient.
>   Physiotherapy student

> Since I am in the IPBL group I have WA [Whatsapp—a mobile social networking application] group with students from all professions, which would be convenient in the future when I need to get further information from other professions.
>   Radiotherapy student

More efforts are required to resolve the logistic and scheduling issues and enable the participation of all students from the health cluster. As for this semester, commitment from all academics and early scheduling allowed students from more health professions to be included in the learning, and the Faculty plans to expand IPE in clinical practice in future years.

Challenges

The foremost challenge is to convince all stakeholders, ranging from faculties, programme coordinators, facilitators and students to embrace IPE as part of the curriculum. It is not easy to gain the academic support for IPE. Being products of uniprofessional education, they may be less receptive to the idea of allowing other health professionals to teach their students. Learning from other health professionals could be seen as deviating from the core objectives of their own programme. In order to facilitate IPE effectively, they need to set aside these reservations so that they can engage with students and ensure a healthy atmosphere for inter-professional learning.

The faculties within the health cluster operate independently from one another, despite being part of the same academic institution. This further strengthens the divide between the various academicians because most are not aware of the educational objectives and outcomes of other professions.

The group of medical educationists who pioneered IPE in the Faculty of Medicine started IPE on a small scale with CHC and IPBL of the head and neck. Although these modules constitute a small fraction of the main curriculum, they do represent an inroad for IPE into the mainstream education programmes of the health cluster. Academicians are given the opportunity to experience IPE for themselves, paving the way for greater engagement with the concept of IPE at the personal level. Support and recognition from the Deans of the respective faculties and Centre for Students' Accreditation academics helped to promote IPE at a higher organisational level.

A staff development programme in IPE may be useful in the long run. The Department of Medical Education has proposed the formation of an interprofessional education unit. However, it is still very much in the planning stage. Ongoing feedback and evaluation of IPE modules will help to generate ideas for staff development. Involvement of the Faculty of Health Sciences and Faculty of Pharmacy in the proposed unit is also essential for future developments.

Although difficult, coordinating the logistics and proper scheduling of IPE initiatives are important to ensure successful implementation of the programmes. Well-coordinated scheduling between faculties is needed to accommodate important dates such as examinations and semester breaks. To achieve this, the various faculties need to specifically set aside time for IPE modules to allow their students to participate and benefit from them. Facilitators need to prioritise small group discussions of IPE in order to avoid disrupting the schedule of students from other health professional programmes. Without these efforts, implementation of IPE is neither feasible nor possible.

It is suggested that programme coordinators from the various faculties meet to plan the teaching-learning activities to avoid clashes with other programmes. Identifying 'off peak' times such as Saturdays, as done in the 'Working With Other Health Care Professionals' module, may ease coordination between programmes with very tight schedules.

Provision of sufficient facilities to conduct IPE was another challenge. Since many rooms and equipment were required for the activities, there were conflicts with other teaching-learning activities using the same facilities. To overcome this, the IPE working group had arranged for the Working Together as a Health Care Team module to run as a co-curricular activity on Saturdays, as mentioned earlier. However, given that it was a co-curricular activity, which was an optional module, not all students had the opportunity to participate.

The concept of IPE is also new to students who may be unaccustomed to accepting colleagues from other health professions. Their apprehension as to how students from other health professions could contribute to their learning needs created initial uneasiness during such activities. On the other hand, students also have the dilemma of whether to actively share information about their health profession with peers from other health professions or simply wait to be asked.

The social hierarchy of different professions could also adversely affect group dynamics within IPE sessions. In Malaysia, where doctors are highly esteemed and selection of medical students is based on excellent academic performance, some medical students may carry with them certain unspoken pride. Intimidating moments are real. In most instances, medical students are chosen as group leaders because they are perceived as more 'credible' and 'capable academically'. Therefore, there is a need to cultivate healthy group dynamics with a free exchange of ideas. Here, the role of the facilitators in managing group dynamics during discussions is of utmost importance.

Given that concepts about IPE are relatively new, it has not been possible to measure some of the learning outcomes because valid outcome measures are not available as yet. 'Collaborativeness' in teamwork and 'attitude towards IPE' are two examples of this. At present, teamwork is assessed as part of the professional and personal development module in the curriculum using peer and facilitator feedback. But strictly, it does not focus on the degree of collaboration with other health professionals per se. Furthermore, evidence of the relationship between these outcomes and long-term benefit to patient care is also not available. The benefits of IPE to long-term health care outcomes are therefore still unclear and require further robust studies (Reeves, Perrier, Goldman, Freeth & Zwarenstein, 2013).

Opportunities for IPE

Opportunities for IPE should not be limited to classroom experiences as described above. Applying Bandura's social cognitive theory, behaviour is learnt from observing others. Therefore, successful CP functions as a role model alongside classroom learning. If it is successfully implemented, it becomes evidence that different professions can work together to achieve similar goals. Teaching institutions should aim to design a service that demonstrates interprofessional CP in action. Future research should promote the development of IPE in evidence-based practice that is grounded in well-established theoretical concepts.

The Home Care Unit of Universiti Kebangsaan Malaysia Medical Centre (UKMMC), the teaching hospital for UKM, is a model for interprofessional

CP. The unit provides home health services, led by a team of nurses. Cases receiving home care services are discussed at a fortnightly case conference attended by family physicians, nurses and dieticians. Patients' problems are identified and prioritised during such discussions. Short- and long-term management plans are created for each patient based on input from the participants. Home visits are conducted by nurses, together with doctors or dieticians when necessary. Most importantly, management is planned in a collaborative manner. In future, it is hoped that more health care professions can participate in the case conferences and that this model will be developed in other health centres.

Postgraduate family medicine trainees have been assigned to the Home Care Unit as part of their programme. Besides learning about managing health problems in the home environment, they also learn to appreciate the roles of nurses and other health professionals better. In addition, they have the opportunity to contribute their knowledge and skills to the team. Verbal feedback from the trainees who have had the opportunity to join the unit has been encouraging. The benefits of home care placement may be extended to undergraduates and other postgraduate professional trainees.

At the university level, UKM has also launched the Citra UKM initiative ('Citra' is a Malay term for 'image'), in which selected courses and programmes from individual faculties are offered to students from other faculties. The exposure of students to other professions in the Citra UKM project is consistent with IPE concepts. The Vice-Chancellor of the university has also encouraged an inter-faculty lecturer-exchange programme to provide the experience of working in a different field. This creates opportunity for academicians to 'learn with, from, and about each other'. Such exposure will benefit both faculties by allowing health professionals to view health care from other perspectives.

Research on IPE is required to assess all aspects of IPE and its long-term outcomes in reducing mortality and morbidity of patients. Qualitative approaches can uncover the dynamics and processes within teamwork and health systems, which may not be tangible via quantitative approaches. The aim of IPE is to improve future teamwork dynamics and CP. Students or health care professionals who have completed IPE modules could be

assessed for their attitudes towards other health care professionals as compared to those who did not experience IPE. In the long run, it is expected that better teamwork dynamics will lead to improved quality of health care services and health outcomes.

Leadership Model for Developing IPE in a Predominantly Uniprofessional Curriculum

This model was conceived from local experience of working in a resource-constrained setting. At UKM, IPE was initiated by an interest group with a bottom-up approach at the faculty level to convince the university leadership about the value of IPE (Fig. 9.1). At an early stage of IPE development, it is important to have a local champion of the bottom-up approach, such as one led by the Dean. This initial stage offers the advantage of testing the ground for challenges and threats to implementing IPE in order to propose realistic models of IPE at an organisational level. A functioning model with supporting data stands a better chance of convincing a national champion to initiate a top-down approach (Fig. 9.1). The national champion should be at the ministerial level. This would spark further interest and garner institutional support for implementation of IPE. Successful implementation of IPE initiatives requires changes to be made both at faculty level and at organisational level (Steinert, 2005).

The Initial Bottom-Up Approach

The Medical Education Department formed an inter-faculty IPE research team in 2010 to support the implementation of IPE at the university level, particularly among faculties from the health cluster. UKM engaged an international IPE expert as an adjunct professor to advise on designing or improving existing IPE modules, and to stimulate further interest in IPE among other faculty members. Engaging other faculty members was important to ensure their support and collaboration in the delivery of IPE within the health cluster.
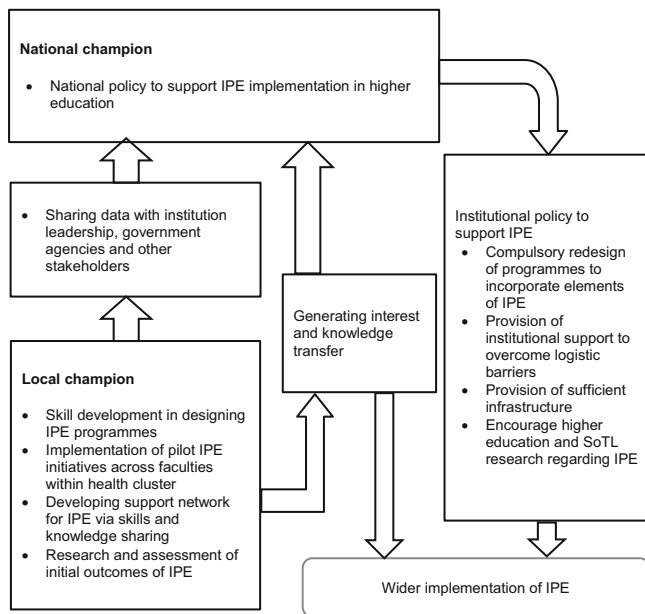
Fig. 9.1 Leadership model for promoting interprofessional education in UKM (Interprofessional Education Working Group, UKM)

From 2010 to 2012, a series of skills transfer activities were organised, including an inter-university symposium on IPE. Besides disseminating knowledge and sharing experience, it aimed to build a network of IPE initiators. Four local universities (Universiti Malaya, UKM, Universiti Sains Malaysia and International Medical University) had initiated IPE in the medical and health sciences disciplines. Seminars and workshops giving an introduction to IPE and advice on its implementation were subsequently organised with other local higher education institutions, with key input from an adjunct professor.

Within UKM, IPE has been made one of the key topics in the annual UKM Teaching and Learning Congress since 2012. Development of IPE is stepped up with research on the approach at undergraduate and postgraduate levels. Research in IPE is needed to convince the university leadership of its value and to encourage the initiation of a top-down approach, and to widen the implementation of IPE. A study conducted

at UKM Medical Centre involving medical, nursing and undergraduate emergency medicine students suggested IPE as an educational strategy should be introduced to nursing students in order to extend their understanding of the roles and responsibilities of other health professionals and to provide them with opportunities to work collaboratively with them (Karim et al., 2014). Understanding other health professions roles is more effective through experiential learning starting from the very first year of the undergraduate study as demonstrated in "Working Together as Healthcare Team" module (Efendie et al., 2015) and spiraled up to subsequent years as demonstrated in Comprehensive healthcare module at UKM (Tan et al., 2014) where 2nd year medical students and 3rd year pharmacy students work together in addressing community-based health issues. We are hopeful of convincing the policymakers and university leaders of the value of IPE with the skills transfer initiatives and initial evaluations of IPE outcomes.

Moving On to a Top-Down Approach

Formation of a national policy to encourage IPE is a vision that institutions of higher learning need to achieve. Initially, there is a need to spark interest among academicians nationwide and to enthuse local champions who can introduce IPE into their own respective institutions. The other stakeholders such as the health care industry and policymakers also need to be convinced regarding the value of IPE. In Malaysia, most universities manage their own programmes independently and each faculty also has its own level of autonomy in designing educational programmes. Hence, there is a need for a national guidance policy on how to implement IPE in the universities.

Round-table discussions involving the stakeholders, which include consumer groups and patients, are important in order to have buy-in from the Ministry of Health and Ministry of Education. Sharing of data becomes crucial. Feasibility and readiness for adopting IPE can be debated. Conferences at national level are often used as a platform to introduce IPE to a greater audience. A few conferences were organised in our effort to promote IPE, but have yet to engage with the Ministry of

Health. Engaging the ministries will pave the way for the formulation of national policy.

The national policy should address three agendas:

1. Teaching of interprofessional skills;
2. Research in IPE;
3. Development of interprofessional collaborative practices.

With the formulation of national policy, these agendas can be made part of the accreditation requirements of various agencies such as universities, research institutes and health service sectors.

Support from the university leadership (and ideally at national level) is necessary, because inter-faculty efforts are required to create a suitable environment for the implementation of IPE. At present, UKM has shown initial support for IPE via the Comprehensive Health Care module, IPBL and Citra UKM. The development and continuous improvement of workable interprofessional health care services in UKM's teaching hospital (for example, the Home Care Unit) provides evidence that interprofessional collaborative practice is feasible, and hence there is a need for interprofessional education. At the level of the university administration, core support and guidelines for the implementation of IPE need to be developed and effectively implemented to facilitate the coordination of the logistics, scheduling and teaching methods. Recognition and support should be given to faculties who have successfully initiated IPE. For example, the Citra UKM programme catalysed the provision of such support because the participating faculties needed to revise their programmes to allow students from other faculties to participate. Without the call by the university leadership for such changes, implementation of IPE would be challenging. The importance of this leadership cannot be too heavily emphasised.

Further research in IPE at the institutional level is needed to provide evidence to support the allocation of resources to IPE. The findings from exploratory small studies (Tan et al., 2014; Karim et al., 2014; and written feedback collected for the various modules) evaluating our IPE modules have shown great promise. Future research in IPE in Malaysia should be more focused and theoretically-based, determining the factors and process leading to successful interprofessional CP. Adult learning theories

and implementation science theories are likely to be a useful start (French et al., 2012). These include measuring learners' and teachers' interprofessional skills, the impact of IPE on health care outcomes, and measures of quality of interprofessional CP.

A major agenda item is the provision of true interprofessional CP within health care services. This will require support from the hospital administration and encompasses various health care services. The teaching hospital is a suitable platform for experimenting with models of interprofessional CP delivery, alongside education and research. It is important to nurture an interprofessional collaborative culture among health care professionals and break down the pre-existing social hierarchies of different health professions. Having a working model of interprofessional CP will erase previous psychological barriers and facilitate the seamless provision of health care services. Models of collaborative practice, such as the interprofessional outreach home care programme, that have been successfully piloted and implemented could motivate organisations to set up similar services in other settings nationwide. Evaluating the patient health outcomes and cost-effectiveness such as quality of life, admission rate, mortality rate and cost of care should be the next agenda of research in interprofessional practice.

Conclusion

Care of a patient should always focus on the patient as a whole, not in fragmented parts. Interprofessional collaborative practice and education represent a step forward in returning care to patient-centeredness as well as making the best use of various health professional disciplines. Therefore a shift from uniprofessional education to interprofessional education is needed. Although far from complete, we developed a workable leadership model that starts from the bottom up and is followed by top-down organisational change at the university level. So far, integration of CHC module and IPBL into the curriculum has been successful. However, the effective delivery of IPE content remains to be evaluated rigorously. Although faculty development and training programmes such as facilitator training workshops and the CITRA programme are in place, sustaining the interest of the faculties presents great challenges. Fundamental respect for one another's

professional knowledge and skills should be instilled within and across the training of all health professionals. Building respect and reducing the social hierarchies of different professions should be emphasised. Implementing IPE and interprofessional practice would be easier with a change in the education system, even before students enter tertiary education. However, changing societal perceptions remains a challenge. It will require the concerted efforts of various stakeholders, particularly national education system, health system and consumer groups.

There is also a need to produce convincing data for stakeholders to support IPE. It is difficult to attribute positive health care outcomes to IPE because the efficient delivery of health services takes more than interprofessional CP. Hence, the direct impact of IPE and interprofessional CP will take time, patience and effort to measure. Proponents of IPE are beginning to devise ways to measure the contribution of IPE to long-term health outcomes. Better measures of IPE need to be developed as current measures still lack sufficient theoretical and psychometric properties (Thannhauser, Russell-Mayhew, & Scott, 2010). Given the time and effort that has been committed to the promotion of better medical education, it is unsurprising that IPE in Malaysia is still at the beginning of a long journey.

Promoting a culture conducive to IPE requires time and taking small steps at a time can avoid the wastage of resources. Improvements along the way can be generated from small mistakes before turning the initiative into a large-scale programme. Given the rapidly developing research evidence that is supporting IPE, it is clear that with constant improvements and fine-tuning, IPE initiatives can be further optimised to ensure that the learning outcomes will truly leave a deep impact and continue not only to influence the students throughout their careers, but also to change the ways in which they practise, and lead to the goal of higher quality of care.

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10

Leadership and Evaluation Issues in Interprofessional Education in Sabah, Malaysia

Wendy Shoesmith, Waidah Sawatan, Ahmad Faris Bin Abdullah and Sue Fyfe

This chapter will explore some of the issues in implementing interprofessional education (IPE) in Malaysia, focusing on the state of Sabah. These issues include a traditionally hierarchical society and highly centralised education and health care sectors. IPE has not previously been prioritised because it is not part of the accreditation criteria for nursing or medicine. A form of IPE has been introduced as an extracurricular component, rather than part of the core curriculum. Nursing and medical students have practised together for joint community work, without calling it IPE and with no specific evaluation related to IPE. This chapter explores how a distributed leadership approach, and a seminal event experienced by a faculty leader, contributed to the introduction of IPE in Universiti Malaysia Sabah (UMS).

Interprofessional Working in Malaysia: My Personal Experience

The Experience of the Sabah Health Care System by the Deputy Dean Academic and Student Affairs of the Faculty of Medicine and Health Sciences

In my reflection, as a patient suffering from a prolapsed vertebral disc, I have experienced the inefficiency of interdisciplinary management in Malaysia. The orthopaedic surgeons were not in agreement regarding conservative or invasive treatment. The physiotherapist who received the referral notes from an orthopaedic surgeon refuted the suggested therapies quietly but did not dare to speak out. The nurses' nursing diagnosis and nursing strategy for the condition were not incorporated into the overall management. Differences in opinion were not discussed and a hierarchical working culture prevailed over the needs and well-being of the patient.

I realised that an interdisciplinary working culture was non-existent in the Malaysian health care system, and that an alternative working culture had to be developed. Doctors were still viewed as having all the wisdom and the other professions acted as subordinates to support their wisdom. The hard reality was that Malaysia was producing many young doctors and nurses from various training programmes, either public or private, and these young professionals were not trained to interact with each other. At workplaces they remained entrenched in their comfort zones or professional silos. In order to change the unhealthy working culture in the Malaysian health care industry we need to prevent this attitude from becoming engrained, and if a new working culture is to be created, then the correct education of the future leaders is essential. Young people from various health professions need to be taught to talk, share, discuss and understand each other's ways of thinking and their approaches to patient management. I saw IPE as a necessity rather than a choice.

Distributed Leadership Theory: An Introduction

The authorship team had to do some reflection on the development of IPE over time and what they had used in implementation. The Faculty of Medicine and Health Sciences had gone from a position of knowing nothing about IPE in 2011 to introducing it into our community curriculum between 2011 and 2014, and then having IPE as a major component of our future new curriculum. Clearly there had been some leadership, because there had been a change in direction, but the style and location of that leadership was not completely well-defined. Everyone attributed the reason behind the change to others. The module coordinator who had implemented the change felt the impetus had come from the medical education department. The leader of the medical education department felt that it had come from higher management. Others felt that higher management was not supportive of IPE and did not really understand collaborative practice. When staff were asked about the leadership of the Faculty in general, they gave varied responses. Some staff felt that the leadership style was generally democratic and highly supportive of individual autonomy. Others found the environment controlling and described a top-down management style. It appeared that people were describing different microcosms of leadership and that staff experiences depended on who they interacted with. The interpretation of leadership style was influenced by their cultural background and their interactions with the people around them. The different expectations of leadership led people to interpret communication differently. For example, some people might interpret a comment as a suggestion, others might interpret it as a direction.

Classifying the leadership approach of the Faculty was difficult. At first glance, it appeared that grassroots leadership was the predominant style that had led to IPE. However, most of the people that were thought to be grassroots leaders did not agree with this. Participatory leadership was considered, but again this was not what everyone experienced. Agreement was eventually reached that the predominant leadership style was 'distributed leadership' (Gronn, 2000), an idea which has been gaining prominence in school management literature (Bolden, 2011). Distributed leadership

focuses on leadership being a function of the system as a whole, rather than individuals within the system. The leadership comes from interactions between elements in the system. Within this system both top-down and more democratic forms of leadership can co-exist. IPE had emerged from the interactions between various players. The leadership had not come from any particular individual, but had evolved from the conversations and relationships between individuals. This leadership approach needs to be viewed through the cultural lens of both the health and education systems in Sabah, Malaysia.

Cultural Context: The Health Care System in Sabah, Malaysia

Malaysia is classified by the World Bank as an upper middle-income country and is aiming for developed status by 2020. Malaysia has a relatively well-developed health care system, with good accessibility and total health expenditure of only 3.6% of GDP. Malaysia has made good progress on the WHO Millennium Development Goals with a maternal mortality rate of 26.1 per 100,000 live births and infant mortality rate of 6.7 per 1000, which is comparable to most developed countries (WHO, 2013). Until recently, the focus of the health service has mainly been on acute and infectious diseases, and on meeting the Millennium Development Goals. The majority of the burden of disease is now non-communicable diseases and the focus has started to change to treatment and management of chronic diseases, such as diabetes (Asia Pacific Observatory on Health Systems und Policies, 2012), and the health care system is struggling to cope with this rising tide which includes mental health problems (Yoon, 2010). The systems still have working practices that are more appropriate for the management of acute conditions, with very little continuity of care. As described above, collaborative interprofessional practice has yet to develop.

Universiti Malaysia Sabah (UMS) is situated in the state of Sabah, on the island of Borneo. The states of Sabah and Sarawak, on the island of Borneo, differ both socio-economically and culturally from other parts of Malaysia. Sabah is less developed than the rest of the country with the

highest poverty rate in Malaysia, and has many features that are similar to lower-income countries. In 2009, 31% of all households below the poverty line in Malaysia lived in Sabah (World Bank, 2010). In 2012, 46% of rural households had no piped water supply (Department of Statistics Malaysia, 2012). Sabah still had high rates of infectious diseases, such as TB and malaria (Asia Pacific Observatory on Health Systems und Policies, 2012), and lower numbers of health care staff than the rest of Malaysia (World Bank, 2010).

The medical programme in UMS started in 2004 and the nursing programme in 2008. The Faculty serves an area with a large rural population, high rates of poverty and both infectious and non-communicable diseases. One of the main focuses of the medical school is rural medical education. The two areas where IPE has been introduced are part of the Faculty's rural medical education curriculum: the health promotion programme and the University-Family partnership programme (PuPUK) (both described below).

The Malaysian public sector has a highly hierarchical organisational culture, which is perhaps a reflection of underlying Malay cultural values that demand respect for authority. In Hofstede's original study of cultural dimensions, Malaysia had the highest power distance (out of 53 countries) in the world (Hofstede, 1982). Top-down decision-making with little consultation is still the norm, e.g. (Abdullah, Hassan, Ali, & Karim, 2014). The hierarchical society impacts on both the health care and education sectors, and has provided a barrier to the implementation of IPE and collaborative practice (CP). Both sectors are highly centralised, with target-driven cultures (Asia Pacific Observatory on Health Systems and Policies, 2012; Jimenez, Nguyen, & Patrinos, 2012). Passing accreditations and fulfilling top-down directives from the central ministries are the priority and new innovations find little space. IPE is not one of the eight domains of medical education and is not identified as an important accreditation element for medical education, although awareness of IPE is rising in Malaysia and it may be included in the future.

A survey (Mohamed, Newton, & McKenna, 2014) among Malaysian nurses and other health care team members in government hospitals, showed that 99% of respondents agreed that it is important to feel accepted by other members. In order to be accepted they are willing to

compromise and tolerate colleagues to maintain a peaceful working environment. Many nurses employed the strategy of blindly agreeing with their superiors as a sign of respect for authority. This unquestioned respect of authority is a Malay cultural value accepted in the hierarchy of health care management. Thus implementing IPE has complexities based on cultural values of hierarchy and respect for authority.

The idea of distributed leadership occurring in a hierarchical, high power distance culture at first appears to be paradoxical. Gronn (2000) described how the distribution of leadership can be seen on a continuum. On one end are organisations with leadership concentrated in the hands of a few powerful individuals and on the other end of the spectrum are organisations with distributed leadership. In the case of the Malaysian public sector, the power is generally concentrated, rather than distributed. An explanation for this paradox is that distributed leadership does not have to mean distribution of power. Gronn described five main elements that make up an organisational structure: authority, values, interests, personal attributes (including willingness to participate) and resources. Two of these elements are normally associated with power: authority and resources. In the Malaysian context, authority and power over resources are concentrated in the system, rather than being distributed. Willingness to participate, values and interests are distributed in the system and this appears to have been enough to enable distributed leadership to be used in this case.

Implementation of IPE in UMS

Across the Asia Pacific region awareness of and interest in IPE is still low (Lee, Celletti, Makino, Matsui, & Watanabe, 2012). There were some attempts to start IPE in the early years of the medical school, around 2007–2008. At this time there was only one member with medical education qualifications, and she was also the only member of the school with a nursing background. She attempted to introduce IPE into the medical course, prior to the start of the UMS nursing programme, by working with one of the private nursing colleges. She taught some joint sessions in one of the district hospitals, but felt that there was a lack of

support from both higher management and the private nursing college, and the sessions stopped. The idea was also floated in meetings by a staff member who had experience of interprofessional collaboration abroad, but again the idea failed to resonate. They believe that part of the reason for that was the understaffing of the school at that time. The school was started with only ten members of academic staff and they were overstretched. They were trying to develop a curriculum, teach, do clinical work and develop research interests while coordinating up to five modules each.

Most of the medical staff had not heard of IPE until 2011, when there was a visit to the Curtin School of Public Health in Australia, one of seven schools in their Faculty of Health Sciences with a well-developed IPE programme. Interest slowly built up among some of the UMS staff, who saw IPE as a vehicle for creating the kind of health care environment that they envisaged. Interest in IPE then entered the consciousness of faculty in formal leadership positions, particularly the Deputy Dean Academic. He had personal experience in the Malaysian health care system, which had brought the lack of collaboration to his attention.

IPE has now been introduced to two rural community programmes and some staff development started in 2013 (described below). IPE will become a major part of the new medical curriculum, which is planned to start in 2016. A 'faculty core' programme, which will be offered as a compulsory subject to all health care students, will include modules on communication and interprofessional working, ethics, clinical skills and psychological and spiritual health. Further staff development is planned to allow this to occur, but it will be limited by the internal capacity and resources as well as geographical isolation.

Introduction of IPE to the Rural Community Programmes

IPE has now been introduced in two of the rural medical education programmes: the health promotion programme and the University-Community Partnership programme (PuPUK). Both of these programmes

were originally medical student programmes, to which nursing students were introduced, without explicitly labelling it as IPE.

In the health promotion programme, a group of around 15 students join together for a two-week programme in a village. They carry out a rapid rural appraisal and then conduct a health promotion event in the village at the end of their stay. During 2011 the year 3 nursing students joined the year 1 medical students in the programme. However, students learning to work collaboratively was not one of the learning objectives for most of the staff involved. At this point the awareness of IPE among the Faculty members was relatively low. Neither the staff nor the students were formally introduced to the concept of IPE or CP.

Unfortunately difficulties in achieving accreditation for the nursing programme meant that students did not experience IPE in 2012. However, in 2013 accreditation was achieved and nursing students rejoined the health promotion programme with greater staff awareness of IPE. For the first time the medical and nursing students had a joint introductory session outlining the objectives of the IPE experience.

Students on the PuPUK programme (which is a Malay acronym meaning University-Family partnership programme) are 'adopted' into a rural family in year 1. They visit the family three times per year for the duration of their course and develop a relationship with the family members, learning about their culture, family dynamics, health issues, health-related behaviour and how all of these factors interact. In later years the students and the family identify an area for intervention and the students help the family to change their health-related behaviour in this area. The programme has been well-accepted by both students and community. The introduction of the nursing students to the PuPUK programme occurred in October 2014. This was done explicitly with IPE in mind and included a one-hour class on IPE and CP for the nursing students. The medical students did not have IPE as part of their curriculum, so had never been formally introduced to the concept.

The introduction of IPE into the PuPUK programme had been discussed since 2011. However, the plan was dropped after a nursing curriculum review in 2012. The reviewed nursing curriculum did not include the PuPUK programme or any significant amount of IPE, as this was not seen as core to the course. This curriculum review had focused

entirely on gaining accreditation from the nursing board because the student cohort at that time was enrolled on an unaccredited course. The focus was on compliance with the nursing board's exacting standards, and filling in the paperwork in the approved way. Innovations that were not part of the criteria for accreditation were not entertained. Enthusiasm for IPE in the PuPUK programme was lost and the perceived barriers to implementation were seen as too great to overcome.

So why did this change? The decision to implement IPE was taken after a meeting between the PuPUK coordinator, the nursing coordinator and the Deputy Dean (Wendy Shoesmith, Waidah Sawata and Ahmad Faris Bin Abdullah) to discuss the contents of this chapter, in 2014. In this conversation, solutions were found to perceived barriers to implementing IPE in the PuPUK programme. The PuPUK programme could not be included as a formal part of the nursing curriculum but it could be part of the 'extra-curricular' programme. That communication between the parties in a distributed leadership paradigm led to the change. The development of this leadership might not have occurred if resonance had not been building prior to this meeting, due to the staff development undertaken.

Staff Development

Some IPE activities had been introduced through health promotion in 2011, but without a structure or theoretical basis. To stimulate interest and understanding of IPE, two workshops were held in 2013. These were facilitated by Sue Fyfe from Curtin University. They were aimed at helping UMS staff to understand the concepts behind IPE, to explore opportunities within the curricula of the health sciences programmes and to recognise and practise the skills needed to facilitate IPE teams effectively. Approximately twenty staff attended each workshop and the professional groups represented included medicine, nursing, pharmacy, dietetics and basic science. It was critical to have interprofessional groups within the workshops and to structure the workshops to mirror the types of activities that students might undertake.

In the first workshop the concepts of IPE and CP were introduced. A constructivist perspective was used where possible. Although awareness of IPE and CP was not high, the idea of teamwork and the need for rules of conduct or procedures in working in groups was well recognised. Workshop participants discussed barriers to IPE and interprofessional learning and development and talked about the different value systems held by different professional groups. The staff teams were asked to completed two scenario activities. The first scenario, a child who suffers a serious burn and is taken to hospital, was used as awareness raising about the roles that different professional groups would play in the care and treatment of the child. The second scenario was more complex, involving a middle-aged man who had suffered a stroke, and the group was asked to consider professional roles, to identify the issues for both the client and the family and then to develop an integrated care plan. Groups could choose to develop an acute care or a rehabilitation and longer-term recovery plan.

The groups interacted well and showed considerable enthusiasm for understanding the roles that others played. In this respect the workshop very much mirrored the activities students might undertake and the learning about each other and the ways in which the different professions could contribute. Examples of the types of activities currently undertaken by students in a university faculty with a strong IPE approach were given. At the end of the workshop ideas for IPE were brainstormed and these ideas included implementing IPE in PuPUK.

In the second workshop the focus was on the implementation of IPE, the skills needed to successfully facilitate IPE with student groups and assess interprofessional capabilities. An important aspect of this workshop was looking at the formation of teams in the workplace or in a student placement using Tuckman's model (Tuckman, 1965) and how facilitators could promote the stages of development. Tuckman developed a five-stage model for the process that groups go through as they develop (see Fig. 10.1). The model grew out of his investigation of 50 research studies on group processes. The stages were originally named Forming, Storming, Norming and Performing, and a later stage Adjourning was added. These stages relate both to the group structure and how group members respond to tasks. As a group forms, group
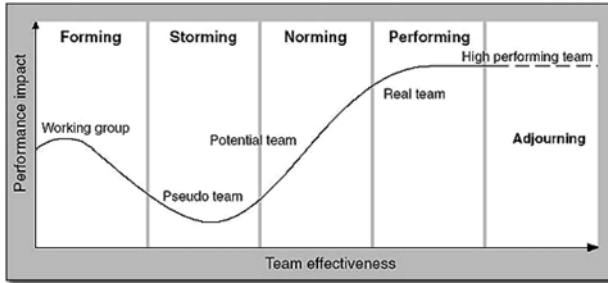
Fig. 10.1 Stages of team development (*Source*: Van Vliet, V. (2013), http://labspace.open.ac.uk/mod/resource/view.php?id=339030)

members are generally focused on their task and the interactions test group relationships. As the group works on, the task group members can resist the influence of other group members and emotional responses arise. Thus intra-group conflict is part of the storming stage as group members work out how to collaborate. Once group members become open to the input of other group members they start to feel part of a group, new roles are determined and adopted, and group-based standards and expectations evolve in a climate where close personal relationships can be built. In a norming group, there is open exchange of ideas and strategies to address the task. Once a group is performing and they have resolved their structural issues, roles are more flexible and functional and they are focused on the task and finding constructive solutions. Tuckman added a last stage to his original four, acknowledging the possible anxiety and sadness that can occur when the task is finished and the group disbands. This time however is also an opportunity for reflection on individual and group functioning. Hope et al. (2005) report an evaluation of the development of teams amongst multicultural and interdisciplinary health professions' students (Hope et al., 2005). They found that the Tuckman model was a useful way to monitor team development and the skills that group members acquired during their work together. In this second workshop, there was discussion around values and then a focus on barriers that might block an individual student's performance in an IPE team. The value, provision and use of feedback were discussed with examples of how a facilitator might provide feedback and the value of self- and peer-assessment of collaboration.

Professional development is a critical factor in the planning and implementation of an IPE-based curriculum. In a health and education system that has been based on hierarchical power relationships and siloed working relationships, and reinforced by cultural values that respect authority and rank, professional development is even more critical.

Evaluation of the Introduction of Interprofessional Working into the Rural Community Programmes

The impact of introducing IPE into rural community programmes had never previously been assessed. Writing this chapter provided the impetus to assess student attitudes and the impact of IPE. We used an exploratory, qualitative approach as an initial assessment of the impact. Since IPE had only been introduced to PuPUK a few months earlier, we wanted an approach that would give us fast, usable results so that the data could be used to improve the programme as part of an action research model. The evaluation was loosely built around a theory of change. Theories of change involve formulating a hierarchy of outcomes, which culminates in a higher-level goal (Harries, Hodgson, & Noble, 2014). In this case, the highest-level goal was collaborative practice. Intermediate-level outcomes included reducing stereotypes of other professions, improved understanding of roles and contact between students from different professional groups (Helme, Jones, & Colyer, 2005). A semi-structured interview guide was produced with these intermediate outcomes in mind. Four focus groups were held with year 1 medical and nursing students who had started the PuPUK programme together and year 2 medical students who had been through the health promotion programme with the year 3 nursing students. The year 3 nursing students who had completed health promotion had already graduated, but were contacted through social media. The focus groups received prior ethical approval from the ethics committee at UMS.

The medical students who took part in these interviews had no idea what interprofessional education meant. They were able to guess what

collaborative practice meant, although they were not familiar with the term. They knew that it was something to do with different people working together. Their initial descriptions were related to different medical specialties working together, but they eventually included other professions, the family and the patient. They thought that it was a good idea and beneficial to patient care in that it helped everyone work more efficiently, with less duplication and less cost and it reduced their workload. Year 1 nursing students (who had previously had a class on IPE) had a better idea of what IPE and CP were, understanding that they were about different professions working together and understanding the objectives of CP.

The medical students were generally positive about working with the nursing students. The medical and nursing students had very little social contact other than through these programmes, which they attributed to living in different hostels, having lectures at different sites and the nursing students spending time in the hospital. The year 1 medical students felt that the nursing students looked up to them as seniors, because they were 1–2 years older than their nursing partners. They also felt that the nursing students saw them as more intelligent and as 'nerds'. The year 2 medical students felt that the nursing students saw them as being 'arrogant' or 'snobbish'. They felt that this stereotype had been reinforced by Faculty members telling them that they should be less 'arrogant' and implying that the communication problems were all the fault of the medical students.

> M2-4: 'Yeah, like whenever we like had a meeting involving the medical and nursing students and all, they were like "medical students don't be so snobbish and mix around with the nursing students". And they won't tell the other way round. It is always like, 'medical students don't be so arrogant.'
> M2-1: '… nursing students are so good, they are so friendly they are so cooperative, why don't you be like them.'

They felt that this stereotype was unfair and that perhaps they had been labelled like this because they had much less time for social activities. They were frequently preoccupied with their next exam, so rarely stopped to talk to people. They felt the nursing students didn't understand this:

M2-3: '… and one thing they really don't understand, that the course for medical students and nursing students is different. That what we go through, that there is a difference. In terms of study, I think that we are more busy, they don't really understand.'

They believed that stereotypes had been reduced as a result of the health promotion programme.

M2-1: 'Actually we are not (arrogant). It's just that … after the health promotion the nurses said "you guys are really different to what we thought".'

Some of the year 1 nursing students said that as a result of the PuPUK programme their perception of the medical students as being arrogant had reduced. They described feeling comfortable mixing with the year 1 medical students who they knew personally, as compared to the other medical students who they still saw as arrogant.

N1-9: 'After PuPUK become friendly but it is only between siblings [*students visiting the same family*], but not with other medic students from different group'
N1-2: 'Some of them arrogant, but after PuPUK we tend to talk more about ourselves with each other so I hope this will continue'
N1-5: 'At first I think they are racist but after PuPUK, I know my assumption is wrong … my foster siblings can cooperate well, they are willing to learn from nursing.'
N1-6: 'At first when there is announcement that there are group that will not have nursing students, the medic is cheering so I think they are arrogant, but after PuPUK they are getting better, there is a slight change in my perception.'
N1-7: 'My first impression is they are arrogant (because they are rich) but when we reached there during PuPUK, they can adapt with the condition.'

For some students the experience had just led to the reinforcement of negative stereotypes. One year 3 nursing student described feeling embarrassed by the social clumsiness of the medical students during the health promotion. Another described how angry he was when he heard the medical students discussing the family and the nursing students:

N1-3: 'My siblings are also look at me like "that" … and they always talked Chinese because they thought I don't know how to speak Chinese … they talked about our foster family, about us …'

Some of the nursing students felt that the medical students were judgmental of the family, which some of them put down to most medical students being from Peninsular Malaysia.

N1-2: 'What I have observed from the medic students Year 1, they are too commanding … complaining … about unclean environment (during PuPUK), judgmental' (almost everyone agreed)

The medical students saw the nursing students as being less serious and 'playful', with very little stress. The year 1 medical students, who had been partnered with year 1 nursing students, saw the nursing students as being less mature. This was partly because the nursing students were younger, because they did not have to do the 1–2 year pre-university course. They also felt that the nursing students' lives had been easier, without the constant academic pressure, so they had been less exposed to 'reality'. Some of the year 1 medical students reported that they were worried that the nursing students would not have the 'proper attitude' before the visit, but this changed during the visit, when they realised that the nursing students had better communication skills than themselves.

The medical students felt that the nursing students were better at social bonding and had formed closer relationships with each other than they had formed with each other.

M1-3: 'The nursing students are like a team, always together. Like a team, compared to our batch … kind of disappointing actually. So we can learn from them actually. The team work.'

They put this down to the lower stress level of the nursing students and because the nursing students were all from Sabah, whereas medical students were from all over Malaysia.

The nursing students were seen as being much better at communicating with the community members. Some of the medical students felt awkward in comparison, describing themselves as 'stiff', 'mechanical' and

'book-like'. The nursing students described how the medical students mechanically administered a questionnaire to community members, with little attempt at rapport building. The main reason given for this was that the nursing students were from the local area, could speak local dialects and could understand the culture. Both medical and nursing students felt that the early clinical exposure of the nursing students meant that they had more opportunity to develop their skills. The lower stress level of the nursing students also meant they had more time for other activities and socialising. The year 1 medical students (who had been introduced to their nursing partners right at the start of their courses) felt the nursing students were more skilled at the start of the course. They felt that their own preoccupation with exams and studying since childhood had meant that they had less opportunity to develop social skills. The year 2 medical students felt that the level of communication skills had been the same at the start of their course, but the difference in skill levels was due to differences in their training.

It was notable that the year 1 medical students (who had participated with the nursing students) were entirely positive about the PuPUK scheme and were clearly enjoying the experience. They did not report any difficulties in their relationships with the families and described how the nursing students were helping them to communicate with and understand the families. This contrasted with the year 2 students (who had not participated with the nursing students), who had very mixed feelings about the scheme. They thought the scheme was a good idea, but described difficulties in getting close to the families, the lack of clarity about relationship boundaries, and problems with understanding what they were supposed to do during the visits. They wanted clear instructions for every visit, indicating that for them the visits were about performing tasks, rather than building relationships.

Our evaluation approach was a pragmatic, exploratory approach, which gave us some useful information about intermediate level goals based on a theory of change. The experience of working together during the health promotion and the PuPUK programme has been largely positive and appears to have led to a reduction of negative stereotypes, particularly in the medical students. However, the experience may have reinforced some of the nursing students' negative stereotypes of the

medical students. The nursing students had acted as positive role models for the medical students, particularly in communication skills and relationship building. The medical students were able to form an idea about the nursing role, but were less clear about the medical role. The nursing students (who had had a formal introduction to IPE) had a better understanding of IPE, CP and the nursing and medical roles. The difference in understanding about CP between nursing and medical students shows that a theoretical introduction to IPE and CP makes a difference. In future years this will also be included for the medical students. Despite this, the implementation of IPE for the medical students had a positive effect and working together was probably more important than the theoretical introduction.

The evaluation showed that the programme had an impact on intermediate outcomes, including a reduction of stereotypes, increasing contact between professional groups and a better understanding of roles. It also showed that there needed to be some improvements to implementation, including staff training prior to implementation, giving the theoretical background of IPE to the medical students and helping staff to reduce rather than reinforce stereotypes. Our evaluation approach gave us some of the information we needed, but more information would be helpful to further develop our programmes. Realist evaluation (Pawson & Tilley, 1997) asks the questions 'What works, for whom, in what context and why?' Realist evaluation normally starts with theories about mechanisms, contexts and potential outcomes. Our evaluation generated theories which can be tested as part of a realist evaluation. For example, 'When students are given an explanation about IPE prior to implementation, they are more likely to develop social relationships with the other professional group'. Evaluation would include changing the sub-optimal aspects of implementation and finding out how it affects outcomes as part of an action research framework.

Conclusion

The context that we have described has many features that are common in lower- and middle-income countries. These features include low levels of resources, little time for reflection, low levels of staff awareness of IPE,

little experience of CP among staff, difficulties in training due to geographical isolation, a centralised system and a high power distance culture (Muczyk & Holt, 2008; Hofstede, 1982). We observed the positive effect of IPE, although both the context and some aspects of implementation were sub-optimal. Lack of expertise and experience was not a barrier to implementation in the end and we believe that any IPE is probably better than no IPE.

We have also shown that distributed leadership can emerge if there is resonance, even in a system that is normally highly hierarchical and centralised. Resonance can be built by anyone in the system, including people who are not in formal positions of power. System expertise can be built through this resonance in a distributed leadership paradigm. The leadership that supported and facilitated IPE at UMS is not a traditional view of leadership. There was no heroic transformation by any individual, either by grassroots leaders or by formal leaders. What actually happened was that ideas, values and visions were bounced around in a system, and sometimes they had resonance, when the ideas, values and visions were shared between a critical mass of people. Events and experiences were part of this, such as the experience of the Sabah health care system of one of the leaders. From that resonance, a distributed leadership emerged. The leadership was a function of the interactions in the system, rather than a few individual heroes. The heroes of this story are those interactions—the conversations, emails, meetings and workshops—and the relationships built around a shared understanding of what could be achieved through IPE.

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11

Establishing and Evaluating Interprofessional Student-Led Wellness Assessment Services Focused on the Elderly

Kreshnik Hoti, Jeff Hughes and Dawn Forman

Introduction

Whilst the notion that health professionals should 'learn to work together' is not new (Carpenter & Dickinson 2014; Leathard, 1994; Szasz, 1969), the popularity of interprofessional education (IPE) has certainly grown noticeably over recent years. There is a trend towards an increased interest in IPE not only amongst tertiary education providers and researchers but also policymakers as well (Reeves et al., 2008). In this regard, the World Health Organization (WHO) (WHO, 2010) has been emphasising the need for policymakers around the world to engage in IPE and hence better prepare their health professionals for future challenges. A variety of reasons can be attributed towards this increased interest in IPE, including increasing complexity of health care, an ageing population and increased prevalence of chronic diseases requiring multidisciplinary approaches (Reeves et al., 2008). In this regard, interprofessional collaboration and communication in practice is crucial. Interprofessional practice should be patient-focused and is expected to provide more efficient and effective patient care, including more active patient involvement in

decision-making processes regarding their health (King, Shaw, Orchard, & Miller, 2010; Orchard, Curran, & Kabene, 2005).

In this chapter we describe how an IPE programme in a Residential Aged Care Facility (RACF) was led, developed and evaluated.

Benefits of Interprofessional Practice

The benefits of IPE have been well established in the literature. Barr, Koppel, Reeves, Hammick, and Freeth (2005) highlighted that IPE can lead to effective collaborative practice which for health professionals and those involved leads to stress reduction through positive interaction, mutual trust, improved communication and reduced profession-specific burden (Barr et al., 2005). On the other hand, through reduction of duplication and procedures, better referrals, job satisfaction and collaborative decision-making, patient safety is improved (Barr et al., 2005). This leads to better care outcomes as well as increased satisfaction for patients (Barr et al., 2005). A modified version of these benefits is presented in Fig. 11.1.

Furthermore, a number of IPE-based studies reported positive outcomes in relation to learners' attitudes towards other professions, knowledge of collaboration between professions and their collaborative behaviour (Cooper, Carlisle, Gibbs, & Watkins, 2001; Hammick, Freeth, Koppel, Reeves, & Barr, 2007; King et al., 2010; Orchard et al., 2005; Reeves, 2001; Reeves et al., 2008; WHO, 2010). Collaborative programmes focusing on chronic disease state management (DSM), preventative care and wellness have suggested positive outcomes in relation to job satisfaction, productivity and health expenditures (Bright et al., 2012; Bunting & Cranor, 2006; Bunting, Smith, & Sutherland, 2008). Various universities are offering pharmacist-led DSM and medication therapy management (MTM) based programmes in which patients have indicated they have received an improved quality of care as well as improved clinical outcomes (Bright et al., 2012). Our programme took this development further in having a supervised interprofessional student team working with individuals in an aged care community.
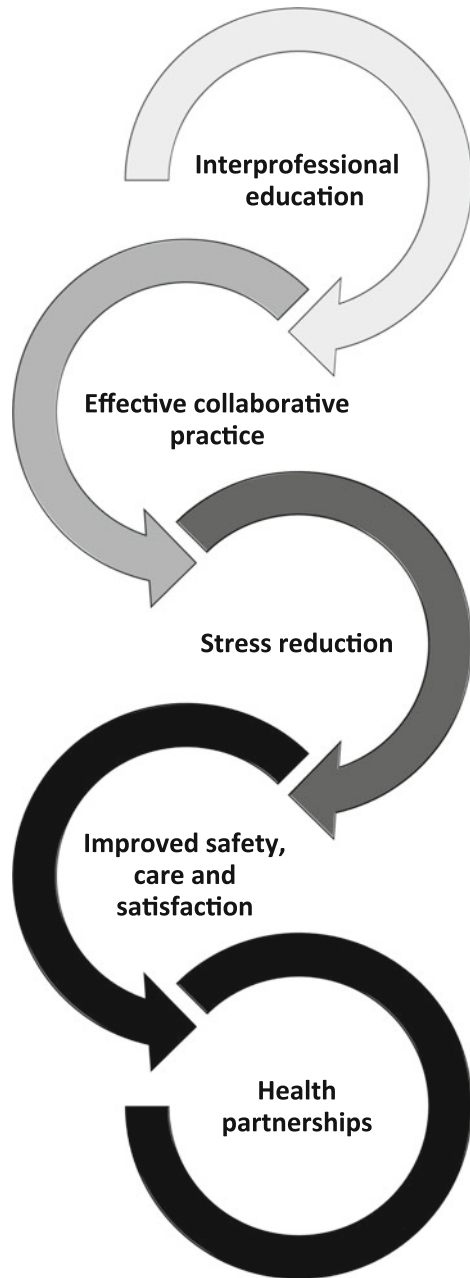
Fig. 11.1 Relationship between key factors benefiting from IPE (Modified from Barr et al., 2005)

Collaborative Leadership and Evaluation Model

In line with the Lancet Commission Report (Frenk et al., 2010) a sustainable health systems transformation model has been reviewed, developed and modified by health care practitioners internationally (Brander et al., 2015).

This collaborative model provided a basis for our involving key stakeholders working collaboratively with the programme leader to lead and evaluate this programme. The stakeholders chosen were in line with those identified by Illingworth and Chelvanayagam (2007) as being beneficial to the partnership:

(a) Service users and carers
     The value of service users should be acknowledged through their involvement in planning, delivery and evaluation of various IPE-related programmes. Of particular value is the expertise that users and carers have in relation to how existing services work in practice for them.
(b) Service providers
     For service providers, Freeth, Meyer, Reeves, and Spilsbury (1998) have argued that IPE results in a reduction of communication breakdown and an increase in morale and efficiency, as well as prevention of 'unhelpful protectionism'. Furthermore, whilst not discounting the value of providers from individual professional disciplines, especially once past the initial stage of following their own discipline for some years, service providers benefit from IPE through enhancement of health professionals' professional and personal confidence and better understanding of other professions.
(c) Higher education institutions
     IPE can foster cooperation and promote creativity in research and teaching. Practical experience through interprofessional work is another benefit that higher education institutions can obtain from IPE (Illingworth & Chelvanayagam, 2007; McCroskey & Robertson, 1999). Through integration of IPE, institutions promote the

development of skills required by their graduates to effectively operate in multidisciplinary teams. Staff also benefit from IPE through being exposed to new ideas and working with different people. There is also increased cultural sensitivity, flexibility in working with students, sense of cooperation between departments and exploration of community services (Illingworth & Chelvanayagam, 2007; McCroskey & Robertson, 1999).

(d) Students

A focus on IPE equips students with skills to better manage real-life situations and work-based problems involving other health professionals (Illingworth & Chelvanayagam, 2007). Student experiences with IPE enable a holistic approach to patient care and help develop an appreciation for the diversities of other professions, as well as helping them to identify areas where professional roles overlap. In other words, students start to develop an understanding about the roles of other professionals, including their skills directed at improved patient care (Barr et al., 2005). In this regard, through IPE students can also develop an understanding of the limitations associated with their professional role whilst strengthening their professional identity (Illingworth & Chelvanayagam, 2007; McCroskey & Robertson, 1999; O'Neill & Wyness, 2005). A more recent study has also suggested long-term retention of lessons learned during IPE (Sytsma et al., 2015).

These stakeholders all participated in the leadership and evaluation of the programme.

Interprofessional Education in Aged Care Settings

As the ageing population is increasing, aged care is certainly an area characterised by continuous growth (Australian Institute of Health and Welfare. Australian Government, 2012). As a practice environment, aged care engages a variety of health professionals with specific therapeutic opportunities for interprofessional education and practice. However,

there is currently a lack of literature exploring IPE programmes in aged care settings, including student experiences with IPE.

How Was the IPE Programme Established in the Aged Care Setting?

In line with the model shown in Fig. 11.2 and as suggested by Brander et al. (2015) and Illingworth and Chelvanayagam (2007), use should be made of stakeholders' and 'users' expertise' 'because of their comprehensive knowledge of how existing services really work' (Illingworth & Chelvanayagam, 2007, p. 122). Therefore, the various stakeholders were consulted initially during a period of three months to assess the feasibility of establishing an IPE Disease State and Medication Management Review (DSMMR) programme at one RACF in the Perth (Western Australia) metropolitan area. The DSMMR programme aimed to integrate pharmacy students into interprofessional teams by introducing medication management review as part of their input into interprofessional teamwork.

Fig. 11.2 Sustainable health systems transformational model (With permission from Brander et al., 2015)

Stakeholders were RACF representatives including health professionals (general practitioner, physiotherapist, nurse, occupational therapist) and representatives from the schools of pharmacy, nursing and physiotherapy at Curtin University in Perth. After these consultations, a pilot IPE DSMMR programme framework was reviewed, modified and agreed by stakeholders. The focus of this IPE programme was on student-led medication management reviews and their effects on residents' cognition, falls and continence from the perspectives of pharmacy, physiotherapy and nursing. In line with the ethical approval, the programme leader gained consent for students to collect information and review the residents. To facilitate students' experience, an IPE DSMMR data collection form was designed as a guide to students regarding their assigned case throughout the session. This data collection form was also approved by Curtin University's ethics committee.

Participants in the Aged Care Setting IPE Programme

The students came from the disciplines of nursing, pharmacy and physiotherapy. Pharmacy students were in their fourth year, nursing students in their first year and physiotherapy students were in their third year of the undergraduate course. These years were chosen to be most suitable for inclusion in the programme considering various timetabling issues across health science disciplines. Because of difficulty in timetabling, pharmacy and physiotherapy students attended the IPE DSMMR clinic for one day per week. With the aim of compensating for their discrepancy in academic experience, nursing students attended the programme for three days over a period of three weeks during September 2011 and November 2011. A total of eight students divided into two groups of four attended the IPE DSMMR programme on any one day. The IPE team consisted of a mixture of students from different disciplines available on that day (i.e. Tuesdays: four nursing and four pharmacy students; Wednesdays: four pharmacy and four physiotherapy students; Fridays: four nursing, two pharmacy and two physiotherapy students). Students were supervised by a pharmacist who was accredited to conduct medication management reviews, an occupational therapist, a registered nurse and

a physiotherapist. The aim was for students from different disciplines to collaborate and understand the roles of other health care professionals involved in the management of residents in RACFs.

The Structure of the Aged Care Setting IPE Programme

The IPE DSMMR programme was first piloted for a period of six weeks. As a result of piloting, minor changes were made to the final structure of the programme, as well as the IPE DSMMR form used for data collection form. The final structure consisted of:

(a)   Student orientation
(b)   IPE team information gathering from residents' medical records
(c)   Supervised clinical patient assessment
(d)   IPE team consultation with various professions (pharmacist, occupational therapist, registered nurse and physiotherapist).

At the completion of these activities each group of students designed an interprofessional team care plan and presented that plan to their peers. This final IPE care plan integrated and prioritised the various issues identified by the individual professions into an interprofessional plan. If an issue affecting a resident's health was identified, the IPE team supervisor raised it and followed it up with the resident's doctor.

Interprofessional Education in General Practice Settings

The successful implementation of the IPE programme in the aged care setting stimulated the idea of the need for students to have an IPE experience at the primary care level, i.e. general practice. Currently available interprofessional models in Australia, at the primary care level, aim to improve general practitioner (GP) and patient access to allied health professionals (AHP). There is a growing trend towards increased interprofessional practice (IPP) referrals within existing Australian models, which suggests

improved collaborative relationships between GPs and AHPs (Orchard et al., 2005). However, interprofessional models integrating pharmacists within GP-AHP teams are not yet available.

In 2010, the Australian Government committed AU\$650 million to building 60 GP Super Clinics in order to bring together GPs and AHPs (Australian Government Department of Health, 2013). The Government stated that ideally these clinics should have access to pharmacy services. Currently there is a need to explore specific models which incorporate pharmacy services in GP surgeries, especially from an interprofessional point of view.

The overall aim of this programme was therefore to provide a new way of working which would facilitate the GP and the health care team in gaining more information about the patient's needs.

How was the IPE Programme Established in the General Practice Setting

The IPE programme in the general practice setting was set up in 2012. This programme was established in a GP surgery which was housed within a retirement village. This setting had residents living independently and within the RACF. However, patients eligible to participate in this programme were only those living independently within the retirement village and utilising the GP surgery services.

Given the significant differences between aged care and general practice settings, additional consultations with the stakeholders involved were undertaken to enable establishment of the IPE programme. These stakeholders included general practitioners working in the GP practice, GP surgery management staff, nursing staff, co-located community and representatives from schools of pharmacy, nursing, speech pathology, occupational therapy and physiotherapy. Following these consultations, and given the experience from the previous aged care IPE programme, it was agreed that the activities in the IPE clinic be based around reviewing patients' disease states and their medication management. When reviewing the patients' disease states students focused on their 'wellness' status—cognition, falls/balance, continence and pain management. Pain

management was an additional focus in the general practice setting compared to the aged care setting. The IPE programme in the GP setting ran throughout the second semester of the 2012 academic year (August through November, 2012) at Curtin University.

Participants in the General Practice Setting IPE Programme

This programme involved students from various allied health professions including nursing, physiotherapy, speech pathology, occupational therapy and pharmacy. Students were supervised by an accredited pharmacist who was also the interprofessional facilitator. The pharmacist was responsible for gaining the consent of the patients referred by doctors working in the GP surgery. The selection and referral process was facilitated by a registered nurse (RN) also working in the GP surgery. Patient selection was based on the selection criteria set out by the Australian Government for patients having a home medication review conducted by an accredited pharmacist (Australian Government Department of Human Services, 2013). The home medication review programme available in Australia aims to maximise patients' benefit from their medication regimen through a collaborative process in which the accredited pharmacist comprehensively reviews a patient's medications and reports back to their GP. Following this, a medication management plan for the patient is designed (Australian Government Department of Human Services, 2013). Depending on the discipline and students' needs, students also had additional non-pharmacist discipline-specific supervision from other IPE facilitators.

Structure of the General Practice Setting IPE Programme

The final structure of this IPE programme (see Fig. 11.3) consisted of, firstly, student IPE orientation then, secondly, division of the students into two groups (an assessment team and medication review team)
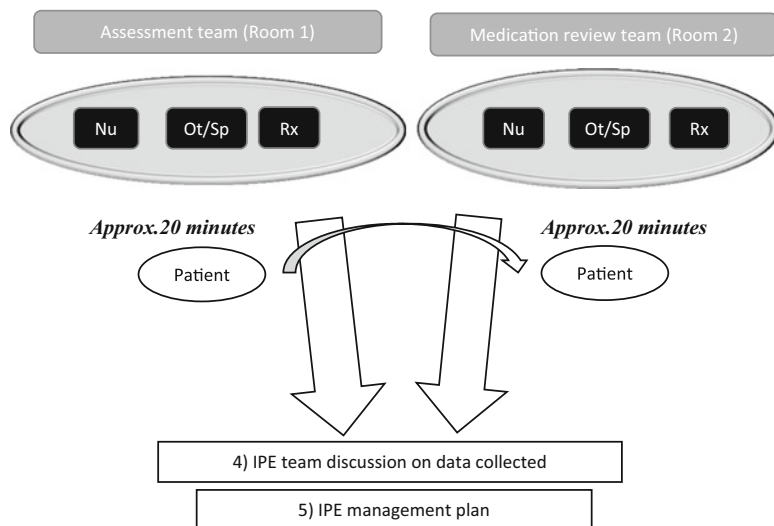
Fig. 11.3 The structure of activities in the IPE programme. Rx = accredited pharmacist, Nu-nursing student; Ot = occupational therapy student; Sp=speech pathology student; Rx = pharmacy student; The assessment and medication review interview could be conducted at patients' home, according to patients' preference. In this case, only one group of IPE students would visit the patient.

consisting of a mix of health disciplines. The groups were then assigned a patient, having previously reviewed their health records provided by the GP and the accredited pharmacist.

Students used a standardised IPE DSMMR form to collect patients' information and design a management plan. This data collection form allowed for students to record profession-specific findings as well as interprofessional team findings. After seeing the patient, students worked in their interprofessional groups to develop a management plan which was then presented and discussed with other groups and with the clinical supervisor(s). The management plan was interprofessional. For example, if pain was identified to be an issue for the patient, in the management plan this was addressed from the perspective of all disciplines involved (e.g. physiotherapy recommendation and pain medication dose increase). A final interprofessional management plan consisting of findings and

recommendations from the disciplines involved, as well as a medication management review report prepared by the accredited pharmacist, was then sent to the patient's GP. Figure 11.3 outlines key activities undertaken when the patient came in.

Evaluation of the Aged Care and General Practice Settings IPE Programmes

Evaluating the IPE programmes, established initially in the aged care and then general practice setting, was considered by the stakeholder groups as an important step towards reviewing the feasibility, sustainability and improvement of similar future programmes. These programmes were evaluated through assessment of student attitudes (in the case of aged care setting) and then attitudes of other stakeholders involved (in the case of general practice setting). Details of these evaluations by the various stakeholders are presented below.

Evaluation by the Stakeholders of the IPE Programme in Aged Care Setting

This programme had no assessment component for the students. However, students' attitudes towards the IPE programme were measured using the pre- and post-placement Interprofessional Socialisation and Valuing Scale (ISVS) designed by King et al. (2010). Pre- and post-placement ISVS questionnaires consisted of a series of statements measuring students' attitudes on a six-point Likert scale. The questionnaire also had a number of closed and open-ended questions.

Student responses were analysed using SPSS® v. 19. Initially frequency distributions were used to summarise the data collected from both the ISVS pre- and post-placement questionnaires and IPE DSMMR data collection form. Three sub-factors—ability to collaborate, value in collaboration and comfort in collaboration—initially derived by King et al. (2010) using the principal component analysis were analysed for pre-placement and post-placement ISVS questionnaires. More information on how these authors derived the

three sub-factors has been published elsewhere (King et al., 2010). These three sub-factors and variables stemming from participants' demographics as well as IPE DSMMR data collection forms were further analysed using One-Way ANOVA and Chi-square tests. Students' answers to open-ended questions in the ISVS post-placement questionnaire were thematically analysed. A shorter version of the methodology used to collect and analyse the data has previously been published (Hoti, Forman, & Hughes, 2014.

Evaluation of the IPE Programme in General Practice Setting

Semi-structured interviews were used to evaluate the attitudes of stakeholders involved in the development and implementation of the IPE programme at the general practice. One-on-one interviews were conducted with patients, the pharmacist and the doctor. This method was chosen because it allows exploratory data collection which suited the aim of the study (Fielding & Thomas, 2008; Irvine, 2011; Opdenakker, 2006); additionally, it is a relatively inexpensive technique. Social cues of the interviewee provided to the interviewer by this technique are also an advantage (Opdenakker, 2006).

The interview question design was aided by a literature review, experience from the IPE programme in the aged care setting and a reference group consisting of members of the following professions: pharmacy, medicine, physiotherapy and nursing. The interview guide was tailored specifically for patients as well as the health professionals involved. In addition to an 'ice-breaker' question, the interview guide initially sought interviewees' general perceptions of interprofessional education and practice as well as their perceived barriers and facilitators to the implementation of both. This was then followed by specific questions aimed at evaluating the actual programme implemented at the practice, including the most beneficial and challenging aspects of the IPE programme. Prior to interviews taking place, participants received an information letter explaining the research study as well as a consent form to participate. All participants signed a consent form prior to being interviewed.

Audio-recordings were transcribed verbatim into Microsoft® Word and imported into NVivo© Vs9 software where they were thematically analysed. To minimise bias and strengthen the validity, data transcribing as well as the initial thematic analysis were undertaken by someone independent of the project. This was then followed by a validity check by all the authors of this study. This project received ethics approval from Curtin University Human Ethics Committee.

Experiences from the Two IPE Programmes

Aged Care Setting

A shorter version of results with student experiences of the IPE programme in the aged care setting has already been published (Hoti et al., 2014). A total of 36 pharmacy, 30 physiotherapy and 6 nursing students participated in the IPE programme. Over a period of six weeks, students reviewed a total of 26 consenting residents. The characteristics of the residents reviewed are presented in Table 11.1.

The majority of students (88.6%) indicated that their experience with the IPE programme was *very good/good*. Only 11% indicated their experience was average and no respondent rated the IPE programme as *poor* or *very poor*.

Table 11.1 Characteristics of residents reviewed by IPE student teams

Variable	Category	Number (%) or ±SD
Gender	Male	16 (61.5)
	Female	10 (38.5)
Mean age		87.5±7.3
Wellness check	Urinary incontinence	24 (92.3)
	Risk of falls	24 (92.3)
	History of falls	19 (73.1)
	Cognitive impairment	24 (92.3)
Mean number of active medical conditions		6.1±2.5
Mean number of regular medications		8.38±4.2
Mean number of 'when required' medications		2.54±1.5

Results from examining the three sub-factors (ability to collaborate, value in collaboration and comfort in collaboration) stemming from the ISVS pre- and post-placement questionnaires, indicated a statistically significant improvement in students' scores in the post-placement ISVS questionnaire (i.e. $p < 0.0001$ in all three sub-factor comparisons). This was further supported by large effect size results for all three sub-factors. Figure 11.4 summarises students' changes of attitude in the three sub-factors as indicated in pre- and post-placement ISVS mean factor score values.

Pre-placement Attitudes

Ability to Collaborate

A significant difference was found in students' attitudes towards IPE in pre-placement ISVS mean factor score values of 'ability to collaborate' sub-factor ($p = 0.038$). In this regard, the difference was located between pharmacy and nursing students with pharmacy students scoring significantly lower than nursing students (43.45 vs. 50.15; $p = 0.012$). No difference was identified in pre-placement ISVS mean
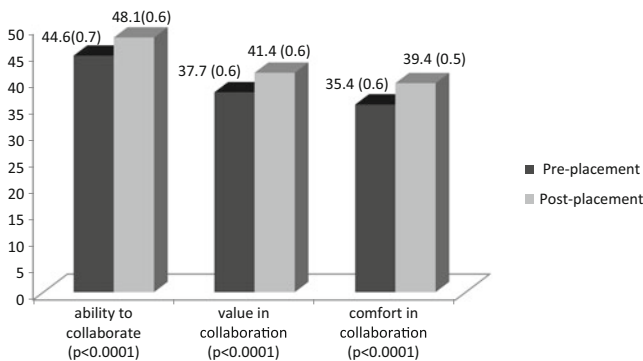
Fig. 11.4 Mean and standard error values for students' attitudes towards ability to collaborate, value in collaboration and comfort in collaboration pre- and post-placement

factor score values between pharmacy and physiotherapy students (43.45 vs 45.03; p = 0.271).

Value in Collaboration

A significant difference was found in relation to students' attitudes towards IPE in pre-placement ISVS mean factor values of 'value in collaboration' sub-factor (p = 0.020). In this regard nursing students scored significantly higher than both pharmacy and physiotherapy students (nursing: 43.59; pharmacy: 36.84 (p = 0.0005); physiotherapy: 37.68 (p = 0.015)).

Comfort in Collaboration

A significant difference was found in relation to students' attitudes towards IPE in pre-placement ISVS mean factor values of 'comfort in collaboration' sub-factor (p = 0.028). Nursing students scored significantly higher than both pharmacy and physiotherapy students (nursing: 40.44; pharmacy: 34.32 (p = 0.009); physiotherapy: 35.78 (p = 0.047)).

Post-placement Attitudes

No significant difference between professions was seen in any three sub-factors in post-placement ISVS total mean values, i.e. ability to collaborate: p = 0.681; value in collaboration: p = 0.551 and comfort in collaboration: p = 0.648.

Students' Comments

The above results were further confirmed by students' answers to open-ended questions. Students' comments indicated that a better understanding of other professions was achieved as a result of the programme. In terms of potential benefits to future practice, students' feedback indicated that improved awareness of other health professionals, teamwork and communication with other health professionals were some of the main aspects they would apply. Whilst there were students who indicated that this placement had no effect on future

Table 11.2 Comments illustrating students' better understanding of other health professions, benefits to future professional practice and future career paths

Better understanding of other health professions	Benefits to future professional practice	Implications for future career plans
"It made me realise how much improvement we can achieve for the wellbeing of a patient if we all understood each other's roles and to collaborate with each other at all times"	"A better understanding of the role of other health care professionals and greater ability to work as a part of a team"	"I would consider interprofessional work settings as beneficial in the future"
"I now have a better understanding of the roles of a pharmacist and the importance of working as a team with other health care professionals to meet the client's needs in the best way possible"	"Knowing that other health professionals are available for discussions regarding their speciality and how they can be involved with patient care"	"I am more open-minded about aged care & other professions"
"The placement gave me a better understanding of how physiotherapist and pharmacist can work together to help treat patients' problems"	"Communicating with other staff members and working together with other professions to help the patient"	"I feel more comfortable working with other professions, so I may now choose to work in close contact with other professions"
"It (this placement) has given me a better appreciation of what nurses do"	"How to communicate efficiently with other members on the health team and come up with a cohesive treatment plan"	
"My view on pharmacists has definitely changed. I thought they tried to use drugs to fix everything—now I realize a good pharmacist tries to cease medications just as much"		

Table 11.3 Comments illustrating students' perceived beneficial and challenging aspects of the aged care IPE programme

Beneficial aspects	Challenging aspects
"Visiting and talking to the residents"	"Finding evidence in the notes—it was quite time consuming"
"Working with students, qualified pharmacists, physiotherapists, nurses and carers to gain perspective on what is required to provide adequate care"	"Collecting data and information as we are not very used to reading the medical records"
"The interaction and collaborative approach to patient therapy"	"Finding the most appropriate pharmaceutical treatments was the most challenging"
"Being able to physically interact with the other health professional and talk to a real patient. It seemed more relevant where a real case was used"	"I found it challenging that our patient suffered from dementia, so cognitive issues were a big issue when developing a treatment plan"

professional plans, many of them indicated that it had made them keener to work with other health professionals in an interprofessional team. Students also indicated an improved attitude in terms of the aged care setting as a future career path. The above is illustrated by comments given in Table 11.2.

Students indicated that their experience with other health professions, teamwork and the chance to see the residents were some of the most beneficial aspects of the programme. Some of the main challenges reported by students were patient information gathering, finding the right medication options for residents and behavioural characteristics in patients with dementia. Comments in Table 11.3 illustrate students' highest perceived beneficial and challenging aspects during the programme.

General Practice Setting

A total of 38 patients were assessed by 126 students under clinical supervision. To evaluate the implementation of this IPE programme, eight patients, one GP (out of three GPs working at the general practice surgery) and the accredited pharmacist (the clinical supervisor) were interviewed. Thematic analysis of participants' comments resulted in a number of key themes and presented here are the perceived benefits and challenges of the interprofessional programme, as well as future considerations for its extension.

Table 11.4 Comments illustrating sub-themes for benefits of the IPE programme

Stakeholder	Comment
Patients	"In this day and age, getting young people to talk to older people is difficult … we don't have, really, a lot in common … [so students benefit by] communicating with older people."P3
	"I think they need all the help they can get. And it's the same as if you're in hospital and the doctor brings around a half a dozen students. Well, it's no use being resentful, they've got to learn. Or you won't have a doctor in the next generation"P1
Pharmacist	"It's certainly left them all (the students) at least, better educated which I feel, and the GPs, I know, feel, is one of the main benefits anyway"
	"You might be focusing on medications, but you can't ever just focus on medications. So I think it's an ideal situation for having various inputs from various professions."
Doctor	"… there were some situations where patients were not taking tablets and I thought they were, there were some situations where, people were taking tablets when I thought they weren't, or were taking tablets incorrectly, or had stopped taking tablets. Or, on one occasion, were taking two examples of the same tablet, but with different trade names … And even if it's only one or two out of all of the ones that are done, then it may help to keep somebody out of hospital. But they're also reminders for me, about side-effects of some of the tablets, or combinations of the tablets, that I hadn't necessarily realised or spotted."
	"I think patients, certainly this generation of patients, also like to see younger professionals being taught, and are quite happy to be part of that process."

Benefits and Challenges of the Interprofessional Programme

Overall, most participants were satisfied with the programme and believed it to be worthwhile despite difficulties encountered. The main benefits perceived by patients included being instrumental to students' learning, and communicating and interacting with students. The pharmacist considered that the IPE programme allowed for a holistic approach to patients' health in addition to medication reviews and provided added advice regarding medication and lifestyle. The doctor benefited from the chance to have additional professional and student perspectives on patients' management. The doctor also considered patients being

instrumental to students' learning as a benefit of this IPE programme. Comments in Table 11.4 illustrate the benefits of the IPE programme as perceived by the various stakeholders.

Organisational issues were some of the main difficulties encountered during the implementation of the IPE programme. These issues appeared to have been related to students' attendance in the clinic. For example, students being absent limited the interprofessional interaction in the group and, at times, the limited mix of professions again limited the potential for interprofessional interaction. This is illustrated by a comment from the pharmacist:

> It would be better if there was more consistency in the student flow … there'll be lots of times where I'll have … for example … two pharmacy students and four OTs. It would be nice if we were able to get more of a mix.

Patients attending the clinic highlighted language barriers, limited student input and unclarified expectations as the main difficulties experienced with the IPE programme. These difficulties are illustrated by the following patient comments:

> A couple [of the students] would have had a bit of trouble with the language; I think they were overseas students, probably. (P1)
>
> I was a little bit disappointed in the amount of questions … [some of the students were] very quiet … their input was minimal … If you want to know anything, you ask. (P3)

The doctor highlighted information which may not always be practical to apply to the patient:

> I take the advice given to me very seriously, but it's not always practical in the light of other issues that the individual may have, that that particular [professional] may not be aware of, or may not be aware of the importance of.

Patients recalling details about their experience was identified as being a difficulty in evaluating the utility or success of the programme. This resulted from a delay in interviewing participants after the experience.

This may also have been due to their poor recall of what happened or not having had the aims and the structure of the programme clearly explained to them.

Future Considerations for Extension of the IPE Programme

The pharmacist highlighted the importance of the logistics in relation to this clinic because patients were close to their GP clinic. The pharmacist emphasised the relevance of relationships between doctors, patients and other health professionals for successful implementation and expansion of this IPE programme to other communities. The doctor also emphasised the importance of good relationships in implementing similar programmes:

> I think if you've got good practitioners who have a good personal relationship, so that there's both professionally sound activities going on for the benefit of the patients and you've got a good working relationship with the individuals concerned, that always helps, if you can pick up the phone and talk to somebody by name.

In addition to relationships, the pharmacist emphasised the necessity of doctors benefiting from the programme:

> Being able to have a good relationship with the GPs that are doing the referring, because they have to feel that there's benefit to them, benefit to their patients.

The pharmacist highlighted the need for raising awareness prior to implementing the IPE programme:

> …if you're extending [the programme] you would need to do the work first, in raising awareness in the practice, and the community, about what's involved, so that [patients] can then feel that confidence, to be giving private information to students.

The doctor highlighted the need to find appropriate patients, professional reimbursement and an initial student preparation about issues affecting the elderly as considerations for future expansion of the IPE clinic.

Conclusion

This chapter has described the development, implementation and evaluation of IPE programmes in aged care and general practice settings. These programmes demonstrate that successful IPE programmes can be designed for students of various health science disciplines in both aged care and general practice settings. The programmes presented in this chapter outline the relevance of integration of various health professional skills, including medication management reviews, in two key practice settings for health professionals. Evaluation of two sites only limits the representativeness of the experiences reported. However, given successful implementation, the IPE programmes reported in this chapter provide useful insights for institutions and policymakers planning IPE programmes in the future.

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12

Distinctive Leadership Styles in a Collaborative Strategy for Mental Health Care Delivery in Pakistan

Muhammad Tahir Khalily

Introduction

Presently, the delivery of health services across the world, and in Pakistan in particular, is a multifaceted phenomenon that makes demands at every level (Khalily, 2011a). Those demands include delivering quality health services to the public within the constraints of available resources, including governmental budgets, whilst utilising the existing infrastructure and optimising the use of interprofessional teamwork (Hall, 2005; Khalily, 2011b). The health care system in Pakistan is reviewed from the perspective of contemporary demands at each level of complexity for the delivery of a quality health service to the public within the available resources. Strategising in this way would further the integration of services through capable leadership, personal and professional development, collaborative and interprofessional engagements in order to provide the best possible care for the public (Davidson, 2010; Shahzad & Zareen, 2012). A preferred leadership model is explored (Hay/McBer, 1996, 2000a) its use is planned in a pilot strategy. The strategy could be operationalised through action

research to introduce, implement and sustain the integration of interprofessional learning theory and practice, and to generate dialogue between researchers, policymakers and health professionals as a pilot project by the Department of Health, the National Health Services Academy Islamabad Pakistan and provincial health services academies. The pilot phase would be followed by recurrent diagnostic, planning and action cycles (Khalily, 2008) and would be evaluated through a 360-degree Hay/McBer health care leadership survey (Hay/McBer, 1996) for effectiveness in terms of performance and service delivery (Shahzad & Zareen, 2012). A training programme grounded in interprofessional principles was organised in collaboration with a non-governmental organisation (NGO) (Serindip Islamabad) on 'psychological first aid' for psychologists, medical doctors, teachers, media personnel, social workers and mental health professionals in order to provide professional help following a traumatic event. In this regard, 25 professionals were trained and seconded to both governmental and non-governmental organisations in Peshawar to work with the survivors and families after the massacre at the Army Public School in December 2014.

Pakistan is one of the most underdeveloped countries and ninth most populous country in the world, and has been experiencing general health problems, particularly mental health issues, since its inception (Gadit, 2007e). It is far behind developed countries in the number of trained mental health professionals, available psychiatric beds, provision of supportive health care, resourcing, infrastructure and, above all, coordination between the different disciplines and effective leadership to run the services efficiently in order to meet the current demands and challenges (Khalily, 2011b).

The Mental Health Situation in Pakistan

Pakistan is not keeping pace with the mounting prevalence of psychiatric disorders as a consequence of organised violence (Khalily, Fooley, Hussain & Bano, 2011), disruption in the social structure (Gadit, 2007a) and natural calamities (Gadit, 2007c, 2007e). Mental illness, evidenced in suicide rates and deliberate self-harm (Khan, 1998) has reached an alarming level (Mumford, Minhas, Akhtar, Akhter & Mubbashar, 2000).

Common mental health problems have been identified in both rural and urban populations (Mumford et al., 2000) and are associated with socio-economic adversity, relationship problems and lack of social support (Mirza & Jenkins, 2004). Depressive and anxiety disorders appear high on the list (Husain, Chaudhry, Afridi, Tomenson & Creed, 2007), followed by bipolar disorder, schizophrenia, psychosomatic disorders, obsessive compulsive disorder and post-traumatic stress disorder (Khalily, 2011a). Alongside these is the high prevalence of depression in Afghan refugees residing in Pakistan (Husain et al., 2007) and a serious drug problem, with a growing number of injectable drug users in the urban population creating a public health predicament (Khalily, 2010, 2011a). Mental health issues in children and the adolescent population may be as common as in adults, but their incidence is under-reported because of the associated social stigma (Farooq & Minhas, 2001).

The Health Care System's Response to Mental Health Problems

The health care system's response is not compatible with the scale of the problem. Psychiatric provision has been gradually moved from insti-tutionalised to community care (Gadit, 2007e), from mental asylums to teaching hospitals (but mostly to the district headquarter hospitals) and then to catering for psychiatric services at the doorstep (Afridi, 2008). However, the mental health services are still under-resourced in terms of qualified health professionals (Farooq & Minhas, 2001) and patient care at the level of other models of community psychiatry in developed countries (Gadit, 2007e). Financial resources are meagre and mostly limited to the cities, even though the majority of the population is rural (Mubbashar & Saeed, 2002). Facilities are underutilised due to the social stigma attached to the psychiatric label (Mubbashar & Saeed, 2002), and a popular misconception in the community that mental ill-nesses are caused by the possession of 'Jin' or evil eyes or 'Jadho' magic. People consult traditional healers whose caseloads are often dominated by mental disorders (Afridi, 2008). There are few mental health profes-sionals such as psychiatrists, psychologists and social workers to provide

treatment (Gadit, 2007e; Shah et al., 2014). Even so, the majority of people having mental illnesses reportedly have no access to the existing psychiatric services due to a lack of awareness of what help is available and because it is mostly available in urban areas only (Demyttenaere et al., 2004). The number of psychiatric beds is small compared to the population, with no waiting lists in place. However, psychiatric services are available privately (outpatient consultation) and are faster despite having fewer mental health professionals available than the public sector (Patel & Gadit, 2007). Progress in mental health care is not compatible with that in other medical disciplines and is undermined at the policy level (Afridi, 2008). There is little collaboration between practitioners in other medical disciplines and those in the mental health sector, with very few liaison psychiatrists in practice (Farooq & Minhas, 2001). The behavioural sciences are not being taken seriously in the medical schools, with no structured rotation programmes for senior medical students having a low interest in psychiatry (Gadit, 2007d). Postgraduate training and education in psychiatry is available in certain teaching hospitals, but with no recognised sub-specialties such as child, forensic, geriatric and rehabilitation psychiatry and little exposure to the rural population (Afridi, 2008; Gadit, 2007b). There are some clinical psychology training centres/departments providing clinical services (Shah et al., 2014) and offering one- or two-year courses, but the majority emphasise teaching rather than clinical supervision with no formalised clinical placement schedule in multidisciplinary settings (Khalily, 2011b).

Non-Governmental Organisations in Pakistan

Non-governmental organisations (NGOs) promoting mental health in Pakistan have evolved during the past few decades, but, again, the pace is not compatible with the rapid changes resulting from the violent situation in Pakistani society. The Pakistan Association for Mental Health in Karachi was established by a group of psychiatrists, psychologists and other professionals for the promotion of mental health and the development of infrastructure for the care of mentally ill patients, including the updating of existing mental health treatment facilities and moving from

institutionalised to community-based psychiatric treatment services. Sadly, the Association failed to keep the integration of different professionals as one entity to promote mental health collaboratively. Different mental health organisations emerged, such as the Lahore Mental Health Association (LMHA) in 1973, Pakistan Psychological Association (PPA) in 1968 and Pakistan Psychiatric Society (PPS) in 1973. The activities of LMHA are restricted to one major city and those of PPA and PPS to academic and professional meetings. Some individual psychiatrists are playing significant roles in moving from institutional to community-based services (Mubbashar & Saeed, 2002). However, the principles of community psychiatry with geographically defined catchment areas, treatment at the doorstep, multidisciplinary teams, continuity of care and consumer participation have never been adopted as a comprehensive treatment strategy (Farooq & Minhas, 2001), even though they are vital ingredients of community-based psychiatry and clinical psychology (Khalily, 2011b; Shah et al., 2014).

NGO-based psychiatric services are available mostly in the urban areas and work mainly for the promotion of mental health with sporadic public awareness programmes such as gender discrimination and social and cultural activities, and lack an inclusive policy for the promotion of mental health (Khalily, 2011a).

Integration of Mental Health in Primary Care

The mental health situation in Pakistan is thus a serious problem. Mental illnesses, despite being the most common disabling condition in developing countries such as Pakistan, have been overlooked by the primary health care providers, encouraging the irrational use of psychotropic drugs in common practice (Farooq & Minhas, 2001). With so few trained mental health professionals relative to demand, 'quacks' practise widely throughout the population (Afridi, 2008). It is, therefore, imperative to review the existing mental health treatment policy and to propose a model (Fig. 12.1) for an integrated national mental health policy (Khalily, 2011b). Such an initiative is required to bring changes in the current infrastructure in terms of treatment approach and ease
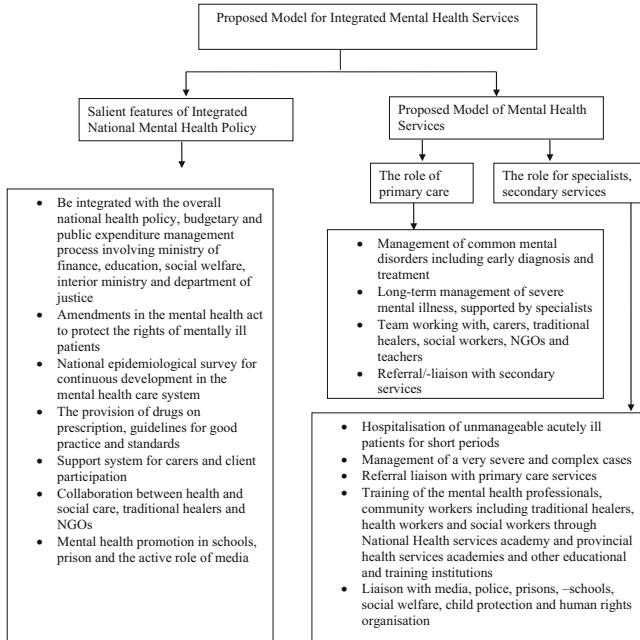
Fig. 12.1 Proposed model for integrated mental health services

of access to psychiatric facilities (Chisholm et al., 2000), public/private partnership and professional training, and above all to extend mental health treatment to primary care (Khalily, 2011b) through distinctive leadership styles.

It is vital to utilise existing facilities in order to minimise capital expenditures and to make the psychiatric services cost-effective. A primary care (Basic Health Unit (BHU)/Rural Health Centre (RHC)) and secondary care system (District Head Quarter Hospitals (DHQ) and Teaching Hospitals) are already in place.

Adequate training in psychiatry for general medical practitioners in the primary care units could bring significant improvement in mental health care in terms of early diagnosis, eliminating referrals of people with schizophrenia to harmful practice and reducing referrals to specialist psychiatric services (Gadit, 2007b). At the DHQ/Teaching Hospitals the availability of clinical psychology services is of paramount

importance to reduce the inappropriate use of psychotropic drugs and to resolve psychological issues through talk therapy. The universities need to introduce postgraduate courses embedded in interprofessional learning principles to train mental health professionals to facilitate the extension of specialist services to the district headquarter hospitals linked to BHUs/RHCs. Each specialist psychiatric unit at district level or in teaching hospitals would have to adhere to the true principles of community psychiatry, including multidisciplinary teams comprising a consultant psychiatrist, clinical psychologist, medical social worker, occupational therapists and community psychiatrist nurses (male and female). That would reduce the social stigma (Gadit, 2007e) and provide cost-effective psychiatric service at the doorstep for a significant population utilising the existing infrastructure. Collaboration between the psychiatry departments in government hospitals, departments of psychology in the universities and NGOs could lead to the organisation of adequate training in mental health for medical professionals and psychologists to improve community-based psychiatry in the government sector and to provide psychiatric services at the doorstep. Postgraduate training in clinical psychology and psychiatry with special seats for women would encourage them to enter the mental health professions, keeping in view social and cultural values and human rights violation (Mubbashar & Saeed, 2002). The universities and professional organisations need to review the current syllabi of clinical psychology and psychiatry to make them compatible with the ongoing demands of the mental health sectors to embed their training in IPE principles.

All the proposals above could be introduced through change (Coghlan & Auliffe, 2003), but would only be possible through distinctive leadership styles and robust organisational culture.

Traditionally, a leader has been perceived as the chief officer of an organisation, regardless of the tasks or functions he or she may perform. Leadership was mostly seen in terms of authority (Davidson, 2010) and not based upon the personality of the leader, his/her background or above all his/her emotional and social intelligence (Goleman, 2004). However, it is not easy to lead people, especially in implementing changes in policy which involve their interests, in particular those of special interest groups. A leader needs to adopt certain leadership styles to overcome, or work

with, such resistance, and to sustain the change process while keeping the services running. Some leaders prefer one style and find it hard to make progress (Davidson, 2010; Millward & Bryan, 2005). Nevertheless, many studies have shown that the more styles a leader exhibits, the better he or she utilises his or her strengths and responds to a situation depending on the needs of the team (Goleman, 2000). The most effective leaders switch flexibly among the leadership styles as needed. They do not mechanically match their style to fit a checklist of situations; they are far more fluid. These are the pressing needs of today's organisations in general, and particularly in Pakistan, and they demand adaptive and flexible leadership, which requires leaders to master at least four styles—authoritative, democratic, affiliative and coaching—for the best climate and organisational performance (Goleman, Boyatzis & Mckee, 2004).

Leadership Styles

Effective leadership needs to demonstrate which defined leadership behaviour yields positive outcomes. Mostly the opinions of the experts regarding effective leadership are based on inference, experience and instinct. However, a model introduced by Hay/McBer (1999, 2000a), based on a random sample of 3871 executives selected from a database of more than 20,000 executives globally (Leggat, 2007), explored six distinctive leadership styles. Each of these styles originated from a different component of the emotional intelligence required to manage oneself and one's relationships effectively through self-awareness, social awareness and social skills (Goleman, 2000, 2004). Hay/McBer's research (Hay/McBer, 2000b) further indicated that the leaders with the best outcomes do not rely on only one leadership style, rather they use most of them interchangeably in a given week and to a different extent depending on the circumstance (Leggat, 2007). In fact each style, by name and brief account alone, is likely to resonate with anyone who leads, is led or both. For instance, coercive leaders demand immediate compliance while authoritative leaders mobilise people towards a vision. Affiliative leaders create emotional bonds and harmony, democratic leaders build consensus through participation, pace-setting leaders expect excellence and self-direction while coaching to

develop people for the future. As described below, each of the six leadership styles have a measurable effect on each aspect of the working climate which would have to be tried through action research.

Some leaders demand immediate compliance to control everything. This style is known as coercive, destroying workers' new ideas in an organisation as they lose their sense of ownership and feel little accountability for their performance. It may nevertheless be used sparingly, particularly in crisis situations with short-lived effect, but it is less beneficial in the long run, having an overall negative impact on the working environment (Taffinder, 1997).

The authoritative leader mobilises people towards a vision and motivates them to achieve the desired goals. He or she sets principles that revolve around the vision and allow people to devise their own ways of responding within their parameters. Although the style is considered to be powerful, it cannot be applied in every situation (Malone, 2004).

Unlike either of the above, the affiliative style seeks to build an emotional bond and unity of purpose. The main slogan for this style is 'people come first'. The style values individuals and their feelings more than tasks and performance. It emphasises good communication, teamwork, sharing of ideas and inspiration. It represents an 'all-weather' approach which is more effective than the others in rebuilding ties, improving communication and repairing broken trust (Vesterinen, Suhonen, Isola, Paasivaara & Laukkala, 2013). However, in some cultures the frequent use of the affiliative style may result in delays in progress which affect leaders' work capability and increase overdependence on them (Tyczkowski et al., 2015).

To generate fresh ideas the leader uses the democratic style, which allows workers to have a say in setting goals and standards for evaluating success. This style involves workers in decision-making and is found to be effective when the leader is indecisive in certain matters and needs suggestions and guidance from able workers. However, the democratic style may involve workers in endless meetings without a concrete agenda. Disagreement, procrastination and indecision may escalate frustration and lack of progress (Vesterinen et al., 2013).

Some leaders present themselves as role models. They set tremendously high standards and expect all workers to do things better and faster by following their example according to guidelines. There is no room for the workers to improve, but such leaders consider a quick assessment of poor

performance to be essential. A worker may be replaced for inefficiency and poor results. This style is known as pace-setting, and leads to the work becoming boring and monotonous as flexibility, spontaneity and responsibility fade away. It creates an atmosphere of distrust and deprives workers of choice so they become dependent and feel helpless when the leader leaves the organisation. Nevertheless, this approach works well when all workers are self-motivated, highly competent and need little direction or coordination (Miroshnik, 2002).

The style in which a leader acts like a counsellor rather than a boss is called coaching. Here the leader helps his or her employees to recognise their unique strengths and to pinpoint their weaknesses, and relate both to their personal and career ambitions. This style is rarely used because of its slow pace, and because it is exhausting in this modern and technological world, but it is a powerful tool for a leader intent on producing a positive impact on the working climate (Shirazi et al., 2014). Whatever, the situation, the effectiveness of any leadership style depends upon having a favourable climate or organisational culture.

A leader is never entirely free in an organisation to behave as he or she would wish. Every organisation has some requirements, for instance hours of work, reports and returns, and above all organisational norms, such as modes of reward and punishment, manner of address to subordinates and formal structures and procedures. Leadership must conform to the norms of the organisational culture embedded in self-knowledge of the motivations underlying leadership styles and skills to exhibit distinctive leadership style (Lok & Crawford, 2004).

Organisational culture as a climate for learning and building a team-working environment that emphasises communications among the workers is vital to all of the above leadership styles (Al-Sawai, 2013; Coghlan & Auliffe, 2003).

Organisational culture is a complex reality and usually it is unnoticed because it is too close to those involved. It can come to consciousness when it is challenged through innovation, comparison with other organisations or new members' induction. Organisational culture provides the conditions for a leader to run the organisation effectively, to introduce innovations, or to maintain the existing culture. It is believed that innovation and transforming the organisation culture are better achieved through leadership (Shirazi et al., 2014).

Organisational Culture

Organisational culture exhibits deep-set beliefs about the way work should be structured, the way power should be exercised, and the abilities of workers. It portrays the degree of formalisation, future planning and action, rules of business for workers, working hours, uniform, job description and designations, officials' roles and financial rules and overall policy. It also presents the role of the individual in an organisation, the effect of committees, rules and procedures. These all form part of the culture of an organisation. Some of those parts are visible, such as buildings, offices, branches and types of people employed, their levels of education and professional training, status and degree of mobility. Others are invisible, such as norms, customs and the cohesiveness of the group, team spirit and emotional bonds (Coghlan & Auliffe, 2003). However, collaboration and networking across organisational and professional boundaries demand new skill sets in leadership, with complex impacts on influence, power and interest. They require brokering and personal networking abilities and adaptability in an often-changing environment (Acar, 2012).

Knowledge and information are pivotal in every organisation, but sometimes detach the leader from the core values. At the same time, the social system spreads knowledge and ideas to the workers to conform to the organisational culture. This paradox generates a more complex organisational culture, which needs an eclectic/distinctive leadership style to deal with it effectively. Bringing together organisations and projects in a joined whole is a leadership art. It needs a combination of logistics and project planning, together with an capacity for handling personal relationships and coping with cultural differences and sensitivities. In these situations, handling changes skilfully and effectively needs a great deal of time and flexibility in leadership style.

The biggest deficit in mental health care in underdeveloped countries, including Pakistan, is the lack of distinctive/flexible leadership styles, which could play a significant role in the shaping and re-shaping of the system to be more efficient, user-friendly and evidence-based (Gadit, 2007e). Currently, the role and function of leadership is typically perceived as being a unique intellectual task. The leader is thought to

be the generator, maker and implementer of policies with the ability to bring everyone on board in the desired change process (Tyczkowski et al., 2015). Change is inevitable not incidental (Coghlan & Auliffe, 2003). It comprises many cycles. It is hardly ever easy, but always worth the effort (Khalily, 2008). Realising this, transformation in terms of both tasks and personnel is grounded in self-knowledge of motivation and leadership styles (Burke, 2013). The training in distinctive leadership styles for mental health care managers could be provided by the national Health Services Academy Islamabad and provincial health services academies in partnership with the public health sector through action research. Equipped with enhanced leadership skills, the managers would be able to 'unfreeze' the system and introduce change through continuous professional development, and thereby create a transformed system offering a sense of psychological safety (Khalily, 2008). This is a discipline that mental health care professionals need to develop.

The suggested tool for the evaluation of these changes in mental health care settings is a 360-degree questionnaire developed by Hay/McBer in which leaders select two peers, two subordinates, their boss, and themselves to rate their leadership style (Heracleous & Langham, 1996).

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13

Using a Community of Practice to Increase Leadership Capacity in Non-Traditional Settings for Interprofessional Student Learning

Monica Moran and Carole Steketee

Introduction

Virtually all educational programmes for health professionals involve work-based or practice-based learning experiences, often referred to as clinical or professional practice placements. In Australia, professional accreditation bodies mandate either that a minimum number of practice based hours must be completed prior to graduation or that students must attain a range of clinical/professional competencies that can only be achieved by prolonged exposure to practice-based learning environments.

An increasing challenge for educators is the scarcity of professional practice opportunities. At the same time non-traditional (non-government) organisations are expanding their roles in the provision of health and social services across all sectors in Australia. These non-governmental organisations (NGOs) do not have a strong tradition of collaborating with tertiary education providers to provide practice education. Providing student placements creates opportunities for NGOs to develop their organisational leadership capacities through the enhancement of staff skill sets as supervisors and leaders. Frameworks and conduits for the development of

leadership potential have not been widely explored in the literature to date. This chapter presents a case study using a community of practice and distributed leadership model to enhance leadership skills within five NGOs with an ultimate aim of increasing their participation in interprofessional student education.

The Current Landscape for Professional Practice for Health Professional Students

Professional practice opportunities introduce students to a range of practice environments and provide them with opportunities to develop clinical competencies that they can use when they qualify (Callaghan, Cooper, & Gray, 2007). Placements can be conducted using different models, with a traditional location-based placement being the most common (Callaghan et al., 2007). Location-based placement is where students are allocated to certain well-established practice areas (e.g. acute hospital ward, community health clinic, general practitioner, rehabilitation unit and so on) for specified lengths of time under the direct observation of a mentor/supervisor/assessor. Studies from Canada indicate that clinical placements are used in educating students from across the health professions, including nursing, midwifery, occupational therapy, physiotherapy and medicine (Smith, Spadoni, & Proper, 2013). These placements routinely occurred in hospital inpatient (97% of 113 education programmes), hospital outpatient (85%), community (93%), and long-term care (93%) settings. Placements may be uniprofessional or interprofessional.

Callaghan et al. (2007) listed the advantages of this model as providing a base for clinical learning, 'good' sources of learning, opportunities to practise skills that have been learnt in class, an introduction to the realities of patient care, and opportunities for students to demonstrate their capabilities under supervision. Some of the challenges to the implementation of this model include the limited availability of traditional placements, staff shortages, limited empirical evidence of the effectiveness of location-based placements for enhancing the competencies of students, and the possibility that students may not have opportunities to work with consumers over extended periods of time.

In Australia, as the number of new training programmes grows alongside increases in student numbers in existing programmes, the availability of traditional location-based placements and the quality of student experiences available from traditional providers becomes ever more challenging (Carrigan, 2012). Various initiatives to improve this situation are under way in universities and health care settings across Australia, but evaluations of these programmes have yet to appear in the literature. This chapter reports on one project which aims to increase leadership capacity within a group of NGOs that are considered non-traditional placement providers, as a means of increasing the number of both uniprofessional and interprofessional student placements available in one regional city in Australia.

What Is an NGO Health Provider?

NGOs are also known as not-for-profit (or 'third-sector') organisations in order to distinguish them from public and private organisations. The focus of the NGO is primarily social and, in most cases, earnings are reinvested back into the core mission of the business (Anheier & Salamon, 1998). Hudson explains,

> The ethos that all these organisations share is that they are driven by a cause. They are established and managed by people who believe that changes are needed and who want to do something about it themselves. These organisations share two common characteristics. Unlike private-sector organisations, they do not distribute profits to their owners; and, unlike public sector organisations, they are not subject to direct political control. These organisations have the independence to determine their own futures. (2009, p. xvi)

NGOs have a long history of providing health care services to the community in Australia and play a significant role in supporting marginalised members of the community experiencing a wide range of bio-psychosocial issues (McLean, 2014). They make significant contributions to health and social care in the areas of mental health, drug and alcohol rehabilitation, chronic illness, health promotion, aged care, disability

services, sexual health and women's health. While they do not normally provide training opportunities for pre-registration students, a mixture of complex health problems coupled with a skilled workforce highlights the potential of NGOs as rich training options. Unlike the traditional teaching hospitals, however, NGOs typically do not have the infrastructure, resources and support to provide appropriate supervision for health professional students. As noted by Health Workforce Australia (HWA) (2011, p. 28) organisations such as NGOs:

> can lack the organisational flexibility to change current arrangements for clinical training placements.

HWA (2011) also suggest that the culture of an organisation can play a large role in its reluctance to provide clinical training places. If the organisation has not taken students in the past, then it is less likely to see itself as having the capacity to offering training placements. Importantly, in smaller organisations some staff do not see clinical training as their responsibility and do not see any benefit that will offset the workload increases that would come by taking students.

In 2013, Central Queensland University Australia completed a HWA-funded project in association with the Queensland Regional Training Networks to build community capacity for mental health clinical placements. Part of this project included an environmental scan and consultations with current and prospective mental health placement providers across five regions in Queensland including Central Queensland Health District area. A survey of potential providers identified more than 100 organisations in this area that would consider offering clinical training or fieldwork to nursing and allied health students; however less than 10% were formally involved in providing clinical fieldwork. Further consultations with them identified a range of challenges that prevented them from actively collaborating with universities and other education providers to offer fieldwork. Critical barriers included a lack of understanding of what is required to host a student placement, concern regarding the capacity of staff to supervise students and anxiety about the expectations of universities and other education providers. In response to these findings, a community of practice (CoP) was established using a case-study

design. A CoP can offer an opportunity for individuals within NGOs and the education providers (e.g. universities) to come together to support and learn from one another in order to overcome the challenges to providing student placements. The primary goals of the project were to:

- Extend the dialogue with selected non-traditional organisations which had not to date provided student fieldwork in order to establish their support needs to begin planning for student fieldwork placements;
- Develop a community of practice involving non-traditional organisations and the university to increase the confidence of staff moving into the role of new clinical educators;
- Assist organisations to begin developing the infrastructure required to prepare for role-emerging and non-traditional student fieldwork placements;
- Embed the Health LEADS framework for building leadership capacity in NGOs into community organisations in order to enhance leadership capabilities in future student supervisors.

What Is a Community of Practice?

A community of practice (CoP) is a group of people who come together to share knowledge, resources and experiences in the interest of solving a common problem and progressing a particular discipline or field of practice. Wenger-Trayner and Wenger-Trayner define a CoP as 'groups of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly' (2015, p. 1).

Key to CoP is regular interaction and communication in an effort to advance practice in the area of interest. This differentiates CoP from a regular community which is a social group that might share common interests but does not necessarily interact specifically to progress a common cause. Wenger-Trayner and Wenger-Trayner believe that CoP have three interrelated characteristics—domain, community and practice.

The domain provides the context for bringing the individuals together. It is the shared interest in the context (area, field and so on.) that brings the individuals together. It provides the milieu within which information, experiences and practices can be shared.

The community follows when these individuals interact, communicate, collaborate and work together specifically to advance knowledge and practices in the area (domain) of common interest. In interacting with one another, individuals 'build relationships that enable them to learn from each other; they care about their standing with each other' (Wenger-Trayner & Wenger-Trayner, 2015, p. 2). Even though these individuals may practise alone, their capacity to do so has largely been developed collaboratively via the CoP.

A CoP, therefore, is one that has been developed collaboratively. Dialogue and collaboration allow for practices to be discussed, trialled and improved. Resources that support this practice can be developed and shared. Shared practice allows individuals to connect via purposeful actions that deliver tangible outcomes. One of the resources that was integral to the CoP was Health LEADS Australia: the Australian Health Leadership Framework (HWA, 2013) for building leadership capacity in NGOs.

Health LEADS Australia: the Australian Health Leadership Framework (HWA, 2013) is a national health leadership framework that outlines the generic capabilities inherent in effective leadership. It aims to build leadership capacity across all levels of governance, and all areas of specialty and is predicated on the assumption that leadership is a collective responsibility, not just for those in formal leadership positions. The goal of this framework is to support the development of a health care system that is people-centred, equitable and sustainable (HWA, 2013). The Health LEADS framework is based on a distributed leadership model whereby teams and networks of individuals work collaboratively and share the responsibility for achieving outcomes. The component domains that contribute to the Health LEADS Australia Framework are illustrated in Fig. 13.1.

Distributed leadership occurs when people at all levels collaborate to meet mutual goals. In doing so, they may lead in areas of their expertise. Bennett, Wise, Woods, & Harvey write, 'Where people work together in such a way that they pool their initiative and expertise, the outcome is a product or energy which is greater than the sum of their individual actions' (2003, p. 7).

Health LEADS Australia: the Australian health
leadership framework
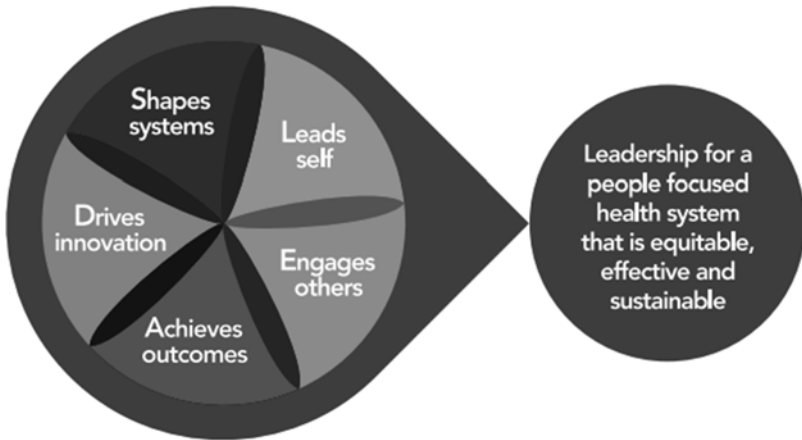
Fig. 13.1 Health LEADS Australia: the Australian health leadership framework

Health LEADS is a useful resource in an NGO setting because it pro-vides a framework for building leadership capacity within and across organisations. Moran, Steketee, & Marles (2015) have described the value of Health LEADS as a catalyst for facilitating effective interprofes-sional practice (IPP) elsewhere. IPP and distributed leadership are both based on the principles of valuing and respecting colleagues and recog-nise that effective collaboration is paramount in providing high quality, patient-centred care. Both are focused on creating opportunities for individuals within a multidisciplinary team to co-lead; to mutually influence one another and collectively share duties and responsibilities that would otherwise be allocated to a single, central leader. Because NGOs are often small, they typically require health professionals from multiple disciplines to work together. Building leadership capacity across all disciplines and levels of governance ensures students will have expo-sure to IPP and collaborative patient care, and that they will have access to multiple supervisors, which is important if there are staffing shortages, role-sharing or extended scope of practice.

The Case Study

One of the strengths of a case study design is that it allows for testing of theories in the real world. In this case both CoP theory and the Health LEADS Australia framework were tested in a particular realistic situation. In addition, theory regarding non-traditional supervision models was introduced to the NGOs and tested in authentic settings. This study allowed the project team to investigate in more detail the information that was uncovered in the earlier survey of a much larger number of stakeholders. Situating the project within a small group of organisations in a regional city allowed the project team to establish and facilitate the CoP with face-to-face meetings as well as an online communications resource allowing the development of non-threatening associations. This in turn created an environment that supported the development of new ideas and behaviours within the CoP as well as within the organisations.

The CoP comprised members from five NGOs providing health and social services to the local community, and academic representatives from the local university as the sixth member of the CoP. None of the NGOs were offering student placements; however the organisational representatives were champions for the development of fieldwork placements in their organisations and had organisational support. After the inaugural CoP meeting a terms of reference document was jointly developed and agreed upon by the members. The members, who came from a variety of health professional and social care disciplines, met monthly over a six-month period with meetings rotating between each of the organisations' premises. This enabled a greater understanding of the work of each of the organisations and also facilitated the development of collegial relationships, a greater level of engagement in the CoP and a willingness to share more information, experiences and questions around fieldwork placements.

At one of the meetings a group of students attended and shared their experiences of fieldwork, orientation needs, supervision and the challenge of attending placements away from home. This gave the CoP members an insight into the students' perspective. The students reported that this experience of meeting the CoP and communicating their experience was a valuable opportunity for them to demonstrate their leadership capacity.

Early in the formation of the CoP a 30-item needs assessment was developed and circulated electronically to the members to determine the barriers to offering fieldwork placements, the perceived training needs within organisations and their preferences for how those needs could be met.

A range of quantitative (scaled) and qualitative (open-ended) questions were used. The results of the survey showed that the organisations were interested in offering fieldwork placements for health students but were unsure about what the students should learn or what the university expected. They also showed that the majority of the organisations would be interested in recognising and developing potential leaders among their staff. All CoP members were interested in additional training in supervision skills, coaching and mentoring, and leadership. Video and online materials as well as face-to-face workshops in the workplace were considered the most useful training resources, with university-based workshops less useful and printed materials the least useful. The findings from this survey were discussed at CoP meetings and used to inform the development of interactive workbooks and online educational resources.

Information and communication technologies are creating a milieu in which members of a CoP can develop, increase their knowledge and collaborate with university faculties and any other interested parties. In his book *Communities of Practice Learning and Identity*, Etienne Wenger (1998) wrote about the use of a CoP for professional development and as a medium for teaching. This innovative approach to teaching in the digital world proved to be effective in our case study as the members of the CoP gained confidence in their abilities and in their realisation of the skills and knowledge that they can offer students. The CoP served to support and mentor the members from each organisation and facilitate the sharing of ideas and concerns.

The CoP members welcomed the opportunity to collaborate on developing a set of educational and practical resources to help organisations cultivate the necessary infrastructure, supervision and leadership skills to be ready to offer fieldwork placement opportunities for health students. The CoP members collaboratively developed a set of interactive workbooks to make the much-needed information about student fieldwork placements easily available to the supervisor and to provide students with

insights into organisations, their services and different employment milieus. They also aimed to address the barriers identified in the needs analysis at the start of the project.

In all, four interactive workbooks were collaboratively developed, one for each of the stakeholder groups: organisations, supervisors, students and faculty. In addition, all of the NGOs provided content and commentary on the development of an Open Online Course (OOC).

An OOC is an economical way to present learning courses or information to different audiences. The four dedicated portals give access to relevant information and learning resources specific to each of the stakeholder groups. The OOC contains practical information and useful checklists such as an orientation checklist template for both students and supervisors and a readiness checklist template for organisations. It also contains a series of videos made by the participating organisations that outline the services they offer and the opportunities for student participation. A video of a supervisor talking about the opportunities offered to students at a non-traditional organisation is embedded in the student portal of the OOC. A student also agreed to participate in a video interview, speaking about her experience of a non-traditional interprofessional placement in her final year. This video is embedded into the supervisor as well as the student portal. The CoP members highlighted topics where educational materials would be of benefit to potential supervisors. One topic was giving feedback and this was included in the supervisor portal. The OOC is being updated on a continuous basis to ensure quality growth and development and to guarantee that resources remain current and relevant.

The Health LEADS framework and its guiding principles were introduced to all of the CoP members and the principles of leadership development were incorporated into the activities of the CoP. The fundamental message introduced from this framework is that leadership is everybody's responsibility (distributed leadership) and that everybody can exert leadership capacity in their area of influence. It describes a series of five areas of focus for leadership development as illustrated in Table 13.1.

During the activities of the CoP, members were able to exercise their leadership capacity in a range of ways that contributed to the growth of the community and to the development of resources to increase student

Table 13.1 Selected examples of activities that promoted leadership within the CoP

Health LEADS area of focus	Capability	Activity
Leads Self	Seeks out and takes responsibility for learning and growth	CoP members shared resources that they had developed to support interprofessional student placement within their own organisations with others in the community.
Engages Others	Inspires and enables others	CoP members made videos at their workplaces that informed students about benefits and opportunities of placements at their organisations
Achieves Outcomes	Goal orientated and evaluates progress	CoP members evaluated the development of the resource packages, provided feedback in timely fashion and worked towards development of student ready services
Drives Innovation	Contributes to spreading innovative practice	CoP members exchanged information about innovative practices and how they can be implemented in the workplace to increase student participation
Shapes Systems	Builds alliances	A particular feature of the CoP was the level of relationship building between representatives from the organisations. This resulted in significant levels of trust and support developing for enhanced connectivity.

placements within their organisations. Selected examples of activities carried out in the CoP that promoted leadership capabilities across the five areas of focus in Health LEADS are described in Table 13.1.

Evaluation

As the handbooks and the OOC were being developed the CoP members reviewed materials and gave feedback iteratively throughout the development process. A summative evaluation questionnaire measuring the impact of the project and materials was circulated electronically. All CoP members responded with a 100% response rate to every question.

The key findings were:

- All members reported that their knowledge regarding student placements had increased since the beginning of the project;
- All members reported that belonging to the CoP enhanced their confidence in accepting students for placement and that they had gained personal benefit as a member;
- All wanted to continue as a member of the CoP and would advise other organisations to join because of the benefits;
- All reviewed the workbooks and the OOC, and found these materials very valuable;
- All thought that the project should be replicated elsewhere across the state.

The project achieved its objectives through:

- Extending the dialogue with non-traditional organisations with an interest in offering interprofessional fieldwork placements to health students;
- Establishing a functional CoP and increasing the confidence of potential new supervisors;
- Generating resources to assist organisations to develop the infrastructure required to prepare for role-emerging and non-traditional field placements—workbooks and the OOC;
- Embedding the Health LEADS framework to enhance leadership capabilities within organisations and encourage potential supervisors.

The community of practice approach taken in this project to support and mentor non-traditional organisations that wanted to offer student fieldwork placement opportunities has been very effective. The members of the CoP support and engage with each other to address issues and concerns regarding student fieldwork placements. The use of an OOC is an economical way of engaging with stakeholders, non-traditional fieldwork providers, supervisors, students and faculty members.

The project shows potential to be replicated in other regions where there are many under-used traditional and non-traditional fieldwork placement opportunities.

Summary

The success of the project has been reflected in the unanimous response of the CoP members who want to continue to belong to the CoP in the future. All members said they would advise other organisations to join the CoP because of the benefits they had received. To date five of the organisations are now offering professional placements or preparing to offer professional placements. The nature of this preparation is primarily working with the university to upskill potential supervisors within their staff—ultimately increasing their leadership skills. This project provides a template for demonstrating how NGOs can play a valuable role in training health professional students. Given the paucity of clinical and professional training places around Australia, which is set to increase in coming years, there is a growing need to identify innovative and sustainable solutions. A community of practice, coupled with a rigorous leadership model can provide the support NGOs require to become valued training organisations.

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14

Interprofessional Health Care Team Challenge: A New Zealand Perspective

Brenda Flood, Daniel O'Brien and Marion Jones

Introduction

Preparing current and future health professions for collaborative practice requires innovation, vision, a commitment to interprofessional learning and an effective evaluative framework. There are many examples of interprofessional learning (IPL) and the pivotal role it plays in the development of interprofessional collaborative practice. One such IPL activity, originating in Canada, which has gained international popularity in a variety of forms over the last 20 to 30 years, is the health care team challenge. It requires teams of current and future health professionals to work together to design a care plan for a client with complex needs. The aim is for participants to enhance role understanding, to gain an appreciation of how interprofessional practice contributes to patient care, and to develop attitudes and skills for effective teamwork. This chapter draws on international experiences of the team challenge and specifically discusses the development, implementation, and evaluation framework used from a New Zealand perspective.

The Team Challenge

The team challenge provides opportunities for students to reflect on and work together to solve real-life problems presented in the case scenario (D'Avray & McCrorie, 2011; Newton et al., 2015). This type of case-based learning allows students to engage in dialogue and construct their own knowledge which enables them to make connections and gain a more informed understanding of collaboration (D'Avray & McCrorie, 2011). It provides a fun and authentic IPL experience, which promotes teamwork and collaboration amongst current and future health care professionals. Learning which is customised and reflects real service delivery is an important part of ensuring the experience is a positive one for the students involved (D'Avray & McCrorie, 2011; Hammick, Freeth, Koppel, Reeves, & Barr, 2005). The goal of the team challenge is to improve collaborative practice (CP) by developing and strengthening the competencies required for effective CP. It provides a safe opportunity for students to develop their knowledge, skills, attitudes and behaviours specifically in relation to working in interprofessional health care teams. It enables them to have an increased understanding of the roles and contribution of other health professions, which along with an ability to work together, provides good preparation for future employment (D'Avray & McCrorie, 2011; Freeth, Hammick, Reeves, Koppel, & Barr, 2005).

There have been many iterations of the health care team challenge globally, however the general aims and structure remain similar. Students from different disciplines are allocated to interprofessional health teams, provided with a range of information based on a real client who may or may not be able to act as a resource for the teams, and are expected to communicate and work together in the development of a collaborative, client-centred care plan. The teams are then required to present their team plans in engaging and creative ways to an audience and judging panel. Boyce, Moran, Nissen, Chenery, and Brooks (2009) suggest that the competitive element of the approach motivates and stimulates engagement in the process.

An interprofessional health care team challenge was established within the Auckland University of Technologies (AUT) Faculty of Health and Environmental Sciences in 2009. The planning for IPL within the faculty was initially led through a transformational leadership model with the development of the National Centre for Interprofessional Education and Collaborative Practice (NCIPECP) (Reid, Jones, & O'Brien, 2015). It was based on the model of Bass (1985)) in which leaders provide role modelling, effective communication, vision and working with others to bring about change. The Team Challenge was developed within the NCIPECP in line with this model.

The team challenge was developed as an interprofessional, experiential, extracurricular activity, initially consisting of AUT students from within the faculty. A local provider of secondary and tertiary health care expressed a keen interest in collaborating to run the event as a professional development activity for its staff, which led to student and health practitioner teams competing together. This added another dimension to the students' learning experience, as they competed against teams made up of registered health practitioners. The registered practitioner teams included staff working within community and inpatient practice environments and a team mentor from within the identified local district health service.

Case Study: New Zealand (NZ) Interprofessional Health Care Team Challenge Application

The preparation for the team challenge begins a number of months prior to the teams presenting at the final team event. There are three stages of planning: preparation for the event, commencing the challenge and presenting at the team challenge event. Each stage has a number of processes that need to be put in place and require communication between different stakeholders. Stakeholders include staff and students from within AUT and other universities represented as well as those staff and students based within the participating local health services.

Preparation for the Event

Case Study Development

- Draws on the real-life experiences of a person with complex needs.
- Working alongside a client to create a case study is not always possible.
- Requires input from many health care professionals, drawing on their knowledge and experiences.
- Consideration needs to be given to the diverse learning needs of the learners to ensure the case study incorporates a level of complexity, but remains true to real life.
- In addition to physical signs and symptoms it must also include detail related to the social, psychological, cultural and spiritual context of the person.
- It must be sufficiently detailed to ensure it is realistic and credible.

Additional Scenario

- At the event, and after the presentation of their care plans, each team is provided with a different additional scenario. This adds a twist to the case to which they will need to respond collectively.

Identification of Client Advocate

- This could be someone on whom the case study is based or who has experienced similar issues.
- This could be a person who has experience of working with someone represented in the case study.

Identification of Team Mentors

- Each of the teams is assigned a team mentor.
- The mentor will facilitate good interprofessional practice amongst team members as well as support the interprofessional care plan development.

Identification of Professional Mentors

- Each of the participants within the teams will have access to an expert/advisor from within their profession who they can consult regarding profession-specific information in relation to the case study.

Identification of Judges

- Judges for the event are selected on the basis of their understanding and experiences of interprofessional practice.
- Judges can be selected on the basis of their knowledge of the clinical case, but this would need to be coupled with a sound underpinning in interprofessional practice.

Identification of Team Members

- The team challenge is advertised across the university and health care practice environments in order to generate team participants.
- A wide range of health disciplines is sought.
- It is not essential that each team has the same number or type of health professions.
- Each team is made up of between four and six members from different disciplines.
- Students who agree to participate are allocated into teams.
- Students make a commitment to their team and the event.

Commencement of the Challenge

- The student teams are provided with the case study approximately four weeks prior to the date of the event.
- The methods and regularity by which the teams choose to communicate is up to each team. Some choose to meet face to face or virtually. Some communicate via blogs and Facebook pages.
- The role of the team mentor is to keep the team on track and facilitate interprofessional learning and working within the team.

- Team members are encouraged to locate sources of information from outside of the team.
- In the four weeks prior to the event the teams are able to ask the 'client' (the client advocate) up to five questions. Often these are in the form of the patient's goals, concerns or interests.
- The client responds to these questions in lay language via an intermediary.

The Presentation of the Case Study Care Plan

- On completion of the four-week care-planning process all of the teams come together to present their interprofessional plan for the patient/client at a live public event.
- Each team has five minutes to present their care plan; teams can present their plan in whatever manner they think is appropriate.
- Following the completion of the presentation each team receives an additional scenario. The teams are given a further five minutes to discuss and identify how they might approach the situation and two minutes to present this to the judges.
- Teams are scored on their ability to work and communicate collaboratively, to demonstrate the central role of the patient, and their ability to plan and prioritise appropriate contributions from different health professions.

The Evidence and Interprofessional Education

Interprofessional education (IPE) and CP are recognised nationally and internationally by policymakers as being able to address the increasing demands and complexity in health care, by improving both health systems and health outcomes (Reeves, Tassone, Parker, Wagner, & Simmons, 2012; WHO, 2010). Interprofessional learning has been described as a collective and social process, within and between professionals, and what sets it apart from other types of learning is its emphasis on learning through the experience of practice (Kemmis & Smith, 2008; O'Brien,

Swann, & Heap, 2015). Health care education, like health care services, requires constant evaluation (Attree, 2006) so that the knowledge, skills, attitudes and behaviours being taught adapt to the changing needs of health care employers and patients. However, studies have indicated that research into health care education is not extensive and is fraught with challenges (Attree, 2006).

There is emerging evidence that well-planned and executed IPL experiences with students from different professions learning in groups from, with and about each other promotes the adoption of positive attitudes towards each other (Anderson, Thorpe, & Hammick, 2011). Effective interprofessional learner experiences have also been shown to result in greater collegiality, and the broadening of knowledge, experiences, attitudes, perceptions and understandings of other professions and CP (Cooper, Spencer-Dawe, & McLean, 2005). Salvatori, Berry, and Eva (2007) similarly report that IPL promotes role understanding, along with effective communication and teamwork. It prepares health professional students to think differently, so that they understand others' perspectives, and can solve patient problems in new ways (Barr, 2009).

Others argue that further understandings of the effectiveness of IPL and practice are necessary to determine the benefits for patients and the health care system, with more longer-term evaluations of actual behaviour change resulting from IPE being called for (Cook, 2005; D'Amour, Ferrada-Videla, Rodriguez, & Beaulieu, 2005; Freeth et al., 2005; Reeves et al., 2012; Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013; Zwarenstein, Goldman, & Reeves, 2009). Paradis and Reeves (2013) also point toward the continuing need for robust evidence to underpin the IPL activities that are created and implemented.

The World Health Organization (WHO) (2013) has advocated that IPE should be implemented in all health care practitioner curricula. Despite this, there remains a gap in the research which links interprofessional education and learning to actual behaviour change and changes in clinical practice which result in better health outcomes. It is evident that IPE is complex, therefore multiple and appropriate educational interventions are necessary in order to address the learning goals for interprofessional practice (Moore, 2009). The complexity of interprofessional educational interventions, such as the team challenge, has made it particularly challenging

to evaluate effectiveness and determine what aspects, in relation to the context and mechanisms of the learning, result in successful outcomes (Moore, 2009). Attree (2006) suggests that complex longitudinal evaluation would assist in the identification of a relationship between IPE, such as the team challenge, and student behaviours.

Thistlethwaite, Kumar, Moran, Saunders, and Carr (2015) argued that, in order to provide evidence of genuine change and benefits of IPE, there is a need to go beyond short-term outcome evaluation and consider more realist and longitudinal approaches. Newton et al. (2015) noted that evaluations of the health care team challenge in Australia, Canada and the USA have included pre- and post-surveys to identify changes in interprofessional knowledge, skills and attitudes; surveys to measure changes in beliefs, behaviours and attitudes to interprofessional social-isation; and measures of attitudes to teamwork, collaboration, profes-sional identity and roles. Responding to feedback from team, educator and audience participants, along with critical evaluation of past successes and challenges, has also contributed to the evolution and maturing of team challenge (Newton et al., 2015). Selecting an evaluative framework that would broaden the team challenge evaluation, from short-term and outcome-based, to consider more realist and longitudinal evaluation approaches was an important consideration.

Evaluative Framework

In order to identify and support change, improve practice, and extend the scope and reach of IPL, a robust approach to evaluation is required. In implementing the health care team challenge the need for evaluation was considered early and incorporated into the project plan. The manner in which we evaluated the team challenge was broadly based on realist evalu-ation developed by Pawson and Tilley (1997). It acted as a framework for considering what aspects of the interprofessional health care team chal-lenge worked, for whom, under what circumstances and how it would need to be refined (Ogrinc & Batalden, 2009; Pawson & Tilley, 1997, 2004). Realist evaluation recognises that programmes such as the team challenge take place and are embedded within complex social systems,

involving both health and education. It is therefore necessary to consider the layers of complexity inherent within them (Pawson & Tilley, 2004). This understanding of the contextual conditions pertaining to health professional clinical education is emphasised in order to monitor and make improvements. Realist evaluation provides an explanation for why a particular activity works. This can be achieved through coming to understand the mechanisms, processes or ways in which the activity brings about change and the conditions in which these mechanisms come into play (Pawson & Tilley, 1997). Being aware of what contexts support or do not support IPL is central to realist evaluation. The intended and unintended consequences of IPL are described in realist evaluation as outcomes, which come about because the mechanisms are acting within certain contexts (Pawson & Tilley, 1997). Employing multiple measures, allows for a more sensitive approach to the evaluation of complex activities such as the health care team challenge (Pawson & Tilley, 1997). Researchers suggest that realist evaluation requires the IPL activity to be developed and implemented in a manner that allows data to be gathered, informing analysis of its mechanisms, contexts and outcomes (Thistlethwaite et al., 2015).

Ogrinc and Batalden (2009) describe the basic steps used in realist evaluation. The first is the selection of a working theory, which Pawson and Tilley (1997) state should be framed in terms of a proposition. Step two requires detailed consideration of the context in which the team challenge will be taking place, the different mechanisms by which the challenge is operated and the outcomes (Ogrinc & Batalden, 2009). An example of context in relation to the AUT-based team challenge is that participants are placed into teams of up to six different health disciplines. A possible mechanism is the collaboration that can take place during regular face-to-face team meetings. The context has a significant influence on what mechanisms are 'in play', with both mechanism and context helping to explain outcomes and the patterns that may emerge. Outcomes of collaborative face-to-face encounters may include: a greater understanding of the roles and perspectives of the other disciplines; a wider appreciation of the client and their needs; the development and use of innovative approaches to care. An example of a theory, mechanism, context and outcome related to the health care team challenge is provided in Table 14.1.

Table 14.1 Health care team challenge—example of theory, mechanism, context and outcome

Theory	Mechanism	Context	Outcome
Interprofessional experiential learning will facilitate better understanding of others' roles	Opportunities to interact with others. Sharing own role and having others' roles clarified	Teams of students from different disciplines	Increased understanding of others' roles

Step three involves the implementation of the team challenge, whilst at the same time observing and evaluating the context and mechanisms in play. This incorporates step four which comprises the collection of qualitative and/or quantitative data. Step five is the refinement of the intervention/theory to inform future team challenges.

Applying Realist Evaluation to the Team Challenge

Pawson and Tilley (1997) emphasise that 'programme evaluation can only be as good as the theory which underpins it' (p. 83). Drawing on theory to inform and guide interprofessional development is of critical importance in the advancement of effective, meaningful, and sustainable IPL (Suter et al., 2013). Theory is used to inform and shape IPE development: it guides thinking, understandings and its construction; it enables the clear articulation of the IPE practices employed; and helps us to understand and consider possible resistance and barriers to IPE development, fostering sustainability (Hean, Craddock, Hammick, & Hammick, 2012). It is argued that those developing IPE need to take advantage of the range of theories available to articulate and defend best IPE practice (Hean et al., 2012). In realist evaluation, the interprofessional theory base informs and allows for the identification of specific propositions which can then be evaluated through observations and other methods (Pawson & Tilley, 1997).

Model of IPE

In the development of the team challenge within the New Zealand context consideration was given to the available evidence and theory which

could inform its development, implementation and evaluation. Newton et al. (2015) considered that a major strength of the team challenge is its sound theory base. The interprofessional programme at AUT is underpinned by the University of British Columbia Model of IPE which recognises that learners are at different stages of readiness for IPE and have specific learning needs at different times in the learning process (Charles, Bainbridge, & Gilbert, 2010). This allows us to tailor the IPL activity to the particular stage of the learner. The stages inherent in this model are incremental and move the learner from exposure to interprofessional practice and concepts, and then through to immersion and mastery, which requires critical reflection on and application of these experiences into practice. The team challenge is one IPL activity that necessitates a deeper understanding of complex issues and, as such, requires students with a strong sense of self and of their profession. Final year students are recruited because they are considered to be at an appropriate stage of readiness to immerse themselves in the team challenge, with a solid grounding in their professions. Realist evaluation of this theoretical perspective in this context might consider: 'The proposition that final year students are more able to understand and deal with complex clinical issues in an interprofessional context, is the working theory that will be tested'. The mechanism of change is that the students are interacting and learning together on an authentic clinical case. The context is that the final year students from different disciplines are all on clinical placement with a designated health provider. Some intended outcomes resulting from having all final year students in teams could be that previous clinical education experiences and knowledge of conditions increases their confidence in their own role; enabling them to be open to other ways of approaching an issue.

Interprofessional Competencies

The knowledge, skills, attitudes and behaviours required for interprofessional teamwork led us to consider an interprofessional competency framework and how this could support the team challenge learning content. The Canadian Interprofessional Health Collaborative describes six competency areas necessary for effective interprofessional

collaboration: client-centred care, interprofessional communication, interprofessional teamwork, role clarification, interprofessional leadership and conflict resolution (CIHC, 2010). Introducing the learners to the competency framework enabled them to recognise the knowledge, skills, attitudes and behaviours required for effective interprofessional practice. By engaging in the learning process they were able to experience each competency area, and apply it first-hand. Realist evaluation of this theoretical perspective in this context might include: 'The proposition that role understanding is necessary for effective interprofessional practice is the working theory that will be tested'. A possible mechanism of change is that each team member informs others of their role. This is implemented through the use of an IPL activity called the 'talking wall', which is the context. Some intended outcomes resulting from opportunities to learn about the roles of other disciplines could be that they have more confidence in approaching or referring to other health professions in practice, which allows them to identify when another health profession may be able to contribute to a person's care.

Principles of IPE

The team challenge also draws on the principles of IPL identified by Howkins and Bray (2008) and include: collaborative learning, in which collaborative work is underpinned by mutual respect and the valuing of others' contributions; egalitarian learning, in which the aim is for everyone to learn from a level playing field, so that differences in status and power do not interfere with the learning process; group-directed learning, in which the group identifies strategies that work for them when undertaking their collective responsibilities; experiential learning, in which students interact from, with and about one another, and draw directly from real life experiences; reflective learning, in which they make sense of and share their experiences in a safe and secure environment; and lastly applied learning, in which the content specifically relates to practice. These principles underpin the team challenge and provide guidelines for how learners will work together and interact, enabling team mentors and learners to shape the learning interactions. Realist evaluation of this theoretical

perspective in this context might include: 'The proposition that collaborative learning will encourage team members to work together in practice is the working theory that will be tested'. The mechanism of change is that the team members develop a strategy collaboratively for how they are going to work together. The context is the development of a team care plan. Some intended outcomes resulting from collaborative learning are that team members are able to see the benefit of a team approach to planning care and develop greater respect and valuing of others.

Learning from Evaluation

In order to evaluate the theories identified in relation to the team challenge, mechanisms relating to the teaching structures and processes were identified, along with systematic consideration of the contextual aspects related to the mechanism and possible outcomes (Ogrinc & Batalden, 2009). As part of an educative evaluation of the learning activity, a number of qualitative and quantitative tools were used to gather relevant data related to the context, mechanisms and outcomes. Feedback was gained from all stakeholders including the students, profession advisors, team mentors and audience following completion of each event, by way of focus groups and questionnaires.

This feedback process has contributed to the further development and refinement of the New Zealand-based team challenge. Feedback on the contextual challenges such as physically getting together guided changes, including establishing teams on the basis of their locality within the clinical environment. The outcome of this is that it has increased the number of teams able to participate. Similarly, feedback on unclear expectations and time commitments generated the development of an information pack which clearly documented these problems and resulted in reduced feedback on them. The possible mechanism in play with these examples is the removal of barriers to engagement.

There is a need to look longitudinally at the team challenge's impact on those who participated. Has the experience informed later clinical practice, has this led to better health outcomes and experiences for patients? While it can be argued that experiences such as the team challenge are essential for

shaping the health professionals of the future, these claims remain largely unsubstantiated. There is a need to generate further evidence which demonstrates the impact IPE has both on working interprofessionally and on its impact on the outcomes for clients. This is critical to ensuring the long-term sustainability of the New Zealand-based team challenge and IPE in general.

Conclusion

The team challenge provides a real-life interprofessional experience in a simulated context. It promotes teamwork and a more informed understanding of collaboration in preparation for practice. However IPE by its very nature is complex and because of this, it is challenging to evaluate. A realist approach to evaluation recognises and operates in complex social situations. It provides an explanatory framework for identifying why the IPL activity was successful or not for the purpose of refining, developing and sustaining it. It provides the direction of change for the IPL activity. Gathering further evidence of the impact of IPL and specifically the team challenge on interprofessional practice, and how it results in benefits for clients is required. Realist evaluation can provide a framework which will contribute to this evidence base and increase understandings of how, for whom and in what circumstances IPL brings about the desired outcomes. This framework will facilitate the ongoing refinement and development of the team challenge, and indeed IPL in general, into the future.

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15

International Classification of Functioning, Disability and Health: Catalyst for Interprofessional Education and Collaborative Practice

Stefanus Snyman, Maria van Zyl, Jana Müller
and Maryke Geldenhuys

Effective interprofessional communication is pivotal to a common understanding of service provider decisions, shared goal setting and outcomes reported by service users. How does one go about this if team members have different conceptual frameworks in approaching service users and are using different terms for describing the same thing? Students are often taught numerous, potentially contradicting approaches to service users and communities, which can serve as a barrier to interprofessional communication and a bio-psycho-social-spiritual approach to personcentred service provision (Snyman, Von Pressentin, & Clarke, 2015; Thistlethwaite et al., 2014).

In 2001 the World Health Organization (WHO) launched the International Classification of Functioning, Disability and Health (ICF). It serves as a conceptual framework for the bio-psycho-social-spiritual approach to person-centred service delivery, as a common language between all professions and as a comprehensive coding system for functioning and disability (WHO, 2001).

In this chapter we will explore how using ICF can serve as a catalyst to foster competencies for interprofessional collaborative practice (IPCP), using examples from the Western Cape, South Africa.

How Does ICF Fit into an Interprofessional Education Strategy?

The aim of interprofessional education (IPE) (Fig. 15.1) is to help build a health workforce serving as change agents, collaborating interprofessionally to effectively address the health needs of service users and communities, and to strengthen systems for health. IPE could serve as a catalyst for transformative learning because it facilitates person-centred service delivery. Not only does it contribute to this much-needed instructional reform, but it also fosters greater interdependence between different professions and stakeholders to facilitate the institutional change needed in achieving health equity (Frenk et al., 2010; WHO, 2010, 2013b, 2015).

IPE is therefore not just another activity to be squashed into already overloaded health professions' curricula. It is pivotal to demonstrating the social accountability of health professions' training institutions (HPTI) towards delivering on their mandate. The case for IPE is strengthened with the worldwide focus on the social accountability of HPTIs as part of the accreditation by licensing authorities (Larkins et al., 2013; Training for Health Equity Network, 2011; WHO, 2013b; Woollard, 2006).

Often this top-down approach is not enough to convince academia of the importance of embracing interprofessional education and collaborative practice (IPECP) as a philosophy and promoting an integral culture of clinical practice. Evidence is required to convince colleagues of the need for and benefit of exchanging a uniprofessional, siloed, biomedical approach for IPECP (Leathard, 2003; Willgerodt et al., 2015). Such evidence is gathered through robust evaluation and research.

An assessment to determine the needs relating to IPECP could form part of the evidence needed for change management and to inform an IPE curriculum reform process (Breitbach et al., 2013). The Royal College of Physicians and Surgeons of Canada conducted a needs assessment as part
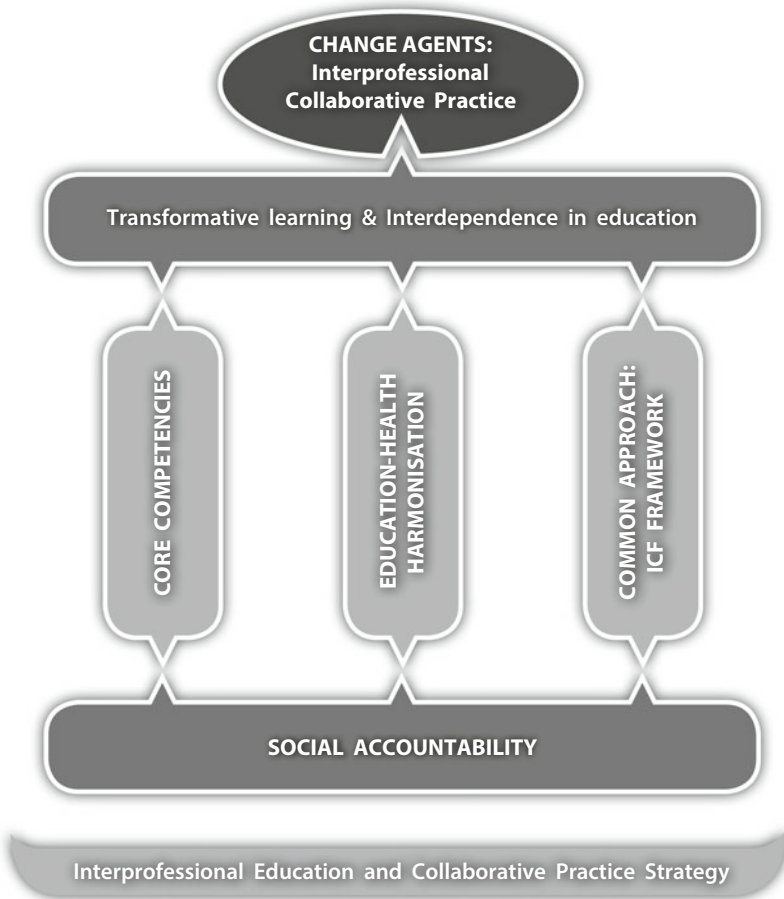
Fig. 15.1 The interprofessional education and collaborative practice strategy of Stellenbosch University (adapted and used with permission) (Talaat & Ladhani, 2014)

of the CanMEDS competency by design process. This approach could also be considered by the global IPE community to help strengthen the case for IPE as part of instructional and institutional reform. In Table 15.1 the various components of such a needs assessment are summarised (Frank, Snell, & Sherbino, 2015; Royal College of Physicians and Surgeons of Canada, 2014).

Table 15.1 A framework to assess the needs for interprofessional education and

collaborative practice

Needs assessment component	Objectives	Possible research activities/ stakeholders
1. Social needs	• Determine why IPECP is needed to effectively address the burden of disease and social determinants of health • Obtain the opinion of service users relating to IPECP	• Literature review: burden of disease and social determinants of health • Gather data from advocacy groups (e.g. persons with disability, HIV, elderly, cancer, social justice)
2. Organisational needs	• Determine how IPECP can contribute to improving health and social service delivery • Determine the role of IPECP to assist in reaching policy objective	• Literature review: How do national, regional and local policies and plans envisage that IPECP contribute to reach strategic objectives • Gather data from Departments of Health and Social Services, statisticians, public health specialists, facility managers, etc.
3. Perceived needs	• Determine the needs regarding IPECP from graduates as service providers and from preceptors where students are placed	Gather data from graduates and preceptors of various professions regarding their training needs and how curricula could be improved to develop IPECP competencies
4. Observed needs	• Determine the needs from the perspective of academics (i.e. those who traditionally developed curricula)	Gather data from academics representing various professions on how IPECP can be integrated into curricula and change clinical practice

Source: Adapted from Royal College of Physicians and Surgeons of Canada, 2014)

The results of a needs assessment will inform and hopefully convince faculty to be more socially accountable by effectively equipping students with the competencies for IPCP. It could also serve as a mandate for service providers to implement and role model IPCP in their practice. This bottom-up approach may not only serve to support institutional change

management processes, but also inform and challenge professional boards and service provider agencies to change policies and systems to facilitate IPCP (Willgerodt et al., 2015).

Three focus areas are suggested in the strategy of Stellenbosch University (South Africa) to integrate IPE into curricula in its effort to develop socially accountable health professionals as 'competent collaborative patient-centred practitioners' to reform systems for health (Oandasan & Reeves, 2005, p. 46). In order to institutionalise a culture of IPECP, the following focus areas were identified (see the pillars in Fig. 15.1) (De Villiers, Conradie, Snyman, Van Heerden, & Van Schalkwyk, 2014; Stallinga et al., 2015):

1. **Development, integration and assessment of IPCP competencies in curricula**

   Over the past decade health professions education (HPE) has seen a greater focus on IPE competency frameworks to provide a common lens through which professions can understand, describe and implement team-based practices (Canadian Interprofessional Health Collaborative, 2010; Curtin University of Technology, 2011; Frank et al., 2015; Interprofessional Education Collaborative Expert Panel, 2011; Stephenson, Peloquin, Richmond, Hinman, & Christiansen, 2002; Thistlethwaite et al., 2014; WHO, 2013b). Thistlethwaite et al. (2014) compared four of these frameworks in their similarities and differences, which ultimately influence how IPE is implemented.

2. **Education–health harmonisation**

   Frenk et al. (2010) made various recommendations for the institutional reform needed to address the health needs of populations in the twenty-first century. Central to these recommendations is greater harmonisation between two key stakeholders in HPE, namely education (i.e. HPTI) and health (i.e. service providers such as health departments and community-based organisations). This requires greater interprofessional collaboration to facilitate structural changes in HPE and service delivery to enable authentic IPCP with a person-centred and community-based approach. Education–health harmonisation should aim to strengthen relationships and build capacity among academics and service providers in modelling IPCP (Clark, 2004;

Craddock, O'Halloran, McPherson, Hean, & Hammick, 2013; Global Consensus for Social Accountability of Medical Schools, 2010; Lawson, 2004; Steinert, 2005). Barr views this as an 'iterative process between education and practice, as it generates commitment and competence for collaborative practice' (Barr, 2011, p. 310).

3. **Using a common language and approach for IPCP based on ICF**

    A common language and approach to IPCP can strengthen ways in which academic and service provider environments collaborate (Thistlethwaite et al., 2014; WHO, 2010, 2013a). To help address this need the WHO developed ICF, which serves as a common language between professions at individual, institutional and societal levels. By applying ICF as a conceptual framework, service user outcomes are highlighted through interprofessional activity that conceptualises the complex interrelatedness of functioning as a dynamic interaction between a person's health condition, environmental factors and personal factors (Allan, Campbell, Guptill, Stephenson, & Campbell, 2006; Cahill, O'Donnell, Warren, Taylor, & Gowan, 2013; Dufour & Lucy, 2010; Snyman, Von Pressentin, et al., 2015; Tempest & McIntyre, 2006; WHO, 2013a). Dufour and Lucy (2010) advocate for using ICF, which 'not only highlights the need for a diverse team of health care professionals, but also represents a paradigm shift in how to approach health and health care' (p. 668).

What Is ICF?

ICF is the world standard for conceptualising and classifying functioning and disability, agreed by the World Health Assembly in 2001. The WHO describes functioning as an 'umbrella term for body functions, body structures, activities and participation. It denotes the positive aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors) ... Disability is an umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interaction between an individual (with a health condition) and

that individual's contextual factors (environmental and personal factors)' (WHO, 2013a, p. 5).

ICF organises information into two parts (see Fig. 15.2). One part covers contextual factors and the other deals with functioning and disability. Each part has two components:

- Functioning and disability:
  - Body functions and body structures
  - Activities and participation

- Contextual factors:
  - Environmental factors
  - Personal factors.

Each ICF component consists of multiple domains, and each domain consists of categories that are the units of the classification. ICF provides
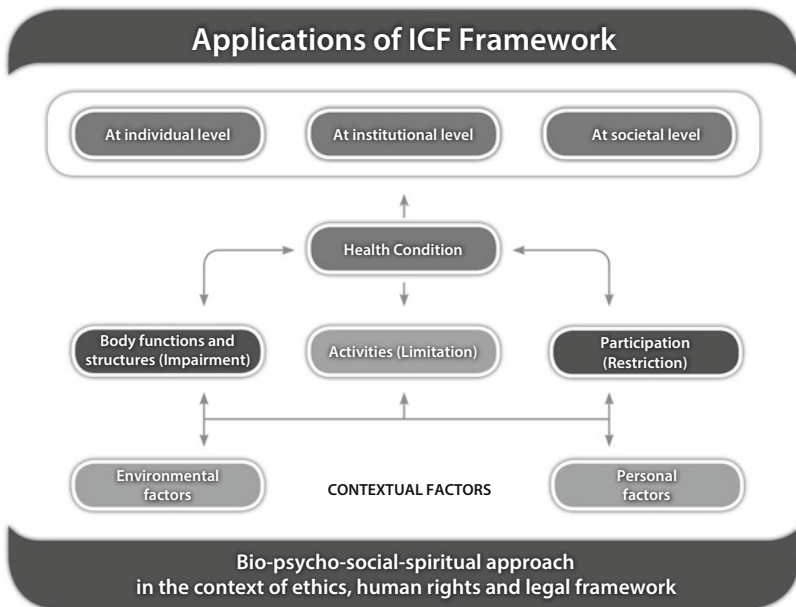
Fig. 15.2 The ICF framework (based on World Health Organization (2001), adapted and used with permission of Talaat and Ladhani (2014))

textual definitions as well as inclusion and exclusion terms for each class (Table 15.2). The full ICF can be viewed on the WHO website: http://apps.who.int/classifications/icfbrowser/).

ICF is a member of the WHO Family of International Classifications associated with functioning dimensions in multiple perspectives at body, person and social levels. It is not associated with specific health conditions, problems or diseases, which are classified primarily in the aetiological framework of the International Classification of Diseases (ICD). ICF provides a statistical, evaluation, research, clinical, social policy and educational tool to establish a scientific basis and common language, facilitate interprofessional teamwork, permit comparison and serve as a systematic coding scheme for describing, understanding and studying health and health-related states, outcomes and determinants. The health and health-related states associated with any health problem can be described using ICF (WHO, 2013a). This bio-psycho-social-spiritual

Table 15.2 The components of ICF with its various domains

Functioning and disability	
Body functions and body structures	Activities and participation
• Mental	• Learning and applying knowledge
• Sensory (vision, hearing, vestibular, pain)	• General tasks and demands
• Voice and speech	• Communication
• Vascular and circulatory	• Mobility
• Respiratory	• Self-care
• Endocrine, digestive and metabolic	• Domestic life
• Genito-urinary and reproductive	• Interpersonal interactions
• Skin and related	• Major life areas
Contextual factors	• Community, social and civic life
Environmental factors	
• Products and technology	Personal factors (no domains or codes) include
• Natural environment and man-made changes	fears, expectations, experiences, motivation,
• Support and relationships	coping styles, worldview, lifestyle, etc.
• Attitudes	
• Services, systems and policies	

Source: WHO 2001

model of health is positioned within the context of ethics, human rights and legal frameworks. The interaction between the various domains is non-linear and illustrates the interrelated, dynamic complexity of health, which can only effectively be addressed by interprofessional collaboration (Snyman, Von Pressentin, et al., 2015; WHO, 2013a).

ICF can be used in various ways across many fields of application (Table 15.3). This is discussed in detail in the ICF Practical Manual that can be downloaded from the WHO website (WHO, 2013a).

The Value of ICF in IPECP on Micro, Meso and Macro Levels

ICF as a catalyst for IPECP can be represented at micro, meso and macro levels of HPE systems (Hollenweger, 2010). In describing these levels it is assumed that the paradigm of the education is service user-centred, and not student- or teacher-centred.

The micro level can be described as the direct, lived experience of the service user, as he/she interacts with students, service providers, family, culture, worldviews and the system. This interaction is reciprocal, an iterative juggling progressing in complexity (Bronfenbrenner & Ceci, 1994; Hugo & Couper, 2006). ICF provides the common language and bio-psycho-social-spiritual approach for the interprofessional team to engage, clarify and interpret these narratives. In their discussions with children with disabilities and their parents, Rosenbaum and Gorter (2011) use five 'F-words' to explain and clarify the narrative in terms of the ICF components. In Table 15.4 an extended list of ICF 'F-words' is presented to help explain health in context using ICF.

Using ICF uniprofessionally or multiprofessionally challenges service providers and students not to view a service user narrow-mindedly as someone with problems related only to their individual profession or specific discipline. Rather, one is confronted ethically to view the person within a bio-psycho-social-spiritual context, realising that interprofessional collaboration, prioritisation, person-centred goal setting and outcomes reported by service users are needed to address the needs. Taking cognisance of the person's activity limitations and participation restrictions,

Table 15.3 Situations where ICF can be applied

Using ICF in clinical practice
• Facilitate bio-psychosocial-spiritual person-centred approach to clinical practice
• Provide conceptual framework for shared decision-making
• Facilitate continuity of care and integrated service user pathways
• Use as common language between professions

Using ICF in education of health professions
• Facilitate IPECP
• Use in assessment of students
• Develop and analyse health professions curricula

Using ICF for community support services and income support
• Use for support services and income support
• Assist in service planning
• Use to establish eligibility
• Support improved service integration and management
• Assess service quality

Using ICF for population-based census or survey data
• Inform population-based data collections
• Use of standard ICF question sets
• Assist in setting standard questions
• Help examine equal opportunity outcomes

Using ICF in an education system
• Help to bridge diagnostic and educational information
• Use for assessment in education
• Understand participation in education
• Analyse educational environments
• Establish eligibility in education settings
• Use for goal setting
• Evaluate student outcomes
• Facilitate cooperation and integration of different perspectives

Using ICF for policy and programme purposes
• Use standard concepts across different policy areas
• Use in policymaking process
• Help raise awareness and identify problems
• Assist planning at systems level
• Facilitate policy implementation
• Help to evaluate and monitor effect of policies

Using ICF for advocacy and empowerment purposes
• Use for advocacy
• Use to measure attitudes and attitude changes
• Support empowerment and independent living
• Use for peer counselling

Source: WHO 2013(a)

Table 15.4 Using the ICF 'F-words' to discuss health in context with service users

ICF Component	'F-words' used to discuss ICF components and some domains
Environment	Food, Pharmaceuticals, Phone, Frame & floor (Housing), Family, Friends, Foes, Facilitators, Finances, Facilities
Activities	Function, Fall, Fender, Food preparation
Participation	Fun, Freedom
Personal Factors	Fears, Fight, Flight, Forgive, Faith
Body functions and structures	Fitness, Fluids, Fatigue, Fractures, Frame of mind

Source: Adapted from Rosenbaum and Gorter (2011)

as well as the barriers and facilitators of environmental factors, service providers and students gain a broader understanding of the person's health in context and this stresses the team's responsibility to move beyond siloed professional paradigms. This highlights the need for a diverse team of health care professionals and represents a mind shift in how to approach health and health care (Dufour & Lucy, 2010; Snyman, Von Pressentin, et al., 2015; Winiarski, 1997).

The meso level represents the social structures providing connections between micro systems, for example: connections between a person's family and the neighbourhood; or between different members of the interprofessional team interacting with the service user. Processes at the meso level involve communication or interactional processes between micro systems. The service user is not directly participating in such processes, but is affected by them through direct contact with both micro systems (Bronfenbrenner & Ceci, 1994; Hollenweger, 2010). On the meso level IPCP competency can be developed because ICF is used as a conceptual framework and common language to interpret the narrative through interprofessional communication, person-centred teamwork, ethical and value considerations, role clarification, collaborative leadership, reflection and in contributing profession-specific knowledge and skills. In doing so the complex interrelatedness of all the relevant ICF domains are tabled (and even coded), which enables the team to allocate responsibilities. In Appendix 1 a narrative is described and then interpreted in terms of ICF (Ajovalasit et al., 2012; Allan et al., 2006; Duggan, Albright, & Lequerica, 2008; Snyman, Kraus de Camargo, & Anttila, 2015; Stephenson et al., 2002).

Having all the relevant ICF items on the table raises the level of ownership in the team, including the service user. On meso levels student(s) can serve as 'case managers' for a specific person, and/or be the 'go between' to ensure effective interprofessional communication and goal setting. The various components of ICF force students to think outside the silos of their professions and learn from others. For example, nursing, pharmacy, dental and medical students may be more comfortable with body structures and functions; whereas occupational therapy, speech therapy and physiotherapy students can add value by assessing functioning and setting priorities; psychology students on the other hand can contribute by taking the lead in assessing personal factors; with social work and public health students focusing on environmental factors. However all professions can add a specific dimension to the same issue; for example, the occupational therapist, social worker and community care worker may have complementary perspectives on how environmental factors serve as barriers and facilitators. By using ICF as a common language instead of profession-specific jargon, interprofessional communication and consensus on goal setting are facilitated (Jelsma & Scott, 2011; Snyman, Von Pressentin, et al., 2015).

The awareness of how the interactions of different micro systems impact on a service user's health not only leads to improved care provision on the meso level, but also to greater engagement on the macro level (Snyman, Von Pressentin, et al., 2015). The macro system consists of the overarching pattern of micro, meso and exo systems (an exo system is any system that a particular person or a group does not participate in, but still is affected by) that are characteristic of a given culture (e.g. hospital), sub-culture (e.g. hospital ward) or other extended social structures, with particular reference to the instigative belief systems, resources, hazards, opportunity structures and patterns of social and professional interchange that are embedded in such overarching systems (Bronfenbrenner & Ceci, 1994; Hollenweger, 2010). For example, greater awareness by the interprofessional team of how the interactions of different micro systems are experienced by a service user leads not only to more holistic clinical care, but on the meso level can result in the team viewing health advocacy, quality improvement and service user safety as 'clinical' competencies. When using the ICF framework

as an interprofessional conceptual model, the gap between clinical practice and public health becomes blurred and one is ethically challenged to think in a holistic and interprofessional way. Team members often move beyond their individual professions' comfort zones in addressing these issues (Kloppers, Koornhof, Bester, & Bardien, 2015). Snyman, Von Pressentin, et al., (2015) found that students frequently serve as agents of change by using the ICF data to advocate for individuals and vulnerable groups under their care by trying to ensure the continuity of their care, and challenging unprofessional behaviour, systemic lethargy, siloed narrow mindedness and professional tribalism. Educators have a responsibility to help students develop the skills to engage maturely in managing the conflict that may occur when issues like these arise. Students furthermore need the reflective capability to practise emotional self-care and resilience if they are to move from using these competencies on the meso level to the macro level by acting as advocates for change (Lempp & Seale, 2004; Rural Health Advocacy Project, 2014).

The engagement on the macro level is not only limited to the improvement of systems for health and structures obstructing effective care, but ICF can also serve as a tool to facilitate curriculum reform. On an institutional level ICF can be used as a conceptual framework to map and explain the rationale, goals, outcomes and content of curricula, to identify gaps in a curriculum, to explore areas of interprofessional commonality and motivate for IPECP. It can also be used to explain a specific module in the context of the broader curriculum and to make students aware of the non-linear complexity and interprofessionality of health and social care (Snyman, Von Pressentin, et al., 2015; WHO, 2013a).

Few have the luxury and privilege of starting from scratch to build a HPTI and to develop programmes and service delivery platforms which are interprofessional in philosophy, culture, education and practice. At most we may have the opportunity to develop an interprofessional module, which is often jeopardised by the hidden curriculum modelled in other clinical placements A striking analogy of the integration of IPECP into curricula and clinical role modelling is that of changing an aircraft's engine in flight. Health professions educationists have to grab opportunities in curricula to establish spiralling longitudinal IPE learning opportunities

over a period of time. The integration of IPE into curricula is not reductionist like chiselling away on a piece of rock to form a statue (biomedical model); it is rather the assembly of numerous pieces to form a mosaic (bio-psycho-social-spiritual model).

The challenge for educators is to grab opportunities in existing modules to introduce IPECP and to conduct small pilot studies to demonstrate its value, not only in terms of student competency, but also to evaluate the impact on budgets and service delivery. In some instances it may not even be advisable to 'claim' space in a curriculum for IPE per se, but rather focus on issues that are perceived as more important, such as service user safety, person-centredness, quality improvement and service user satisfaction. The ICF framework can be used to approach these issues, which could serve as a catalyst for interprofessional collaboration (Allan et al., 2006; Dufour & Lucy, 2010; Snyman, Von Pressentin, et al., 2015; WHO, 2013a).

This bottom-up opportunistic approach could potentially lead to more opportunities to introduce IPE into curricula. In the following case studies, examples demonstrate how ICF served as a catalyst for IPE.

Case Studies from South Africa

Background

In 2010/11 the IPECP strategy at Stellenbosch University (SU), South Africa, was revised by an interprofessional work group representing all undergraduate programmes (human nutrition, medicine, occupational therapy, physiotherapy and speech-language and hearing therapy), as well as postgraduate nursing. This revised strategy considered the pivotal role of IPECP in equipping students as change agents when addressing the health needs of individuals and communities (De Villiers et al., 2014).

The Faculty Board accepted the recommendations of the IPECP work group, and funds from a Clinical Teaching Grant (Department of National Higher Education) were allocated to appoint a full-time IPECP manager and ten part-time IPECP facilitators. The IPECP initiatives were incorporated under the Centre for Health Professions Education, sharing space

with an interprofessional team of health professions educationists responsible for, among others, the implementation of an adapted CanMEDS competency framework, faculty development (i.e. staff / preceptor development; train the trainer) and a clinical skills and simulation unit.

The gradual implementation of this strategy commenced in undergraduate community-based modules at Stellenbosch University's Ukwanda Rural Clinical School (RCS), where the educational environment was perceived as more open to creative innovation and potentially provided transformative learning spaces, compared to learning spaces in the traditional academic hospital complex (De Villiers et al., 2014; Snyman, Von Pressentin, et al., 2015). Van Schalkwyk, Bezuidenhout, and De Villiers used 'being and becoming' as a construct for understanding the student experience at this RCS and provided evidence of 'changed attitudes and behaviour, and the adoption of professional practice that was seen to influence service user outcomes' (2015, p. 589). Key mechanisms identified in facilitating this transformative learning to becoming a confident, competent and caring health practitioner were the 'sharing of values through role modelling, engagement with preceptors, being respected as part of a team, and being trusted to assume responsibility for a patient', who is 'both individual and community at the same time'. These rural placement opportunities offered authentic learning experiences of ICF-informed IPCP.

This bottom-up leadership approach was needed to obtain the buy-in from faculty. The same applied on the community-based platform, where trust relationships had to be built with preceptors and service providers from various professions. The buy-in from these practitioners was crucial to gain support from facility and district health managers, who needed the assurance that IPE activities wouldn't impact negatively on service delivery. These relationships were also key to fostering the development of an IPECP culture in facilities and for the sustainability of the university's IPE strategy.

Close collaboration with the IPECP leadership at other HPTIs in the vicinity also contributed to rolling out the strategy as it provided opportunities to interact with students from other programmes not offered at Stellenbosch. The encouragement of the international IPE community and the WHO's Functioning and Disability Reference Group was invaluable

for the IPE leadership team at Stellenbosch University. This supportive role should be acknowledged. The interaction at congresses and visits to institutions was first class, as was sharing the latest IPE-related information on Facebook and Twitter, not to mention their appreciation if their own postings were retweeted or shared by others around the world.

The IPE strategy at Stellenbosch University (see Fig. 15.1) was focused on the core competencies for IPE using the Canadian Interprofessional Health Collaborative (2010) and adapted CanMEDS frameworks (Medical and Dental Professions Board of the Health Professions Council of South Africa, 2014) by introducing ICF in all undergraduate programmes as a common language and approach and by equipping faculty and service providers to model IPCP using ICF.

As part of the process, opportunities were identified in various modules to facilitate the development of IPE competencies and to introduce ICF. A big challenge was the large number of medical students (around 250 students per year group) compared to other undergraduate programmes (30–80 students per profession per year group), making it difficult to give all the medical students exposure to IPE in a clinical environment. Another challenge was medical students' prior exposure to a primarily biomedical approach, at least in the hidden curriculum. The traditional hierarchical structure in health teams, with the doctor at the top of the chain, also hampered the introduction of IPE. On the other hand, the medical curriculum had more flexibility to introduce IPE because it was less structured, providing space and creating opportunity for IPE (Snyman, Von Pressentin, et al., 2015).

Students from the other undergraduate programmes have more opportunities to collaborate between themselves because they are often placed at the same sites for clinical and community rotations. One such placement is a student-run rehabilitation centre in an impoverished community renowned for its violence, drug problems and gangsters. Students have offered an invaluable service over the past two decades to persons with disability in the post-acute phase of recovery. The current interprofessional service delivery at the centre is based on the ICF model. Another advantage of the rehabilitation professions is that they often have a better understanding of a person-centred, bio-psycho-social-spiritual approach (Kloppers et al., 2015).

Part of the IPE strategy at Stellenbosch was to restructure the first six months of the first year. An interprofessional module, focusing on health in context, was revised. The ICF framework was used in planning and describing the module. Students used ICF to explore and report on the determinants of health and functioning of the health system in the community that was allocated to them (see Case Study 1).

Apart from this interprofessional phase in the first year, the focus on implementing the revised IPE strategy was primarily on the undergraduate medical curriculum (six years) because this was identified as the biggest challenge. During the Introduction to Clinical Medicine (end of first and second year) ICF was used to teach students how it can be used in taking a medical and spiritual history, and to experience how environmental factors impact the functioning of a person by visiting a rheumatology patient at home with the guidance of an interprofessional team of preceptors.

ICF was also introduced in clinical rotations (years 3 to 6), starting with Family Medicine, Rehabilitation and Community Health, in which students had to approach and present patients interprofessionally using ICF (See Case Studies 2 and 3). Towards the end of these rotations preceptors used ICF-informed rubrics (see Appendices 2, 3 and 4) to assess students presenting their patients. Another opportunity presented itself when a new six-week module was introduced to the fourth year, namely Doctor as Change Agent in Communities. This learning experience focused on helping students to reach the milestones determined for IPCP and to develop a personal development plan for the last two years of study on how they would take ownership in reaching exit-level IPCP competencies.

The Educational Approach Used to Plan the Various IPE Learning Opportunities

The educational approach used to plan the various IPE learning opportunities was based on Race's seven factors for effective learning (Fig. 15.3). Using Race's model, the initial focus was to motivate students ('want' to learn),

Learning through assessing: making informed judgements

Learning by coaching, explaining, teaching

Learning through Feedback

Digesting / Making sense of learning

Learn by Doing

Needing to learn

Wanting to learn

Confirming

⇧

Coaching

⇧

Communication

⇧

Contestation

⇧

Competence development

⇧

Commitment

⇧

Curiosity
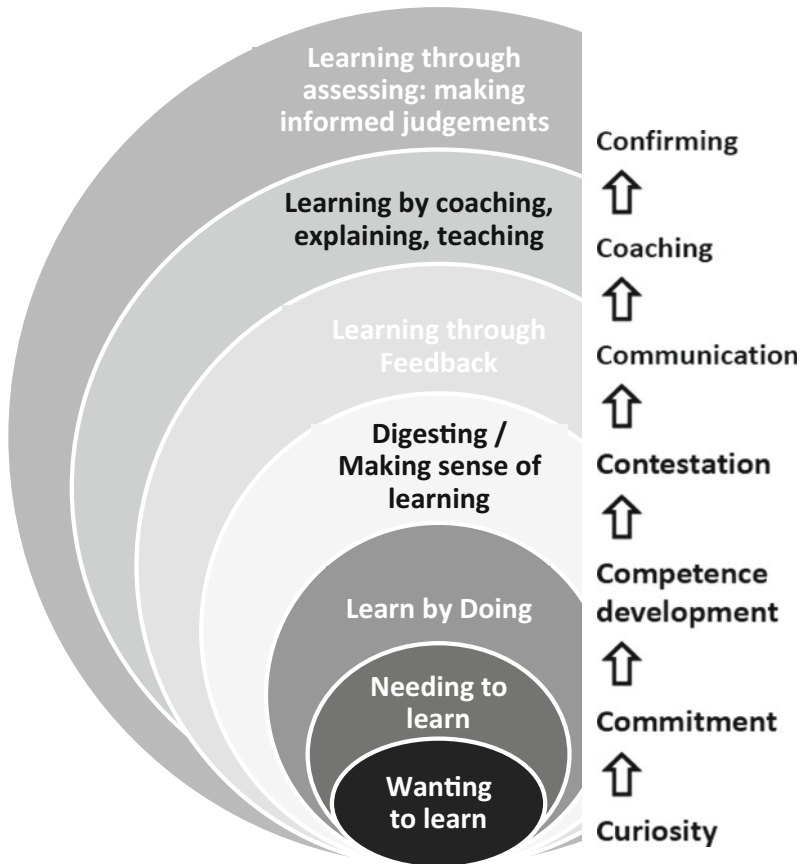
Fig. 15.3 Seven factors for effective learning as an approach to planning IPE learning and assessment opportunities. *Source*: Based on (Race, 2010)

to give them adequate exposure to realise the 'need to learn' the competencies for IPCP and to let them 'learn by doing'. The role of the IPE facilitators was to help students 'make sense of their learning' through reflection and 'learning through feedback'. These levels of learning were expected in the preclinical IPE exposure, and correspond with the first two levels of Kirkpatrick's model of evaluation, namely reaction and learning (see Chap. 1). Reaction (Level 1) refers to how students reacted to the

training (e.g. their satisfaction), whereas learning (Level 2) defines to what extent did the programme change attitudes, increase knowledge, and/or increase skill as a result of attending a program. The evaluation of the various IPE learning opportunities in the preclinical phase thus mainly interrogated students' perceptions, experiences and how they viewed the IPL that took place (Kirkpatrick, 1994; Race, 2010).

In the clinical phase, Race's model was used to 'learn by explaining' as students had to communicate interprofessionally with service users and colleagues. Students also had to make informed decisions as part of their authentic interprofessional workplace learning. In the evaluation of these clinical interprofessional learning activities, Kirkpatrick's model (Level 3) was used by reporting on the interprofessional behaviour of students. A shortcoming in the evaluation process was the lack of prospective planning to research the results of training (Kirkpatrick Level 4). Qualitative data were obtained from preceptors and service users, describing how they thought the service provision had changed since students started to use ICF. More rigorous, standardised instruments could have been used. The same applies to the evaluation on the return on investment, as well as the social and organisational impact (Bates, 2004; Watkins & Kaufman, 1998).

Evaluation Methods

It was challenging, with the allotted human and financial resources, to juggle all the various balls in implementing the IPE strategy—planning and integrating IPE activities into modules, managing change, training facilitators and preceptors, fine-tuning assessment methods and also conducting the necessary educational research.

The evaluation of the IPE intervention consisted of various studies, each focusing on a specific module or IPE learning opportunity. Ethical clearance was obtained for these studies, which followed a phenomenological school of thought in an interpretative paradigm with a qualitative-inductive approach.

Student and facilitator feedback of the modules was obtained by using the Associative Group Analysis (AGA) method as study design (Szalay &

Brent, 1967). AGA is a technique that educes free association responses from participant groups to a stimulus word in open-ended questions. The process requires spontaneous responses to questions within a limited time, thereby ensuring that only what was uppermost in the minds of participants was presented. It is therefore highly likely to be their spontaneous opinion associated with a specific concept (stimulus word). Choosing AGA allowed the researchers to collect qualitative data in resource- and time-constrained environments, where conducting focus group or individual interviews would have been impractical. Although traditional survey instruments can highlight data from a large number of subjects and give a broader cross-sectional snapshot of opinions, these techniques often fail to achieve significant levels of depth in their analysis. AGA can be criticised for being less objective because it is a qualitative data collection technique, not formally testing for statistical significance as traditional questionnaires using the survey procedure do. However, it is argued that it is through subjective data, of the type collected by AGA, that the brain structures meaning in order to make sense of the world (Snyman, Von Pressentin, et al., 2015; Szalay & Brent, 1967). Focus group discussions and individual interviews were also conducted, where applicable, with students, preceptors, service providers and service users.

Case Study 1: ICF in a Preclinical Curriculum

A review of public health and health systems curricula at Stellenbosch and other South African universities, motivated by the commitment to prepare students for working in rural or under-served areas, revealed that most of the teaching in the first few years of study was theoretical and that students needed earlier and deeper exposure to adequately prepare them for the realities of the South African rural context. (Dudley et al., 2015; Reid, Cakwe, & on behalf of the Collaboration for Health Equity through Education and Research [CHEER], 2011). Subsequently an interprofessional module at Stellenbosch University was revised using ICF as a template. On the macro level ICF was also employed to ensure that the curriculum was designed in such a way as to ensure that natural language was used to explain concepts and to gain an understanding

of the complexity and interrelatedness of the various domains covered in ICF. ICF served as the framework to motivate students by portraying the bigger picture and explaining why certain topics were covered in the process of nurturing them to become agents of change in communities. The objective of this Health in Context module—aimed at first year medical, physiotherapy and dietetic students—was to provide students with a practical opportunity to gain an overview of the broad context of health, the determinants of health and the functioning of health systems within a specific community.

The module consisted of four phases. During the first phase 378 students received lectures and workshops on social determinants of health, burden of disease, health systems (including rehabilitation services), rehabilitation, teamwork and worldviews in a multi-cultural society. The rehabilitation section covered the concepts of functioning, disability and rehabilitation as described by ICF. Students were expected to discuss in broad terms how ICF can be used as a person-centred approach in service provision, by incorporating social determinants of health, the burden of disease and functioning of health systems. Interprofessional competencies, such as role clarification, team functioning, person-centred care; interprofessional communication and collaborative leadership were also introduced in this phase. During the second phase students collaborated interprofessionally in 38 small groups of ten, gathering information on the topics covered in the first phase, focusing on a specific community that was allocated to each group. The third phase comprised a visit in which the teams engaged with their community for one day. The aim of this so called Amazing Race for Health was to provide students with the opportunity to integrate and consolidate theoretical knowledge gained prior to the visit with their first-hand experience of the realities related to the social determinants of health, the functioning of health services in under-served communities (including person-centred rehabilitation services), and its effects on individual and community health.

Activities during the community visit included joining community health workers (CHW) on home visits and shadowing health care professionals to gain a better understanding of the functioning of health facilities as well as the roles of the different professions. Students also explored the rehabilitation services in the area. The home visits and community interaction helped

the students to understand how contextual factors presented by ICF can influence health. On a micro level the students experienced the immediate setting and lived experiences of service users. By walking in their community, and talking to community members (in homes, on the street and in clinics) and health professionals involved in service provision, the students experienced on the meso level the importance of interprofessional relationships and community engagement. The macro system was explored by learning about environmental factors included in ICF, such as health and social services, systems and policies.

During the last phase of the module students were assessed. Groups had to compile a group report, do a group presentation and write individual reflections of their learning experiences throughout the module. An assessment rubric, based on ICF, was used in the formative and summative assessment of group presentations by an interprofessional team of examiners, focusing on students' ability to integrate the theory with their research and personal experience during the community visit.

This study is ongoing, but an analysis of the first three years of presenting the module indicates that the ICF framework is a valuable tool by introducing first year students to a person- and community-centred interprofessional approach. The practical exposure helps students to experience first-hand how environmental and personal factors presented by ICF influence the functioning, disability and health of an individual and a community. Working within a team throughout the module further assists the students in realising the value of interprofessional collaboration. Working closely with other professions starts the process of role clarification as students learn more about other health care professions. For students this is a 'life-changing and eye opening experience', giving them a glimpse of what they can expect in the future as health care professionals and challenging them to obtain the competency to 'become agents of change by collaborating interprofessionally'(Moodley & de Villiers, 2015; Snyman & Geldenhuys, 2015).

The aim is to continue with the annual evaluation of this module as part of the developing IPE curriculum. It will be valuable to determine how this ICF-informed exposure in the first semester of the first year impacts on the attitude and interprofessional competency of students when they enter the clinical space 18 months later. The introduction of a longitudinal portfolio will also be evaluated through participatory action research.

Apart from the challenge of transporting students to communities up to 150 km from the campus, other issues included the financial sustainability of such a huge operation and the labour-intensiveness and availability of faculty and preceptors to guide students.

Case Study 2: Using ICF in a Clinical Setting to Facilitate Interprofessional Collaborative Practice

ICF was introduced in clinical community-based placements of medical students (years 3–6) involving interprofessional collaboration between the Centre for Rehabilitation Studies and the Divisions of Community Health, Family Medicine and Primary Care (Stellenbosch University, South Africa). Where viable, this was done by collaborating with students from other professions, but unfortunately this was often not the case. A novel approach was adopted by appointing ten roaming part-time facilitators modelling ICP to both students and local health professionals. Students worked alongside these health professionals in managing their patients interprofessionally.

This 13-week exposure was divided into three phases spread over a course of four years aiming at offering students the opportunity to explore health, disability, disease and the functioning of health systems from the perspective of the service user, family, community and the environment. These community-based rotations have been developed through a journey of collaboration and have evolved from each of the three divisions teaching in their own silos, with their own outcomes and activities, to that of integrated learning and assessment opportunities. This integration was aided by the faculty's IPE strategy and by adopting ICF as the framework which students used to comprehensively assess their patients within the community context. The rubrics used as guides to assess students at the end of each of the three phases incorporated ICF and are presented as Appendices 2, 3 and 4. These rubrics have been designed to increase in the complexity and application of ICF, whist simultaneously also assessing the competencies required for IPCP. Students were assessed by preceptors representing more than one profession where this was feasible.

The first phase (four weeks in the third year of study) focused primarily on using ICF to assess a person with disability in their community context. Students used ICF to assess how effectively persons with disability had reintegrated into their communities by looking at the impact the service users' contextual factors have had on their functioning. Using ICF also helped students to assess the continuity of care from a specialised acute rehabilitation facility to community-based services. Students determined whether there were any needs which had still not been met and needed to be addressed. This information was relayed back in writing to the specialised service using the common language and domains of ICF. ICF was used as a framework to assess and care for patients at this facility (Joseph, 2011). During this phase, students also observed the role of the team members by shadowing a person with disability undergoing rehabilitation in the interprofessional specialised facility.

During the second phase (four weeks in the fourth or fifth year of study) students used ICF to assess their patients in a rural context and developed and initiated the implementation of person-centred interprofessional management plans. Students had to look further than the clinical diagnosis and treatment by collaborating interprofessionally with the local health care team to fill out the blanks regarding their patients' functioning and the contextual factors. Students had interaction with nurses, social workers, community care workers, rehabilitation practitioners and patients' families to help them identify where patients lived, where the nearest clinic was, what kind of transport was available in the community, who was available to provide continuity of care (including rehabilitation) and so on.

In the third phase (four to five weeks in the fifth or sixth year of study) students were again required to use ICF to comprehensively assess their patients within a community-based primary health care setting. Students were assessed summatively according to their ability to comprehensively identify problems and compile holistic person-centred interprofessional management plans, and also on their competency to act as case managers and conductors of the orchestra in implementing these plans. Where it was not possible to gather all the team members, students had to serve as roaming in vivo referral letters. In this exit-level phase the emphasis shifted from the identification of problems to the implementation of

management plans as part of the interprofessional team. Students were encouraged to be the agents of change by advocating for collaboration and continuity of care by using ICF.

The results of the evaluation of these IPECP activities found that students became aware of the unique role of other professions when using ICF—and the shortcomings of their own profession—to address the needs of a person from a bio-psycho-social-spiritual perspective. Initially students experienced a sense of being overwhelmed by the complexity and interrelatedness of problems faced by service users when ICF is used to assess the needs and strengths of a person. They felt that there was no way that they as individuals could address these issues once graduated and would prefer not to open a can of worms by enquiring about them. As time went by and students continued to collaborate interprofessionally, the penny dropped (in most cases) that each profession and health worker is needed, having something unique to offer in holistically addressing service users' needs. Students realised that an interprofessional team effort is crucial, also acknowledging the pivotal role the service user must play in setting priorities and goals, and with the implementation of plans (Snyman, Von Pressentin, et al., 2015).

Students reported that the common language of ICF made it easier to identify and communicate the gaps requiring collaboration with other professions. Students mentioned that the interprofessional care plans developed using ICF were not only broader and more complete than the other approaches they were taught, but service users also appreciated the fact that their self-reported problems were taken seriously. One medical student described this as 'humbling [to realise] that we don't have all the answers and skills … but need to collaborate as equal partners [with other health practitioners] to address [the] health [needs] of people'. These findings mirrored that of Stallinga and colleagues who reported the value of ICF as a common language between professions and that ICF leads to improved decision-making compared to a traditional medical assessment (Stallinga, Dijkstra, Bos, Heerkens, & Roodbol, 2014; Stallinga, Roodbol, Annema, Jansen, & Wynia, 2014; Stallinga et al., 2015).

As in the case described by Tempest and McIntyre (2006), some students experienced ICF as being too time-consuming, unnecessarily detailed and not always practical given the clinical workload. They were

under the impression they should utilise the main volume of ICF, whereas only a fraction of ICF domains is needed for any single service user (Üstün, Chatterji, & Kostanjsek, 2004). The reality is that early on in training it requires an hour or two to take a comprehensive history and examine a patient, whereas an experienced practitioner only needs a fraction of the time. Preceptors thus had to guide students to find the middle ground, to initially use ICF in more detail as part of their learning and then to develop the insight of how to focus on relevant issues.

Students mentioned that the logical structure of ICF in describing environmental factors was especially useful in assessing the impact of a person's context on functioning. The appreciation and acknowledgement by service users for the extra mile students went in doing home or work visits served as motivation for students and also helped them to realise the value of ICF. Service users were grateful that they were approached holistically and that attempts were made to get to the root of their problems. The interprofessional approach, by not just focusing on treating a condition, gave service users a sense of hope (Snyman, Von Pressentin, et al., 2015).

The summative assessments based on ICF offered opportunities for formative feedback to students and served as catalysts for interprofessional case discussions with team members involved in the management of the patient. These assessments also facilitated greater interdependence between the university and service providers (Snyman, Von Pressentin, et al., 2015).

Students' use of ICF as an interprofessional approach had a positive effect on preceptors and local health care service providers. Snyman, Von Pressentin, et al. (2015) reported that the assessment of students' case presentations by practitioners from more than one profession served as a catalyst for these professionals to engage more with each other in the workplace by discussing service users. It also led to the improved quality of referrals and interprofessional collaboration. Preceptors however expressed concern about the sustainability of the project without the presence and motivation of interprofessional facilitators, taking into account the workload of team members and the high turnover of staff.

In three health districts the university was requested to train local health professionals in applying ICF to facilitate IPCP. More than 150

professionals were trained over a period of three years. In some clinical settings the decisions taken at ward rounds started to be recorded using templates based on ICF, resulting in better interprofessional communication and care. Referral and discharge forms were also adapted along ICF guidelines (see Appendix 5).

Case Study 3: Using ICF in a Community Setting

At Stellenbosch University, final year students from five undergraduate professions can either do their entire final year at the RCS or select to do one of their clinical rotations on this rural platform (Stellenbosch University, 2015). These students participated in an IPEP home visit project aiming to expose students to service users in an under-served community as part of an interprofessional community-based primary health care team. Using the ICF framework, students collaborated as equals with local CHW to evaluate high-risk households in terms of health conditions, functioning and environmental risk factors. Students collaborated interprofessionally to explore solutions for the needs they had identified using locally available resources.

Students worked in groups of up to five different professions and were often amazed at the value of having access to other team members in managing patients. Using the ICF framework helped these students identify how they and others fitted into the team when looking at a patient in his or her context. Focus group interviews revealed that students learnt to value the contribution each profession offered to solving problems holistically (Muller, 2013; Theunissen, 2014).

> Building relationships, professionally and personally with the other students at Worcester was a highlight of the six weeks. We were able to learn from each other and work effectively in a team. I also gained experience with home visits. It is effective if all the members of the household are recorded, the ICF framework is used and a plan is put in place where necessary.
>
> The other interprofessional team members listened to us and we were able to teach them. It was the first time that we all came in contact with each other and we can learn so much from each other.

Conclusion

The value of ICF as catalyst for IPECP was demonstrated in this chapter with reference to findings at Stellenbosch University. These findings mirrored the growing evidence in literature that ICF serves as a common and neutral language to foster effective interprofessional communication. By applying ICF as a conceptual framework, improved service user outcomes were highlighted through interprofessional collaboration. This led to improved holistic decision-making as ICF enabled the conceptualisation of the complex interrelatedness of functioning as a dynamic interaction between a person's health condition, environmental factors and personal factors. ICF also contributed on an organisational level to fostering greater education–health interdependence and harmonisation in designing and delivering interprofessional education and collaborative services.

Preceptors and service providers indicated in these studies that there was better teamwork, greater job satisfaction and improved continuity of care as a result of using ICF. A longitudinal study is being planned to gain a deeper understanding of the reasons and theoretical underpinning of these changes. The study plans to include the reported outcomes of service users, the change in organisational culture, impact and economic evaluation as a result of using ICF in IPCP.

- For more information WvHO website on ICF: http://www.who.int/classifications/icf/en/
- ICF e-Learning tool: http://icf.ideaday.de/en/page26086.html
- Find and share ICF education resources: http://www.icfeducation.org

Appendix 1: Example of Structuring the Narrative of a Service User by Using ICF Codes

Linda struggled with all the deprecating comments her family members made about her son Erik during the celebrations on the long weekend. He did not eat as other kids his age, did not behave like them or play like

them. Tired of all the 'well-meant' advice on how to educate and raise her child and not having a diagnosis to explain Erik's differences to others, she visited the clinic. Here an interprofessional team helped Linda to start describing Erik's strengths and struggles in order to share a description that might help others to better understand, accept and include him in future family gatherings.

This following short profile captures Erik's difficulties and strengths. To illustrate how ICF could be used to describe and code the facets of this profile the corresponding terms and codes are listed below (used with permission of Snyman, Kraus de Camargo, et al., 2015).

The narrative

I am Erik. What works for me?

- Give me time to talk. I may take longer but I have lots to say.
- Let me eat what I can, when I can. I know what foods are safe for me, and forcing me to eat won't help.
- If I am acting poorly, let my mom deal with it.
- If I get overwhelmed by sensory input (noise, sight, touch), my behaviour may look inappropriate, but it is my reaction to an overwhelming situation. Please give me time alone.

Things I am learning:

- Learning to chew and swallow food; learning to talk clearly; learning to play well with my friends.

What I like doing:

- Playing with my sister; staying close to mom; running around; pretend play with my toys; helping mom vacuum and clean.

What is important for me?

- Good sensory regulation; proper nutrition with PediaSure®; people who are patient with me.

What people say about me?

- Busy; adorable; smart; funny; hyper; small; doesn't eat; hard to understand.

Structuring the narrative using ICF

Erik's profile	ICF items	ICF codes*
Give me time to talk. I may take longer but I have lots to say	Articulation functions	b320
Let me eat what I can, when I can. I know what foods are safe for me, and forcing me to eat won't help	Ingestion functions	b510
	Swallowing	b5105
	Individual attitudes of extended family members	e415
If I am acting poorly, let my mom deal with it.	Managing one's own behaviour	d250
	Individual attitudes of immediate family members	e410
If I get overwhelmed by sensory input (noise, sight, touch), my behaviour may look inappropriate, but it is my reaction to an overwhelming situation. Please give me time alone.	Handling stress and other psychological demands	d240
	Sound quality	e2501
	Light	e240
	Tactile perception	b1564
	Auditory perception	b1560
	Visual perception	b1561
	Individual attitudes of extended family members	e415
Learning to chew and swallow food	Chewing	b5102
	Swallowing	b5105
Learning to talk clearly	Articulation functions	b320

(continued)

Erik's profile	ICF items	ICF codes*
Learning to play well with my friends	Shared cooperative play	d8803
Playing with my sister	Shared cooperative play	d8803
Staying close to mom	Physical contact in relationships	d7105
Running around	Running	d4552
Helping mom vacuum and clean	Helping to do housework	d6406
Good sensory regulation	Perceptual functions	b156
Proper nutrition with PediaSure®	Food	e1100
People who are patient with me	Attitudes	e4
Busy	Energy and drive functions	b130
Adorable	Personal factor	Personal strength
Smart	Personal factor	Personal strength
Funny	Personal factor	Personal strength
Hyper	Energy and drive functions	b130
Small	Height	percentile
Doesn't eat	Appetite	b1302
Hard to understand	Articulation functions	b320

*b: body functions and structures; d: activities and participation; e: environmental factor

Based on the underlying ICF items Linda and the interprofessional team were not only able to get a useful picture to be shared with her relatives, but in a data model could reveal that there was another boy with similar issues living in the same town.

By using ICF the team were able to better articulate Erik's needs and strengths and also make recommendations to Linda based on the functional profile of her son.

Appendix 2 Example of Assessment Rubric: Phase 1 (Year 3)

POOR				ADEQUATE		GOOD			Score out of 9	Weight
1	2	3	4	5	6	7	8	9		
1. IMPAIRMENT: BODY FUNCTIONS AND STRUCTURES										
▪ Identification of anatomical components/physiological and psychological functions/of the body affected in patient ▪ Identification of significant deviation or loss experienced in body function/structure									/9	3
2. ACTIVITY LIMITATION AND PARTICIPATION RESTRICTIONS including possible infringement on human rights										
▪ Assessment of performance in the patient's current environment/involvement in life situation or lived experience in actual context. ▪ Information gathered during assessment and home visit to enable appropriate collaboration with interprofessional team members. **Items to consider:** ▪ Learning and applying knowledge; general tasks and demands; communication; self-care tasks; mobility; domestic life; interpersonal interactions and relationships; major life areas (work and employment, economic life, education,); community, social and civic life (recreation, leisure, religion, friends)									/9	3
3.1 CONTEXTUAL ASSESSMENT - Personal Factors										
▪ **Personal factors** that may contribute or have an impact on the outcome of various interventions (e.g. relevant past medical history, drug and allergy history, personal and social history, family history, fitness, lifestyle, habits, upbringing, coping styles, overall behaviour pattern and character style, motivation, drive, fears, expectations, etc.									/9	1
3.2 CONTEXTUAL ASSESSMENT - Environmental Factors										
▪ **Environmental factors**: identify issues that impact on the impairment and functioning, i.e. barriers and facilitators in physical and social environments (external to patient) in which patient lives and conducts his/her life (including observations during home visit here (where applicable)), which may hinder or facilitate full participation in society. Areas to consider: technology; natural environment and human-made changes to environment; support and relationships; attitudes; services (water, sanitation), systems and policies (finance - income, employment)									/9	1
3.3 CONTEXTUAL ASSESSMENT – Health and Human rights										
▪ How effectively has the human rights of the patient been addressed in the community and by the health services. Use the Constitution of South Africa and the Patient Charter as a guide									/9	1
4. REHABILITATION PROCESS - continuity of care										
▪ What benefits has the patient derived/experienced so far? ▪ What is the patient's perception of rehabilitation services rendered? ▪ What needs have not yet been addressed? (Subjective and objective views need to be explored) ▪ What is the patient's current rehabilitation outcome level and how does it compare since discharge from WCRC ▪ Explore continuity of care: Has the patient's discharge plan been implemented in the community? Are their medical needs being met at the Clinic? Are their rehabilitation needs being met at community based									/9	3
5. STRUCTURED REFLECTION										
▪ Affective-cognitive analysis of the learning that took place as a result of this experience									/9	1
6. QUALITY OF PRESENTATION AND EFFECTIVE TEAMWORK									/9	1

NOTES & COMMENTS BY EXAMINERS	EXAMINERS' NAME AND SIGNATURE:

Appendix 3   Assessment Rubric: Phase 2 (Year 4/5)

POOR			ADEQUATE			GOOD			Score out of 9	Weight
1	2	3	4	5	6	7	8	9		
1. PATIENT SUMMARY:										
Present a short summary of the patient in a few sentences.									/9	1
2. ELABORATION OF ICF ASSESSMENT AND CLINICAL REASONING										
2.1 CLINICAL ASSESSMENT Presentation of the clinical reasoning that validates the clinical assessment: **relevant** systematic history, relevant physical examination and relevant special investigations.									/9	3
2.2 ACTIVITY LIMITATION AND PARTICIPATION RESTRICTIONS Relevant subjective and objective assessment of patient's loss of function (refer to ICF regarding activity limitations and participation restriction)									/9	3
2.3 CONTEXTUAL ASSESSMENT **Personal factors:** Consider ideas, concerns, expectations and other personal factors that may contribute or have an impact on the outcome of various interventions. **Environmental factors:** Relevant environmental factors (refer to ICF) and genogram									/9	3
3. DIFFERENTIAL DIAGNOSIS										
Present a differential diagnosis and offer clinical reasoning for excluding the relevant conditions, report on relevant special investigations done on the patient.									/9	2
4. HOLISTIC MANAGEMENT PLAN BASED ON ICF										
4.1 List strengths and prioritise needs, potential complications, prognosis and desired outcomes									/9	2
4.2 Discuss and argue your interprofessional management plan and actions taken to manage problems and prevent complications									/9	2
4.3 Discuss health promotion and disease prevention done									/9	2
5. REFLECTION										
5.1 **Structured reflection** • The identification of a key human rights and ethical issue(s) and how this issue(s) were / can be addressed • Transformative experiences that brought about some learning about you as a person. • What you learnt from managing this patient in terms of your development as a practitioner – the assessment and management of the bio-psycho-social-spiritual needs and strengths. • What you learnt about the contribution that other healthcare workers can make as part of a team approach. • Ethical dilemmas or human rights issues identified during this patient encounter. How was this addressed? • Challenges in terms of communication or counselling this patient. • Broader issues that need addressing in terms of the health care system or organisation of care. • Broader issues that need addressing in terms of the community and social or environmental determinants of health.									/9	3
5.2 Identification of **knowledge gaps** and providing evidence-based **answers** to the questions formulated.									/9	1

NOTES & COMMENTS BY EXAMINERS	EXAMINERS' NAME AND SIGNATURE:

Brief summary of interprofessional case discussion:
The purpose of this page is to capture the consensus reached during the case discussion how the continuity of interprofessional care will be ensured. Please put in the patient's file

Patient name:	File Number:
Place:	Date

Interprofessional team present at case discussion:

Name	HCPSA number (where applicable)
1.	
2.	
3.	
4.	

Diagnosis:

Using ICF, what is the interprofessional management plan for this patient agreed upon at the student's assessment / case discussion

What are the ethical / human rights issue(s) that surfaced as a result of this case discussion and how was it / will it be addressed by the interprofessional management team going forward?

Appendix 4 Assessment Rubric: Phase 3 (Year 5/6)

POOR			ADEQUATE			GOOD			Score out of 9	Weight
1	2	3	4	5	6	7	8	9		
1. PATIENT SUMMARY:										
Present a short summary in a few sentences.									/9	1
2. ELABORATION OF ICF ASSESSMENT AND CLINICAL REASONING										
2.1 CLINICAL ASSESSMENT: Presentation of the clinical reasoning that validates the clinical assessment: **relevant** systematic history, relevant physical examination and relevant special investigations.									/9	2
2.2 ACTIVITY LIMITATION AND PARTICIPATION RESTRICTIONS Relevant subjective and objective assessment of patient's loss of function (refer to ICF regarding activity limitations and participation restriction)									/9	2
2.3 CONTEXTUAL ASSESSMENT **Personal factors:** Consider ideas, concerns, expectations and other personal factors that may contribute or have an impact on the outcome of various interventions. **Environmental factors:** Relevant environmental factors (refer to ICF) and genogram									/9	2
3. DIFFERENTIAL DIAGNOSIS										
Present a differential diagnosis and offer clinical reasoning for excluding the relevant conditions, report on relevant special investigations done on the patient.									/9	3
4. PERSON-CENTRED INTERPROFESSIONAL MANAGEMENT PLAN										
4.1 List strengths and prioritise needs, potential complications, prognosis and desired outcomes									/9	3
4.2 **Discuss and argue** your interprofessional management plan and **actions taken** to: • **manage** problems and prevent complications • do **health promotion and disease prevention** • identify key **human rights and ethical issue(s)** and how it was / can be addressed • ensure **continuity of care** • promote **cost-effective** management • **improve quality of care** • address **knowledge gaps** and providing evidence-based **answers** to the questions formulated									/9	10
5. REFLECTION										
Reflect on what was learnt personally and professionally by serving this patient, working with the team and engaging the health system. How will this experience change your future practice?									/9	2
6. ADEQUATELY COMPLETING A DISABILITY GRANT FORM FOR <u>ONE</u> OF THE THREE PATIENTS) (Submit the completed form to examiner)										
• Complies with the administrative requirements of completing the form • Notes patient's complaints regarding impairment and perceived impact on their activities and participation • Describes the current treatment plan • The physical assessment and investigations supports or refutes the complaints • The outcome level is supported by the diagnoses and use of assistive devices • The recommendations demonstrate clinical reasoning • The certification is in line with the information provided on the rest of the form • Note at the end of the form the need and role of an occupational therapist in the vocational management of this patient.									/9	4
7. COMPETENCY DEMONSTRATED										
Competency demonstrated to: work in interprofessional team; render person-centred care; apply bio-psycho-social-spiritual approach; take ownership and responsibility as case manager; embrace non-linear complexity of health and healthcare									/9	4

NOTES & COMMENTS BY EXAMINERS	EXAMINERS' NAME(S) AND SIGNATURE(s):

Brief summary of interprofessional case discussion:
The purpose of this page is to capture the consensus reached during the case discussion how the continuity of interprofessional care will be ensured. Please put in the patient's file

Patient name:	File Number:
Place:	Date

Interprofessional team present at case discussion:

Name	HCPSA number (where applicable)
1.	
2.	
3.	
4.	

Diagnosis:
Using ICF, what is the interprofessional management plan for this patient agreed upon at the student's assessment / case discussion
What are the ethical / human rights issue(s) that surfaced as a result of this case discussion and how was it / will it be addressed by the interprofessional management team going forward?

Appendix 5 Interprofessional Referral Letter Based on ICF

REFERRAL TO:							
Community Health Worker	Dietician	Medical practitioner	Nurse	Occupational Therapist	Physiotherapist	Speech Therapist	Social Worker

PATIENT INFORMATION	
Patient name:	File Number:
Date of birth:	Contact number:
Address:	Date

INFORMATION REGARDING NEEDS AND STRENGTHS

Body function Impairment	Activities / Activity Limitation	Participation / Participation Restriction

Environment Factors		Personal Factors	
Barriers	Facilitators	Positive	Negative

CURRENT INTERPROFESSIONAL MANAGEMENT PLAN

REASON FOR REFERRAL:

ADDITIONAL NOTES

REFERRING PRACTITIONER(S):		
Name:	Profession	Contact number:

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Partnering with Patients in Interprofessional Education in Canada and in the USA: Challenges and Strategies

Isabelle Brault, Marie-Claude Vanier, Vincent Dumez, Angela Towle, William Godolphin, Amy L. Pittenger, Jeannine Conway, Joseph R. VonBank and Lauren Collins

Introduction

Partnering with patients is an urgent imperative for transforming the health care system to one that is focused on building a culture of health. Data supports this call by demonstrating positive impacts of patient engagement on health outcomes in different settings (CFHI, 2014; IOM, 2014). To respond to this growing trend, health care providers (HCP) need to be trained and educated to become proficient collaborators and nurture collaborative partnerships with patients. However, to date, integrating patients in education and training is considerably less common, and data to support programme development are scarce. A paradigm shift in the health care systems from a paternalist to a patient-as-partner approach is needed (Karazivan et al., 2015; Richards, Montori, Godlee, Lapsley & Paul, 2013). In this chapter, Canadian and American authors from four different universities—leaders in involving patients as educators for health care students—will present their experiences in

interprofessional education (IPE). They will examine the processes of integrating partnership with patients in IPE and present how the leadership takes form and is actualised, and discuss evaluation issues.

Case Study 1: Université de Montréal

Transforming the IPE Curriculum: Shifting from a Patient-Centred to a Partnership Approach and Co-constructing with Patients

Background and Underlying Philosophy

Starting in 2008, Université de Montréal has developed an IPE programme of three mandatory undergraduate courses on collaborative practice (CP) and partnership with patients which is now embedded in the curriculum of thirteen health or social services professions. One of the main characteristics of Université de Montréal IPE programme is the inclusion of patients' representatives in all steps of IPE course development and management. The inclusion of patient representatives in the IPE planning committee named Interfaculty Operational Committee (IOC) triggered a change of paradigm from patient-centred care towards a model of partnership in care. Since 2015, a specific IOC vice-presidency function is held by a patient in order to officially demonstrate the sharing of leadership. The patients come from the Collaboration and Patient Partnership Unit (CPPU) of the Faculty of Medicine. The sharing of patients' extensive experience with chronic disease, health care providers and health care settings emphasised the importance of conciliating the visions of patients and health care providers.

In this partnership model, "the patient is being gradually empowered to participate in the decision-making process regarding his/her care plan and to make free and informed choices; he is becoming a full-fledged member of the interprofessional team handling his/her care; his experiential knowledge and ability to develop care expertise for his/her medical condition are recognized; and he influences the interventions chosen and their prioritization in accordance with his/her life project" (Vanier et al., 2014 p 75–76).

It was hypothesised that involving patients as trainers and educators in health professionals' education could help students to better understand patient experiences, better grasp the concept of health care partnership and its fulfilment in clinical practice, as well as model collaboration from initial training onward. A partnership in care framework was jointly developed by the CPPU, the IOC and the Integrated University Network for Healthcare of Université de Montréal (RUIS, 2013).

Case Study: How Patients were Integrated in IPE Courses

In its current form, the curriculum comprises three one-credit undergraduate mandatory courses embedded in the first three years of preclinical education. Approximately 1600 students are enrolled yearly in each of the three IPE courses. (See Vanier et al., 2013 for further details about UdeM's IPE curriculum.) The courses use a competencies-based approach in accordance with published models (Frank et al., 2010; Tardif, 2006) and are structured in a continuum allowing gradual development of the collaboration and partnership in care competencies. The three IPE courses follow the same format: (1) online modules presenting concepts; (2) intradisciplinary preparatory activities allowing students to reinforce their own professional identity and (3) interprofessional workshops where students from different discipline programmes meet, share views and knowledge and learn together about each other and from each other. The first year workshop involves mainly discussions around partnership in care concepts while second and third year workshops involve discussions of chronic disease case studies. As a key innovation, patients now co-facilitate those workshops with clinicians or health professional educators. These patients-as-trainers give targeted feedback to students on their application of the concepts of partnership in care. Moreover, they share their experiential knowledge of living with a chronic disease (or being a caregiver to such a person).

Evaluation

Patient engagement in IPE courses was gradual and attained full implementation in 2013–2014. So far, course evaluation has been mainly an assessment of satisfaction, main learning and students'

perceived confidence and competency to interact interprofessionally. Evaluation of the first IPE course is different from the second and third year since it does not involve case-study discussion. Students' appreciation is obtained via online course assessment questionnaires using Likert scale and open-ended questions. Open-ended questions revealed patients-as-trainers' contribution as one of the most appreciated elements of these IPE courses.

Co-facilitation by a patient was considered relevant (agreed or strongly agreed) by most students of the 2014–2015 cohort for three courses (first year: 95.4%, second year 90.9%, third year: 88.6%). Again, most students agreed or strongly agreed that patients' shared experience and comments enriched the discussion (first year: 92.9%, second year 89.6%, third year: 87.9%). When asked if the presence of a patient allowed for a more concrete illustration of this concept, 93.0% of first year students agreed or strongly agreed that it did. Presence of a patient allowed students to better integrate the concepts of partnership in care in the case study (second year: 86.5%; third year: 84.0%). A very interesting datum showed that having a patient present during case discussions prompted students to give more importance to the patient's point of view when prioritising clinical interventions (second year: 85.1%, third year: 84.1%).

Success Factors and Leadership Enactment

An organisational change of this magnitude requires strong leadership at multiple levels. At the **micro level**, adoption of a new teaching model by the health professional educators and the patients-as-trainers shows leadership. Their collaboration in the classroom to co-facilitate workshops, as equal partners, is a potent role model for the students. Furthermore, health professionals involved in our IPE courses as co-facilitators get accustomed to the partnership-in-care model and can contribute to implementing and promoting this model in their own care setting. Since most of the health professional workshop facilitators are recruited from affiliated clinical settings they are empowered to bring back this vision to their organisation and contribute to ensuring that a coherent model of care is shared between academic and clinical settings.

At the **meso level**, two key groups are leading the changes. This level of leadership in our institution has been possible because of strong individual leadership in both the IOC and CPPU. Co-construction of a shared vision by these leaders has resulted in a synergistic and a tremendously rapid transformation. In five years innovative concepts and shared vision have been developed, a high number of patients have been recruited by the CPPU and co-trained by patient and HCP educators of the IOC, and the IPE curriculum has been transformed. The IOC is composed of educator representatives from each of the 13 different professions. Each of them has shown leadership by participating in strategic planning and accepting regular changes to course material required by the fast evolution of the curriculum and by managing these courses in their own programme. The CPPU is co-directed by a physician and a patient. This co-direction is in itself recognition of the importance of giving a strong patient voice to the design of curriculum and training programmes of future health professionals and in their content.

At the **macro level**, Deans and Directors of the different faculties and schools supported development of the IPE curriculum and the engagement of patients in these courses. An inter-faculty agreement describing organisational structure, course management responsibilities and funding was signed. The Vice-Rectorate of the institution supported the creation of these credited mandatory inter-faculty courses which allowed for a continuous funding of the IPE curriculum. Leadership by all individuals involved in the development of an integrative model of patient engagement, now known as the 'Montreal Model', was certainly an important success factor for the development of this innovative IPE curriculum. The leadership for the IPE curriculum in partnership with patients is definitely a collective and evolutive leadership. We believe engagement of patients in our IPE curriculum is a definite plus. One of the greatest benefits is highlighted in this patient-as-trainer's quote: '*It is not a "knowledge" that students are getting from these courses but an understanding of humans that are suffering, a sensibility to the state of patient. They are grasping humanity.*'

Case Study 2: University of British Columbia

Shared Decision-making: A Foundation for Patient Involvement in IPE at the University of British Columbia

Background and Underlying Philosophy

The involvement of patients and community members in the education of health professional students at the University of British Columbia (UBC) is underpinned by the intent to educate students to practise shared decision-making with their patients in a multiprofessional and interprofessional context.

Shared decision-making, based on the notion of a partnership between the patient and health professionals, arises from the ethical imperative of patient autonomy. Evidence suggests that people who are actively involved in their care have better health outcomes and there is much policy rhetoric about the need for patients to be actively involved in their care. Unfortunately, however desirable, shared-decision making rarely happens in practice and some of the barriers arise from the way health professional students are educated. Our initiatives seek to help students to see patients as 'experts by experience'. This is contrary to the usual deficit model (paternalism) in which patients are in need of care and health professionals are there to fix their problems. Through experiencing patients as their teachers, students realise that they are resourceful people with expertise, strengths and preferences, and that the professional's role is to work with them. This asset model of education is more appropriate to facilitating shared decision-making, especially with respect to chronic disease, where the patient and their family are the chief provider of care. The shared decision-making framework informs the decisions we make and how we make them.

The implications for program design are:

- Generates the guiding principles (e.g. programmes are developed as collaborative initiatives between students, faculty and community representatives, including patients).

- Dictates a governance structure based on shared decision-making (e.g. a steering committee of equal representation of community/patients, students and faculty).
- Describes the desired relationship between teacher and learner (e.g. a partnership relationship between the patient as teacher and student as learner: a model for future partnership relationships between patient and health professional).
- Determines the kind of patients to be recruited as teachers (e.g. people living with chronic conditions who have developed expertise in self-management).
- Informs the educational design of the programmes (e.g. interprofessional, to reflect the teamwork required in chronic disease management; the role of faculty to facilitate but not control the relationship between patient teacher and students).
- Drives the outcomes of most interest (e.g. attitudinal shifts, insights into underlying assumptions, empathy, partnership and markers of patient-centred care and shared decision-making).

Patient and Community Voices at UBC

Over the past ten years our initiatives have aimed to give patients and community members the power to educate students without the mediation or control of faculty and to put patients at the centre of the education process in a way that enhances their authentic and autonomous voices. Examples include the Patient and Community Voices workshop series (Towle & Godolphin, 2013), the Patient and Community Fair (Towle, Godolphin & Kline, 2015), the Aboriginal Community as Teacher (Kline, Chhina, Godolphin, & Towle, 2013) and the interprofessional Health Mentors programme (Towle et al., 2014). All programmes are multiprofessional or interprofessional, involving students from 14 different disciplines.

Case Study: The Interprofessional Health Mentors Programme

The Interprofessional Health Mentors Programme at UBC is an elective in which the health mentor is a person living with a chronic health condition or disability, or a caregiver, who is an 'expert by experience'. Each

mentor has a group of four students, each from a different health profession, and the group meets two or three times a semester over three semesters (16 months). A key feature of the programme is that the control of the education is handed over to the students and their mentor who function as self-directed learning communities. The role of the faculty is to recruit students, set broad objectives, suggest discussion topics for each meeting and monitor learning by reading and responding to the online reflective journals written by students after each meeting.

Evaluation

The Health Mentors programme was set up initially as a three-year pilot project with an extensive evaluation plan to monitor implementation overseen by the steering committee. Evaluation methods included questionnaires (with rating scales and free text responses), focus groups and interviews. Data were obtained from students and mentors on three occasions for each cohort. Overall satisfaction with the programme was high: in end-of programme surveys (scored on a scale from 1 = worst to 5 = best) students rated it on average 4.1 (compared with their other educational experiences) and mentors rated it 4.5 (compared with other volunteering experiences). Few suggestions for improvement were made and only minor changes to the programme were required. Thematic analysis of free text responses as well as quotes from the journals showed a wide range of learning outcomes (Towle et al., 2014). Current evaluation studies include pre-post administration of the Patient-Practitioner Orientation Scale (Krupat, Hiam, Fleming & Freeman, 1999) and long-term evaluation of impact through follow-up interviews with students and a case-based assessment with graduating medical students two years after their Health Mentors experience. Indicators of success to date include continuation of the programme beyond the pilot funding, increased number of participating professional programmes, requests from faculty and students to accommodate more students, a high proportion of mentors who want to continue mentoring, and the ability to continue to recruit high-quality mentors.

Success Factors and Leadership Enactment

Consistency between the Programme Philosophy and Decision-making Infrastructure

The collaboration between students, faculty and patients is reflected in the composition of the steering committee that provides oversight of the programme. An early task of the committee was to agree on the core values underpinning the collaboration and determine a set of guiding principles.

Deliberate Patient Teacher Recruitment

Clarity about the role of the patient as teacher facilitates the recruitment process. Patients may be recruited through diverse means such as advocacy or support groups, community agencies, advertisements in newspapers or clinics, or through health professionals or existing patient educators. For the Health Mentors programme we developed, with the aid of the steering committee, a formal selection process because of the level of responsibility of the mentors. This includes verbal and written information with details about the programme's purpose, requirements and application/screening process, a 'job description', an application form, and an interview conducted by a current mentor and a student.

Well-Designed Educational Experiences

Ideally the learning objectives and outcomes are co-created by faculty and patients. The focus should be on cooperative and collaborative learning between students and patients to create an authentic patient-centred model of education. Students benefit most from sustained interactions that permit them to discover the person behind the condition and develop relationships. Panel discussions or workshops put on by groups of patients provide multiple perspectives and more balanced learning. Education that is co-designed with people from the community provides opportunities for fun and creativity and for thinking outside traditional academic pedagogy into new experiential learning ideas.

Attention to Identity, Power and Location

An authentic patient-centred model of education is one in which the focus of learning is shifted from the relationship between the professional as educator of the student to the relationship between patient and student with the professional as resource (Bleakley & Bligh, 2008). This shift inevitably brings with it a change in power, role and meaning. It affects the ways that students see themselves in relation to patients at a time when they are constructing their professional identity. Moving the location of the learning from the territory of the professional (classroom or clinic) to a community setting chosen by the patient is a specific way of manifesting this change in power.

Leadership Enactment

Leadership for the Health Mentors programme (conceptualisation, planning, and implementation) came from two faculty members who were recognised leaders in the field of shared decision-making. The steering committee is responsible for making substantive decisions about the programme. Additional support is provided by faculty supervisors in each participating programme who read and comment on student journals. Community champions have added energy, encouragement and active support; individual health mentors have shown leadership in other activities such as presentations at conferences and co-authoring papers. The programme is offered under the umbrella of the College of Health Disciplines (CHD) whose members include all of the health and human service programmes at UBC. At an institutional level, positioning the Health Mentors programme within the College has provided some advantages in that the CHD leads IPE activities at UBC, administers the Interprofessional Education passport (a requirement for graduation in many health professional programmes) and is seen to be a 'neutral' convener among the health professions. Extensive interviews with education leaders at UBC (Deans, Department Heads, Provost) has revealed a consensus on the benefits of autonomous input by patients to the education of students and support for finding ways to implement

patient involvement. Many leaders appear to be moving from a pre-contemplative to a contemplative stage in their readiness for change.

Challenges

We have found the challenges of involving patients in IPE to be those associated with IPE in general. These include funding, institutional infrastructure, timetabling and student numbers. Some of these issues have been overcome by providing flexibility in credit and scheduling. The programmes are elective but students receive credit through the Interprofessional Education passport. In some instances the activity is given credit under a different existing course in different departments. Meetings may be scheduled outside of regular class hours, and decided by the students and their patient teachers to best suit their needs. While positioning the Health Mentors programme within the College has advantages, the CHD has limited authority to commandeer resources for IPE. Finding sustainable internal funding for IPE in general and the Health Mentors programme in particular continues to be a challenge. However, new leadership for health at UBC, in which the CHD has been replaced by an Office of the Vice Provost Health within the Provost's Office, offers hope for sustainable funding for IPE and more opportunities to embed patient involvement into the educational programmes.

A challenge that is unique to patient involvement is that of language, a major source of controversy and confusion. Words such as patient, client, consumer, service user and survivor often express power relationships and generate strong emotions among 'patients'. Different words are used by different professions, which adds a second layer of complexity in the IPE context. The 'non-professionals' involved in education are not all 'patients'; they include caregivers (parents, family members) and people who may be affected by adverse social determinants of health (seniors, members of different ethnic groups, recent immigrants) as well as community-based, not-for-profit organisations that provide support services. For the sake of brevity we use the term 'patient' in our work to encompass all of the above, while recognising that the term is controversial and may trigger strong reactions that side-track discussions. We find

that it is important to have explicit and ongoing conversations about the difficulties of terminology and come to an agreement that everyone can agree to live with. One of the sessions in the Health Mentors programme explicitly deals with words and meanings so that students get an insight into the complexity of language in health care (Ruitenberg & Towle, 2014).

Case Study 3: University of Minnesota

The University of Minnesota: Interprofessional Community Teacher Experience

Background and Underlying Philosophy

In 2001, the University of Minnesota's College of Pharmacy designed and implemented an educational programme called Early Pharmacy Education with Community Teachers (EPhECT [pronounced 'effect']). http://archive.ajpe.org/legacy/pdfs/aj660419.pdf. The motivation behind this educational initiative was the recognition that pharmacist practitioners must combine essential didactic knowledge and problem-solving skills with competent relationship-building abilities that incorporate the personal and social aspects of the patient's life. Another contributing factor behind this initiative was the limited opportunity classroom case studies and simulations provided for students to fully engage longitudinally with real people in the community in a way that emphasises the social and economic influences of health care.

Teams of pharmacy students (originally teams of first, second, and third year pharmacy students; later contracted to teams of first and second year pharmacy students) visited volunteers in the community across a two-year period of time, practising the relationship-building skills central to the practice of pharmaceutical care. Student teams met regularly with a faculty member advisor to debrief the community teacher visits and plan for future visits.

In the decade plus time frame that the EPhECT programme has been in place, there have been many changes in leadership of the programme that have resulted in multiple changes to the design and overall objectives of the experience. The University of Minnesota was going to eliminate it from its revised curriculum in 2013, because it had devolved into a version that no longer met the original intent. At this point, the Director of Interprofessional Education at the University of Minnesota convinced the curriculum revision and administration leadership to allow the programme to remain, but in an interprofessional form.

Leadership Framework: Kotter's Change Model

The University of Minnesota's College of Pharmacy Director of Interprofessional Education first secured the partnership of the College of Pharmacy's early experiential education director and then began meeting with the curricular and interprofessional leadership from the Schools of Medicine and Nursing. Once a coalition was formed across these programmes, a strategic vision was co-created (including student input) and utilised to eliminate important barriers—such as the need for centralised administrative support to coordinate the logistical aspects of an interprofessional version (e.g. community teacher volunteer expansion, training, course coordination and scheduling). As a collaborative effort, Pharmacy, Nursing, and Medicine were able to eliminate this important barrier and achieve a motivating and accelerating short-term win by gaining the Associate Vice President for Academic Health Centre's support to hire a central administrative coordinator for the initiative. This centralised administrative support was essential to sustain the forward progress of implementing the interprofessional programme. Concurrently, the College of Pharmacy began implementing for the 2014–2015 year the educational design proposed for the interprofessional programme as a bridge uniprofessional trial. This was to test the educational model and allow for refinements before the interprofessional model was fully implemented for the 2015–2016 academic year.

Case Study: Interprofessional Community Teacher Experience

Present: The Interprofessional Version

In 2015, the EPhECT programme was converted to an interprofessional version, with teams consisting of second year pharmacy, medicine, master of nursing, and dental hygiene students. Peer-led team learning was the theoretical framework used to design the interprofessional programme. Peer-led team learning is an established educational model, which has its origins in science education, and is built on the constructivist theoretical frameworks of cooperative and collaborative learning (Johnson & Johnson, 1996). This educational approach is an example of active learning, which argues that meaningful learning is defined by student engagement with complex, authentic problems, as well as social interaction with peers and others (Boud, 2001; Gosser, Cracolice, Kampmeier, Strozak, & Varma-Nelson, 2001; Sampson & Cohen, 2001). Within education, leveraging complex, real-world learning activities and assessments with instructor workload poses a real challenge to instructional design. While students undoubtedly benefit from active learning opportunities, these kinds of experiences require individualised and timely feedback, as well as ongoing practice, which can be a challenge for even the most experienced instructor. Instructors can mitigate their workload by utilising other learners as part of the educational design. In addition to managing the workload of a course, peers are also a potential source of educational scaffolding. Educational scaffolding is the support required for students to engage in authentic, complex tasks through demonstration, feedback, and other necessary resources to allow for successful completion (Keller, 1987, 2008; Merrill, 2002).

Description of Interprofessional Community Teacher Experience

The Interprofessional Community Teacher Experience is a service learning experience which pairs second year medicine, pharmacy, masters of nursing and senior dental hygiene students with a volunteer community teacher (CT). Through this course students develop a working/professional relationship with their CT and learn from their CT's health and life

experiences. Students will work with their CT to choose and complete activities unique to each CT's health profile. CTs benefit by gaining better understanding of their health by discussing and evaluating their health profile with health professional students,as well as appreciating the physician's, nurse's, pharmacist's and dental hygienist's role in health care. Students benefit by further developing the interprofessional collaborative and patient-centred skills necessary for modern practice.

Evaluation

See Table 16.1 for a description of the Interprofessional Community Teacher Experience course learning objectives, activities, and learner assessments.

Success Factors and Leadership Enactment

As described earlier in the Leadership Framework section, The University of Minnesota's College of Pharmacy Director of Interprofessional Education and Associate Professor first secured the partnership of the College of Pharmacy's early experiential education director and then began meeting with the curricular and interprofessional leadership from the Schools of Medicine and Nursing (Associate Deans for Education). After the steps outlined in the Leadership Framework section, Course Directors (Assistant and Associate Professors) from each of the participating programmes (Medicine, Nursing, and Pharmacy) were included in the planning because this experience was embedded into existing core curricular components.

Case Study 4: Thomas Jefferson University

Embedding Patient Mentorship into IPE Curricula

Background and Underlying Philosophy

The Jefferson Health Mentors Programme (JHMP) is a required longitudinal interprofessional education (IPE) curriculum for all first and second year medical, physical therapy, occupational therapy, couples and family

Table 16.1 Description of the Interprofessional Community Teacher Experience course learning objectives, activities, and learner assessments, University of Minnesota

Interprofessional learning objectives	Students will be asked to do the following
1. Engage in an interprofessional, community teach-partnered relationship through CT visits and activities *Engagement measured by:* • Attendance • Peer and CT evaluation	• Attend an introduction session • Visit with their CT twice in the fall semester and once in the spring semester • Complete a post-visit reflection and team assessment after each visit
2. Partner with CT to identify and address a health system issue that interferes/influences the patient experience and/or outcomes • Health system issue problem-solving will be determined with CT feedback and presented during the spring large group debrief session	• Attend a debriefing meeting once in the fall and once in the spring semester • Complete peer evaluations after completing a visit and debriefing • Through visits with CT, identify a community or health system issue that interferes with patient outcomes. Students are asked to involve their CT in identifying an issue that has been personally challenging in navigating the health care system (examples could include transportation challenges, communication inefficiencies within a system or across systems—including transitions of care-related problems) Prepare a solution and present solution at spring large group interprofessional debriefing session—CTs will be invited to poster session as guest of honour—maybe listed on poster as co-author or mentor/advisor to future honour the CT?)
3. Demonstrate effective teamwork skills by collaborating with small group members on course activities • Teamwork skills will be measure by peer evaluation	*Debriefing Sessions:* 3 CT groups (9 students in total) will be assigned to work together through the debrief sessions. There will be approximately 10 small groups of 9 per debriefing session. The first portion of the debriefing will use the peer-led team teaching approach, second portion of debriefing will be large group report-out facilitated by one faculty member per large group
4. Apply skills gained through each programme's curricula including interviewing, basic physical assessment, conducting a medication history, providing basic patient education. *Application of skills measured by:* • Attendance to CT visits—interviewing will occur at each visit • Physical assessment—completing activities such as blood pressure screening • Medication history—students must complete a medication list, then update each visit • Patient education—students will provide CT with information on a topic of interest for the CT	

therapy, nursing, pharmacy and physician assistantship students. As part of this curriculum, interprofessional teams of five to six students partner with a Health Mentor to complete a series of four modules centred on team-based, person-centered care over a two-year period. The Health Mentor is identified as a 'teacher' as well as a team member; each Health Mentor is a community-dwelling adult with one or more chronic conditions or impairments who is interested in sharing his/her personal narrative with a team of health professional students. The two-year JHMP curriculum consists of four key modules, plus orientation sessions at the beginning of each year. These modules comprise: (1) Obtaining a comprehensive life and health history, (2) Preparing a self-management support plan for wellness and healthy behaviour, (3) Assessing patient safety, and (4) Interprofessional education and practice. To our knowledge, the JHMP is the largest longitudinal IPE curriculum in the USA with a primary focus on partnering interprofessional student teams with patient mentors.

Case Study: The Jefferson Health Mentor Programme

The impetus for creating the Jefferson Health Mentor Programme (JHMP) was rooted in the new vision of health care delivery proposed by Institute of Medicine, World Health Organization (WHO), and Healthy People 2020 goals (National Research Council, 2001, 2003; United States Department of Health and Human Services, 2011; WHO, 2001, 2010). The JHMP is designed specifically to increase health professions' student competencies in interprofessionalism, patient-centeredness and collaborative practice, a goal further supported by the 2011 Interprofessional Educational Collaborative Practice (IPEC) report (IOM, 2014). In addition, partnering students with patients early and consistently throughout their training has garnered increasing attention as an ideal format for a redesigned health professions educational system (Fulmer & Gaines, 2014; IOM, 2014; Towle & Godolphin, 2013; Towle et al., 2010).

Formatted to resemble the Chronic Care Model, Health Mentors were recruited to serve the role of the 'informed, activated patient' and interprofessional student teams were assembled to partner with these mentors

with the aim of creating a series of 'productive interactions' among mentors and students, to equip the students with the knowledge, attitudes, and skills needed to become 'prepared, proactive practice teams' (Bodenheimer, Wagner & Grumbach, 2002).

Three overarching goals anchor this longitudinal mentorship programme: (1) Students will understand the perspective of the patient and value patient-centred care; (2) Students will understand and value the roles and contributions of various members of the interprofessional health care team; (3) Students will appreciate how a person's health conditions and impairments interact with personal and environmental factors.

Evaluation

Over the last eight years, the JHMP has undergone substantial curricular revisions to better address IPE core competencies, overarching programme goals, and student, health mentor and faculty feedback. Trying to keep pace with ongoing changes in practice redesign, the JHMP is a dynamic IPE programme that undergoes an iterative process of quality improvement each year, searching for new and better ways to reform health professions' education and promote an integrated approach to person-centred care (Arenson et al., 2008, 2014; Berwick, Nolan, & Whittington, 2008; Collins et al., 2008, 2011).

Outcome evaluation includes both quantitative and qualitative methods. Quantitative evaluation tools are used to gather data at baseline and at the end of the two-year programme. Data analysis leads to both identification of programme successes and needs for future improvements. Course evaluation data has been increasingly positive over the last eight years with each round of quality improvement. With the implementation of the updated and revised curriculum in the most recent academic year, the JHMP again received very high student course evaluations; the majority of students from all seven professions agreed that the IPE modules helped them in their achievement of programme goals (ratings ranged by profession from 86% to 96% agreement at the end of the first year and 79% to 93% agreement at the end of the second).

An unexpected benefit of the programme has been its impact on the health and well-being of our volunteer Health Mentors. In a recent mixed-methods study, our Health Mentors rated programme satisfaction as 9.13+/–1.43 and reported increased motivation to make and maintain healthy behaviours (Collins, Baronner, Giordano, Umland & Lim, 2015. Manuscript under review). High satisfaction levels from working with interprofessional student teams were reported; substantial improvements in the management of their health conditions and improvements in overall health status were relayed.

Success Factors and Leadership Enactment

The success of the JHMP requires coordination, recruitment and training of Health Mentors, and evaluation and assessment of JHMP programme goals/objectives. Implementing JHMP across the University requires coordination among 22 individual courses within seven complex and crowded professional curricula. Further, coordination occurs between the varying academic calendars. Each year, an interprofessional faculty, student, and health mentor Steering Committee participate in a process of continuous quality improvement, evaluating and revising curricular content, as well as working through logistics of implementation and evaluation.

Health mentors are the cornerstone of this programme. Mentors who choose to volunteer for this programme do so out of a genuine interest in training future health professions students on how to partner with and engage future patients in optimal team-based care. To date, our health mentors have been recruited from diverse sites including physician practices, senior centres, rehabilitation programmes and community-based organisations. Potential health mentors receive one hour of training that includes a detailed description of JHMP logistics, the make-up of the student teams and respective professions, the role of the health mentor as teacher, as well as an overview of JHMP goals and objectives. After recruitment, health mentors complete an application which is reviewed by programme staff. After recruitment into the programme, health mentors receive regular communication from JHMP including details of team visits and a student-edited bi-annual newsletter, and participate in

an end-of-year 'graduation' celebration, which recognises the contribution of these generous individuals. In addition, one health mentor serves on our JHMP Steering Committee, assisting with curricular revisions and providing a personal perspective on the programme.

An important lesson learnt in introducing the JHMP is the value of engaging students, faculty, administration as well as the health mentors themselves as leaders of this IPE initiative. Student course liaisons from each profession are invited to serve as part of our JHMP Steering Committee, providing regular peer feedback and input on the programme. Each year, students play a key role in re-engineering the JHMP by encouraging increased use of technology, such as adoption of Team Wiki sites for posting module instructions and completing team assignments, along with gaining support for an optional online small group discussion.

The JHMP Steering Committee has increasingly recognised the need for new strategies to recruit additional faculty, support faculty development, and sustain faculty participation in this programme. Over the last eight years, we have employed a variety of faculty development tools and activities, including: (1) online faculty guides; (2) instructional workshops; (3) an online question and answer tool; (4) faculty mentorship and (5) formal feedback. The Jefferson Centre for Interprofessional Education (JCIPE), founded in 2007, serves as the academic 'home' for the Health Mentors Programme and is an invaluable part of the sustainability of this programme. JCIPE provides both coordination and convening and is home for the JHMP Steering Committee, our JHMP Education Coordinator and JHMP student course liaisons. It also offers evaluation support in collaboration with existing evaluation teams at Jefferson. Ultimately, the success of this programme rests on the combined efforts of the 250 volunteer health mentors, the assistance from more than 10 community organisations (including public health agencies, local senior centres, senior housing facilities, and retirement communities who help to recruit volunteer health mentors), institutional support from Thomas Jefferson University, and the collaboration of seven professions (including 22 courses, over 40 faculty members, and approximately 1300 students/year).

Challenges

Particular challenges with implementing a broad IPE curriculum such as the JHMP include programmatic and scheduling logistics, student perceptions, and at times, the health and busy schedules of the Health Mentors themselves. During the cycles of continuous quality improvement of this curriculum, it has been critical that JHMP modules did not contribute to curriculum overload or repetitiveness in any particular profession's curricula. Module content was designed to meet curricular objectives for all participating professions and was integrated into the existing profession-specific courses.

Another primary challenge for this IPE curricular innovation was the initial lack of a common language across health professions regarding health and wellness. This challenge was addressed in 2010 by incorporating the International Classification of Functioning, Disability and Health framework (ICF) (WHO, 2001) throughout the two-year JHMP curriculum. Students and mentors now use the ICF framework to communicate more effectively as a team and to better understand the interaction of a person with his/her health conditions, social roles and environment.

Lessons Learnt

Since process and outcome evaluations are incorporated as key elements of the overall JHMP assessment plan, the JHMP team has been able to ensure continuous quality improvement over the last eight years and meet new IPE recommendations and expanding accreditation standards across professions. Successful implementation of this large IPE programme requires coordination, continuous quality improvement, and institutional 'buy-in'. Key to success has been the willingness of faculty, students and health mentors to learn together, with and from each other. Communication, mutual respect, flexibility and an unwavering commitment to the ideal of interprofessional person-centred education have become hallmarks of the JHMP.

Discussion and Conclusion

In this chapter, authors from four different universities presented their experiences of partnering with patients in IPE and highlighted the leadership and resources that allowed major transformations in order to integrate patient perspectives in their curricula. From these experiences we learned that leadership has to be mobilised at multiple levels to make those initiatives possible. First, at the micro level, strong leadership from individuals, faculty members and, in some programmes, patients is one of the key successes for patient integration in IPE. At the meso level, the collaborative work of faculty members, patients and administrators at the very beginning of IPE programme renewal/creation helps to better understand each programme's specificities and issues and also ensures better alignment with patients' needs. At the macro level, shared values between programme leaders and each health sciences programme representative is key for a successful integration of IPE courses in individual health sciences curricula. Also, for optimal results, leadership should come simultaneously from the bottom up and the top down.

To conclude, particular attention should be paid to patients' recruitment and retention and, depending on the pedagogical model, training and education. Patients' recruitment in IPE activities must be an ongoing process because some of them will drop out of the programme, usually due to illness. Retention of experienced patients-as-trainers or health mentors is key. Recognising the time and experience expended by patients in training the next generation of health care professionals is important. All the case studies included recognition of patients' significant contribution by different means, adapted to their context and resources.

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17

Research and Evaluation: The Present and the Future

Jill Thistlethwaite

In the field of interprofessional education (IPE) as academics we are continuously asked: 'What is the evidence for IPE?' The question is really about effectiveness and outcomes, and has the sub-text of 'Why should we change what we do?' So, does IPE work? In our experience there are fewer questions posed about the effectiveness of team-based practice yet 'learning together to work together' (WHO, 1988) seems inherently logical, in the same way that clinically-based education is necessary for clinical practice. Those health systems, which have the luxury of employing a diverse range of health and social care professionals, work on the premise that no one practitioner knows everything or has all the skills required for health care delivery in an increasingly complex environment. However, there are still many areas relating to interprofessional collaborative practice (IPECP) that need exploring and greater understanding through well-designed research projects. These include uncertainties about leadership and 'followership', hierarchies and power relationships, the nature of interprofessional identity and that of collaborative practice (CP) itself.

For IPECP the boundaries between research and evaluation are frequently indistinct. In the UK the National Health Service (NHS)

definition is that research is 'the attempt to derive generalizable new knowledge, including studies that aim to generate hypotheses as well as studies that aim to test them' (NHS Health Research Authority, 2013). As befits a health care delivery service, the NHS states that evaluation is 'designed and conducted solely to define or judge current care' (NHS Health Research Authority, 2013, np). For education this could be reworded as: to define or judge current educational interventions.

While research aims to provide generalisable answers and evaluation focuses on gauging the value of an intervention or process primarily for local benefit, robust evaluation has the potential to help answer queries about effect and impact—answers that may be of use to the wider community. In this final chapter we consider the research and evaluation questions that are important for IPECP currently and in the future, discuss methodologies and reflect on what we have learned from editing this book.

The Present

Evaluation is a familiar activity in education and health. It sometimes seems that every educational activity involves an evaluation form, the utility of which is not always clear. Evaluation fatigue is such that response rates to evaluation questionnaires can be low, yet institutions still require that evaluation is frequent and acted upon. A recent study of medical students' evaluations of teaching has raised further questions about trustworthiness and suggested that students may be completing their forms mindlessly. The researchers included fictitious lecturers in the list of faculty to be evaluated and two-thirds of students gave ratings to the non-existent staff (Uijtdehaage & O'Neal, 2015). This type of evaluation is about learner satisfaction, which is important, but it tells us little about the actual effectiveness of education. If we consider Patton's definition of evaluation as a 'systematic collection of information about the activities, characteristics and results of programmes to make judgments about the programme, improve or further develop programme effectiveness, inform decisions about future programming, and/or increase understanding (Patton, 2008, p. 39), it is obvious that one-way learner feedback is not enough.

For IPECP what does 'effective' mean? The answer depends on the perspectives of different stakeholders. In relation to IPE the effectiveness of learning activities may be judged by whether learners meet the defined learning outcomes. So learning outcomes need to have been defined and learners subsequently assessed. Funders, however, and health service employees are likely to be more concerned with whether graduates are prepared for health professional practice at the appropriate level of supervision, whereas patients, clients and service users may have other expectations which are likely to vary from person to person. These expectations may include satisfaction with interpersonal communications, ease of access to appropriate health professionals, communication occurring amongst the health professionals working with individuals and families, and continuity of care. When we then consider how the value of collaborative practice may be evaluated, consumer outcomes and health indices are more important.

The triple aim (Berwick, Nolan, & Whittington, 2008) as described in Chap. 2 (improving the quality of the health care experience for patients and their satisfaction; improving the health of communities and populations; and reducing the cost of health care delivery) is a useful set of outcomes in certain countries against which to measure effectiveness. However it is extremely unlikely that IPE at the pre-qualification level will have a direct effect on such outcomes—there are too many variables over the course of three-plus years of training to show such cause and effect. Leaders in the education field have to emphasise that they should not be expected to provide evidence of effectiveness of pre-qualification IPE in relation to post-qualification professional practice. Such evidence has not been required of many other educational innovations before widespread implementation—consider in this regard problem-based learning (Colliver, 2000) and simulation. Moreover, no robust evidence has been generated to show that uniprofessional education (e.g. medical education at the pre-licensure level) directly improves patient outcomes. What education can be shown to achieve is that learners meet learning outcomes that have been developed as applicable to optimal health care delivery that improves outcomes (IOM, 2015a).

It is important as Oates and Davidson emphasise in Chap. 7 that thought is given to the evaluation process at an early stage during an

intervention's planning. If there are research questions to be answered, again careful consideration is required to ensure that the right methods are used to generate optimal data. Ethical approval should be sought. So often educators realise too late that they have publishable findings but do not have the appropriate consent to submit to a journal: an opportunity to enrich the field has been lost.

In Chap. 6 a team from the University of Derby describes the use of an action research approach to curriculum development and evaluation. Ryan and colleagues emphasise the role of evaluation in exploring whether change brings about improvement and the importance of PDSA (plan, do, study, act) cycles combined with self-reflection.

The Present: Outcomes-based Evaluation

The Institute of Medicine (IOM) commissioned a report on the state of the evidence for linkages between IPE and patient and health system outcomes (IOM, 2015b). This report also provides guidance on how to strengthen this evidence base in the future.

A frequently-used framework for outcomes-based evaluation, first in IPE and then in health professions education more generally, is the modified Kirkpatrick model (Kirkpatrick, 1987). This four-level model was originally developed for business organisations in 1959 and subsequently adapted into a six-level model for IPE by the Joint Evaluation Team (JET) in a review of evaluations of IPE funded by the Centre for the Advancement of Interprofessional Education (CAIPE) and the British Education Research Association (BERA) (Barr, Hammick, Koppel, & Reeves, 1999; Barr, Freeth, Hammick, Koppel, & Reeves, 2000). Level 1 'reaction' focuses on whether participants feel that the learning intervention or experience they undertook is relevant and 'immediately applicable to their needs' (Kirkpatrick & Kirkpatrick, 2006, p. ix). This is a subjective opinion of learners rather than an objective measurement and may include whether learners think they have learnt. This is problematic because research has shown that most people are unable to self-assess with any degree of accuracy (Eva, Regehr, & Gruppen, 2012). However, rather than relying on a simple satisfaction rating, students' reflective writing

may be analysed to provide richer insights into their perspectives as shown in Chap. 9. The modified level 2 has two components—change in attitudes and change in knowledge—while level 3 concentrates on what learners do differently and better as a result of the training. This requires an objective assessment of change in the workplace and suggests some form of pre- and post-intervention assessment. Modified level 4 again has been divided into two components—changes in the organisation and changes in patient outcomes.

The modified Kirkpatrick framework is interesting because it blurs the line between the NHS's definitions of evaluation and research. When we evaluate an intervention looking for change, we are trying to show that the particular intervention led to that change. In biomedical research, for example, the effects of a new drug are compared with an older drug and/or a placebo in a randomised control trial (RCT), such randomised experiments frequently being referred to as the 'gold standard' and top of the hierarchy of evidence (Guyatt, Sackett, Sinclair, Hayward, & Cook, 1995). In education there are many who stipulate that educational interventions should also be subjected to RCTs for proof of effectiveness. The NHS Health Research Authority (2013) states that any study which involves randomisation is research. Yet the RCT approach to causation is such that it focuses on looking for relationships between inputs and outcomes rather than how and why the process of change occurs (Maxwell, 2012). Moreover RCTs are almost impossible to implement in education for ethical and practical reasons. We cannot control for variables between groups in a complex system. Causation is difficult to prove. For example we may find that the more lectures a student attends, the higher the grades they obtain. However this is a partially spurious relationship. We cannot say that attendance at lectures enhances students' understanding and hence enables them to gain better grades. Students who attend lectures and obtain better marks may also be more highly motivated, read more widely, attend extra-curricular activities on similar topics and so on (example derived from Elliott, 2005).

Many published evaluations look at attitudinal change using the readiness for interprofessional learning scale (RIPLS) (Parsell & Bligh, 1999; McFadyen et al., 2005), a popular choice of measurement tool with several versions (Thistlethwaite, Kumar, Moran, Saunders, & Carr, 2015). RIPLS

has its detractors, however. For example, Scott Reeves (editor of the *Journal of Interprofessional Care*) has questioned whether inexperienced learners would consider themselves ready for IPL and why they should be asked at all—educators do not ask students whether they are ready to learn other aspects of their curricula (Mahler, Berger, & Reeves 2015). Moreover it has become apparent in many evaluations that RIPLS now rarely shows any significant differences between learners' attitudes before and after interprofessional learning activities. Hoti and colleagues describe in Chap. 11 how they used an alternative measure—the Interprofessional Socialisation and Valuing Scale (ISVS)—as a means of evaluating their interprofessional student-led wellness services.

The difficulties with Kirkpatrick levels 3 and 4 are demonstrated by the fact that most IPE evaluations are at levels 1 and 2; those at level 3 are more likely to be pre- and post-testing of the same students rather than comparison studies (Thistlethwaite et al., 2015). We would expect an educational intervention to have some effect on learning, so such studies usually do not have surprising results. Some evaluators count self-assessment, which should be level 1, as level 2 or 3.

Interestingly, Brault and colleagues in Chap. 16 do include patient perspectives and outcomes in their evaluation of a health mentorship programme. They report that the patients working as mentors had increased motivation to change to and maintain healthy behaviours as a result of participation.

Methods of Evaluation

Evaluation and research in relation to IPECP frequently has a mixed-methods design (Cresswell, 2009) using a combination of quantitative and qualitative techniques to capture and analyse rich data. While generally speaking quantitative studies involve numbers and statistics and qualitative do not, both employ diverse approaches such that 'one size' certainly does not 'fit all'. Some social scientists have questioned the division between quantitative and qualitative approaches, the reasoning behind the divide and the nature of causal analysis (Cooper, Glaeser, Gomm, & Hammersley, 2012). However, it certainly seems appropriate

to choose a variety of methods that fit with the evaluation or research questions defined for a particular study, as stressed by Pullon and colleagues in Chap. 8.

Barr and Helme in Chap. 3 used documents, interviews and online surveys to capture their data—as they write, 'a pragmatic mix of qualitative and quantitative methods'. The review they describe had the specific purpose of developing recommendations addressed to universities and informing the ongoing development of IPE within the UK. The consultation process that followed on from the review has been wide-ranging but the authors hope that it will engender a more mature relationship with CAIPE. Thus, their work will hopefully be an agent for change and not solely an academic exercise.

From Colombia in Chap. 4, Lamus and colleagues use appreciative inquiry combined with critical thinking analysis to evaluate and further develop their projects on child health. Multiple teams, diverse locations and funding concerns made for a complex research environment. Collaborative leadership was necessary to build consensus and ensure outcomes were delivered.

Theory and Educational Research

A minority of interprofessional evaluation studies draw on or cite a particular theoretical framework that guides their approach, although there has frequently been an implicit reliance on adult learning theory in IPE (Barr, Koppel, Reeves, Hammick, & Freeth, 2005. Some authors do refer to educational, psychological and sociological theories which often overlap (Thistlethwaite, 2012). What can also be a problem is choosing between the many theories and theorists on offer within education and other disciplines (Adams, Cochrane, & Dunne, 2012). Hean, Craddock and O'Halloran (2009) have highlighted sociocultural theory and its recognition of the *social* aspect of learning ('with, from and about') in their guide to relevant theories for IPE.

In Chap. 5 Soubhi and colleagues take an ecosystems approach to the implementation of IPE, acknowledging that health care delivery takes place within a complex adaptive system and entails a collective capability.

They thus draw on human ecology, complexity theory and activity theory in their development of interprofessional and citizenship education in Canada. Their methods include the analysis of a range of qualitative data sources including university documents, student reflections, observation and interviews. In Chap. 13 Moran and Steketee use the theory of 'community of practice' to help develop and evaluate interventions to increase leadership capacity. In Chap. 10 Shoesmith and colleagues discuss the theory of distributed leadership and how it helped inform their work in Malaysia. They also applied the theory of change in their evaluation of IPE delivery in what they describe as a 'traditionally hierarchical society'.

Realist Evaluation

Outcomes-based evaluation is about effectiveness. In education and health complex interventions are rarely either 'effective' or 'ineffective'. They will work for some people and not for others, in some locations and not others, and on some days and not others. Suppose a new education programme is introduced for teams of interprofessional learners. An assessment one month after the programme finishes indicates that 75% of the participants have reached a satisfactory standard but 25% have 'failed'. Depending on your point of view, the programme was effective because the majority passed, or ineffective because the failure rate is too high. What we don't know is why 25% did not learn as well as their peers, or rather were not able to demonstrate learning in an examination. Reasons could include problems with the programme itself, variations in the learners, different locations of experience, facilitator variability, the method of assessment or the reliability of the assessors. Similarly if some patients' health outcomes are improved through a particular system of team-based care but some are worsened, how do we gauge effectiveness?

To answer questions about causation we need to carry out some form of process evaluation, the purpose of which is to explore factors affecting effectiveness, as well as considering what effectiveness, and indeed 'evidence' should mean in the particular circumstances under consideration. Some kinds of evidence relate to what is probably true, for example

the Bayesian reasoning of statistics and the experimental sciences is reproducible and generalisable from one setting to another. Other kinds of evidence relate to what is plausibly true for a unique individual case, as in narrative reasoning and rhetorical argument (Thistlethwaite et al., 2012).

One form of process evaluation is realist evaluation which has the objective of finding out what works, for whom, in what circumstances, in what respects, to what extent and why (Pawson & Tilley, 1997). This evidentiary middle ground is often based on in-depth case studies and reflexive questioning about why on this occasion a particular input produced a particular outcome but on a different occasion it produced the opposite outcome (Thistlethwaite et al., 2012). Realist evaluation was originally developed to evaluate complex social interventions such as health promotion campaigns for safe sex practices that depend on how different people respond to the same input to generate the anticipated outcomes (Pawson, Greenhalgh, Harvey & Walshe, 2005. The approach involves testing hypotheses drawn from middle range theories that lie between minor working hypotheses and the grand theories that aim to unify systems (Pawson & Tilley, 1997).

Realist evaluation acknowledges that education and health involve complexity rather than linear causation and has been advocated as a useful method in medical education (Wong, Greenhalgh, Westhorp, & Pawson, 2012). For IPECP realist evaluators might aim to answer the following questions: What type of educational interventions will tend to facilitate learning to work in teams; For what kinds of learners (numbers and professions); In what contexts, and what explains the outcomes? In relation to leadership: why is the same person an effective leader at one institution but ineffective or even harmful at another?

Realist evaluation is rooted within realism—a philosophy of science situated between positivism and relativism/constructivism (Elder-Vass, 2012). Positivists and realists disagree about the concept of causality, with realists criticising the conflation of simple observations and descriptions of what happens with explanations (Thistlethwaite, 2015). To state that x causes y we first need to understand how this causation is brought about. For the realist the world is an open yet complex system. The realist evaluator focuses on understanding underlying causal mechanisms and how they work in varying contexts rather than assuming simple cause-and-effect

solutions, thus: context + mechanism = outcome (Pawson, 2013). A mechanism is 'an underlying entity, process or structure which operates in particular contexts to generate outcomes of interest' (Astbury & Leeuw, 2010, p. 368). Furthermore, because realist evaluation has the potential for developing explanatory theory, it is an alternative to RCTs (Wong et al., 2012) and can be classified as research in some circumstances.

A particular form of realist evaluation is the realist synthesis (Pawson, Greenhalgh, Harvey, & Walsh, 2004) a type of systematic review of the literature to consider published evidence. A good example of realist synthesis is the series of papers addressing the realist question of 'What is it about teamwork that works, for whom, in what circumstances and why?' (Hewitt, Sims, & Harris, 2014, p. 501). In these papers the authors first identified possible mechanisms that make teamwork effective, then considered the contexts in which those mechanisms may be triggered and their subsequent outcomes. The 13 mechanisms discussed are: support and value (Hewitt et al., 2014); communication, influence and behavioural norms (Hewitt, Sims, & Harris, 2015); collaboration, pooling of resources, learning and role blurring (Sims, Hewitt, & Harris, 2015a); and shared purpose, critical reflection, innovation and leadership (Sims et al., 2015b).

In Chap. 14 Flood and colleagues from New Zealand use a realist evaluation framework to pose questions about the mechanisms working though the Health Care Team Challenge that facilitate interprofessional learning. Their evaluation has been fed back into the system in order to improve the challenge and enable more teams to be involved. This highlights the importance of acting on evaluation results—evaluation has a purpose.

The Future

The Institute of Medicine (IOM) commission has stated that changes to education and health service delivery cannot be considered in isolation from each other: reform in both sectors needs to be aligned (IOM, 2015b). Such alignment in many countries is difficult because higher education and health are overseen by different government departments,

and pre-qualification and post-qualification higher training are delivered by different organisations. Add to this the problems arising from research projects across professions and disciplines and we can see that interprofessional evaluation and research is a difficult enterprise. What is needed are longer-term projects, adequate and sustained funding, inter-institutional funding, leadership that steps outside conventional professional boundaries and is not measured by uniprofessional metrics.

Several chapters in this book argue for a common language and agreed definitions of terms to allow conversations between health professionals, educators, evaluators, researchers and patients/clients. While there is a lack of consensus on terminology we do still need to clarify ambiguous words. Snyman and colleagues in Chap. 15 suggest the ICF (the international classification of functioning, disability and health) as one framework for consistency in the interprofessional field.

We also need to ask some different questions. 'It is possible to link the learning process with downstream person-, population-, or system-directed outcomes provided that thoughtful, collaborative, and well-designed studies are intentionally targeted to answering such questions' (IOM, 2015b, p. 2). Interprofessional and interdisciplinary research and evaluation teams, with strong leadership, should be capable of drawing on a number of research traditions to develop strong mixed methodologies that move beyond simple notions of causation. In terms of both education and service delivery, we need to know how well a successful programme at one location may transfer to another location with different patient demographics, numbers and types of health professionals and fewer resources. We also need to consider cost. We know from years of experience that programmes and services wither if they are funded initially from grants or tenders without considering the sustainability of both funding and champions.

Conclusion

To advance the field of interprofessional education and collaborative practice we need robust and trustworthy evaluation and research, not only to provide evidence of effectiveness but also evidence of why or why

not different models of education and practice work. Such endeavours are wicked problems that are complex, ambiguous and messy, with multiple causes that require leaders who ask questions and search for answers with a diverse set of theories and methodologies to inform that search (Grint, 2010). This book, with its global authorship, offers insights into the rich work in this area—an interprofessional perspective on health care education evaluation.

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