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MINISTRY OF HEALTH - ETHIOPIA

የዜጎች ጤና ለሃገር ብልጽግና!
HEALTHIER CITIZENS FOR PROSPEROUS NATION!

PHARMACY SERVICES, PHARMACEUTICALS SUPPLY CHAIN & MEDICAL DEVICE MANAGEMENT MONITORING AND EVALUATION FRAMEWORK

PARTICIPANT'S TRAINING MANUAL

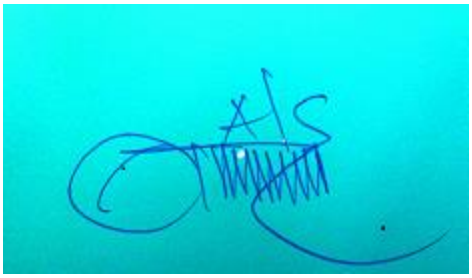
November, 2019

Addis Ababa, Ethiopia

APPROVAL STATEMENT OF THE MINISTRY

The Federal Ministry of health of Ethiopia has been working towards standardization and institutionalization of In-Service Trainings (IST) at national level. As part of this initiative the ministry developed a national in-service training directive and implementation guide for the health sector. The directive requires all in-service training materials fulfill the standards set in the implementation Guide to ensure the quality of in-service training materials. Accordingly, the ministry reviews and approves existing training materials based on the IST standardization checklist annexed on the IST implementation guide.

As part of the national IST quality control process, this pharmacy services, pharmaceutical supply chain & medical device management monitoring and evaluation framework IST training package has been reviewed based on the standardization checklist and approved by the ministry in November , 2019.



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Foreword

The Federal Ministry of Health (FMOH) has been working to ensure equity and quality of health services across the country. As part of these efforts, the ministry is also exerting concerted efforts to improve accessibility and quality of pharmaceutical products, services and medical device management. It is widely known that, the sector is growing in line with the overall growth and transformation plan of the country and the sector is being guided by the health sector transformation plan (HSTP).

Pharmaceutical supply chain, pharmacy service and medical device management activities are an integral part and a cross cutting activity of the health care system. Managing these activities is a key for fulfilling client satisfaction with regards to obtaining the right diagnostic, treatment and pharmaceuticals with right quantity and right condition, at right cost, at the required time, for the right client. Therefore, the purpose of this M&E plan is to strengthen the pharmaceuticals supply chain management, pharmacy service and medical device management of the country to ensure uninterrupted quality healthcare services for the ultimate customers. This M&E training manual will help FMOH to build the capacity of health professionals working at different levels of the health system so as to properly manage pharmaceuticals supply chain management (SCM), pharmacy service and medical device. The M&E training manual is developed by the Pharmaceutical & Medical device Directorate (PMED).

Thus, the development of this training manual is an important step to address knowledge, skill and attitude gaps to implement developed M&E framework. As the development of this manual is a significant achievement, it would be meaningful only if the M&E framework of all stakeholders engaged in pharmacy and medical device management is built on this common framework. I would like to take this opportunity to thank all who participated in the development of this training manual.

Regasa Bayisa (BPhram, MSC)
Director, Pharmaceutical and Medical device Directorate
Federal Ministry of Health

Acknowledgments

The Federal Ministry of Health would like to express its gratitude and appreciation to all participants and their respective institutions who were involved in this document preparation for their unreserved efforts and commitment. The shared technical knowledge and experiences have produced a comprehensive M&E training manual for implementation of simple, coordinated and effective results-based national M&E system for data management, dissemination and utilization of strategic information for pharmaceutical supply chain management, pharmacy service and medical device.

The support and commitment of the members of the technical team at the Ministry of Health and partner organizations are also very well acknowledged. Their active participation and engagement in the development process have been the driving force to the completion of this document successfully.

Sincere appreciation is extended to the following members of the technical team whose support was central to the development, coordination and finalization of the M&E training manual:

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Acronyms

DIS	Drug Information Service
DTC	Drug and Therapeutics Committee
EHRIG	Ethiopian Hospitals Reformation Implementation Guideline
EHCRIG	Ethiopian Health Centre's Reformation Implementation Guideline
FMOH	Federal Ministry of Health
HSDP	Health Sector Development Plan Health Facility
HSTP	Health Sector Transformation Plan
IPLS	Integrated Pharmaceutical Logistic System
M&E	Monitoring and Evaluation
ME	Medical device
MEMS	Medical device Management System
PMED	Pharmaceutical & Medical device Directorate
RHB	Regional Health Bureau
SOP	Standard Operating Procedure
STG	Standard Treatment Guideline
WoHO	Woreda Health Office
ZHD	Zonal Health Department

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Introduction to the Manual

The Federal Ministry of Health (FMOH) is leading a sector wide reform to improve accessibility and quality of health services. The country has implemented successive Health Sector Development Plans (HSDPs) since 1997 in four phases each for five years, which have contributed a lot in addressing the priority healthcare needs of the population. The country has now embarked upon its fifth plan, namely, the health sector transformation plan (HSTP) which covers 2015 – 2020, aims to transform the health sector so as to further improve equity, coverage and utilization of essential health services, improve quality of health care, and enhance the implementation capacity of the health sector at all levels of the system.

To have successful health programs, ensuring sustainable availability of medicines, medical supplies, and equipment and strengthened pharmacy service is very crucial. To this end, different initiatives such as Drug and Therapeutics Committee (DTC), Auditable Pharmaceuticals Transaction and Service (APTS), Clinical Pharmacy (CP), Drug Information Service (DIS), Integrated Pharmaceutical Logistic System (IPLS), Medical device Management System (MEMS), etc. have been undertaken by the Federal Ministry of Health in collaboration with key partner organizations.

Subsequently, it's essential to have implementable monitoring and evaluation (M&E) framework that supports in the continuous improvement of Pharmacy Service (PS), Supply Chain (SC) and medical device management (MEM) performance.

In Ethiopia, however; the M&E system for PS, SC, and MEM lacked standardization and was implemented in a fragmented manner. Recognizing this, the FMOH, through Pharmaceuticals and Medical device Directorate (PMED) and in collaboration with partners, has developed national M&E framework and this training manual.

The aim of the training manual is to assist the FMOH, EPSA, RHBs, ZHD, Woreda Health Offices, health facilities, donor agencies and development partners in implementing M&E framework for evaluating performance and identifying the factors which contribute to service delivery outcomes.

Formal training needs assessment has not been conducted for this course; nevertheless, program performance assessment from reports and review meetings showed a huge gap in knowledge, skill, practices and attitude in the area of M&E which can be filled by in-service training.

To effectively implement the new M&E system, it was found necessary to develop a training course to build the capacity of relevant healthcare professionals. Accordingly, this M&E training is intended to equip professionals with adequate knowledge, skills, and attitude to carry out routine and periodic monitoring and evaluation of Pharmaceuticals and medical device management activities wherein data generated thereof are used for the decision making.

The training material contains Participant's Manual, Facilitator's Guide and PowerPoint Presentations. The training course considers participants as the focus of the learning process and as such activities in the sessions are designed to be more trainee-focused.

Core competency

- Apply the concept of National monitoring and evaluation framework in the field of PS, SC and ME Management
- Perform baseline organizational assessment using the national Pharmaceutical SCM, PS, and ME monitoring and evaluation Indicators
- Organize the necessary data required for monitoring and evaluation of PS, SC and ME Management Indicators
- Compute indicators to measure PS, SC and ME activities to determine the level of performance
- Apply the result of performance evaluation and feedback to building organizational capacity and development learning
- Communicate Effectively the result of performance evaluation to the next level according to the reporting standard
- Provide Compassionate, Respectful and Caring(CRC) healthcare service to patients

The core competencies have the following knowledge, attitude and skill attitude components

Knowledge

- Apply the Pharmacy and MEM chapter standards in to the respective level of healthcare facility
- Monitor & evaluate PS, SC, and ME management activities in the respective level of healthcare facility
- Compute Indicators to measure PS, SC, and MEM activities

Skill

- Demonstrate a Compassionate, Respectful and Caring(CRC) healthcare service to patients
- Collect and organize data related to PS, SC and ME management activities for analysis and decision-making.
- Analyze and Interpret Indicators used to measure PS, SC, and MEM activities
- Deliver information for decision making
- Provide effective feedback
- Communicate effectively in the healthcare system

Attitude

- Maintain effective documentation system in the area of Pharmaceutical SCM, PS and ME management of respective health facility
- Adhere to National Pharmaceutical SCM, PS and ME monitoring and evaluation Indicators
- Advocate Compassionate, Respectful and Caring(CRC) healthcare service in respective level of facility
- Maintain responsibility and accountability for the quality and timeliness of work and reporting

Course Syllabus

Course Description

This 3-day training course is designed to enable trainees to understand and implement National Pharmacy Service, pharmaceutical Supply Chain and Medical device Management Monitoring and Evaluation Framework.

Course Goal

To produce competent, compassionate and committed Health and related professionals working at various level of health service delivery to implement the National Pharmacy Service, pharmaceutical Supply Chain and Medical device Management Monitoring and Evaluation Framework.

Participants learning objective

At the end of this course participants will be able to:

- Demonstrate CRC health care service delivery
- Discuss the Operational Standards for Pharmacy Services and Medical device Management
- Identify and compute Indicators used to Measure Pharmacy Service, Supply Chain and Medical device Management activities
- Apply the basic concept of Monitoring and Evaluation into Pharmacy and Medical device Management sector

- Discuss the principles and importance of Data Management and its impact on decision making
- Describe the importance of performance monitoring, effective Feedback Mechanisms and motivation in performance improvement
- Figure out the Roles and responsibilities of stakeholders

Training Methods

- Individual Reflection
- Interactive lecture
- Demonstration
- Group exercise
- Pair exercise
- Brainstorming
- Question and answer
- Individual and group reading
- Experience sharing
- Role play
- Home take assignments
- Matching Exercise
- Individual Exercise

Learning Materials and Resources

- Participant manual
- Facilitator guide
- PowerPoint presentations
- LCD Projector
- M&E framework
- White board and markers
- Computer
- Flipchart and Markers
- Masking tape

Participant Selection Criteria

- Pharmacy Professional
- Biomedical Professionals
- Health Information Technicians
- Monitoring and Evaluation Experts
- Other health professionals working in the area

Facilitator / Trainer Selection Criteria

- Course material developing technical team
- Pharmacists
- Biomedical Engineers
- Monitoring and evaluation expert

Methods of Evaluation

A. Trainees Evaluation

- ***Formative***
  - Direct observation with feedback
  - Group activities and presentations
  - Individual reflections for questions
  - Pretest
- ***Summative***
  - ***For basic training***
    - Post-test - 100%
  - ***For TOT training***
    - Teach back:- 50%
    - Post-test:- 50%

B. Course Evaluation

- Daily evaluation
- End of training evaluation
- Participant oral feedback

Certification Criteria

For Basic Training, a trainee is eligible for certification if and only if he/she:

- Attend 100% of the course
- Score 70% and above on summative assessment

For TOT Training, a trainee is eligible for certification if and only if he/she:

- Attend 100% of the course
- Score 80% and above on summative assessment

Course Duration

Three days

Suggested Class size

Suggested training class size: shall not be more than 25 participants per training venue.

Participant-Trainer Composition

6:1(six participants to one trainer)

Training Venue

The training will be conducted at the nationally recognized IST centers/CPD providers having appropriate facilities, trainers, and attachment health facilities.

Course Schedule

Training on Pharmacy Services, Pharmaceutical Supply Chain and Medical device Management Monitoring and Evaluation

Organized by: _____

Venue: _____ **Date:** _____

Day One	**Topic**	**Trainer**	**Facilitator**
8:00-8:30 am	Registration		
8:30-9:00 am	Welcoming and Introductory activities		
9:00-9:20 am	Pre-test		
9:20-10:45 am	Chapter 1: Introduction to CRC		
10:45-11: am	**Tea Break**	**Organizer**	
11:00-12:30	Chapter 2: Overview on pharmacy and MEM chapter standards		
12:30-2:00 pm	**Lunch Break**		
2:00-3:30 pm	Chapter 3: Monitoring and Evaluation Basics		
3:30-3:45 pm	**Tea Break**	**Organizer**	
3:45-4:15 pm	Chapter 4: Indicators to measure PS, SC, and ME Management activities: Introduction		
4:15-5:20 pm	Chapter 4: Indicators to measure PS		
5:20-5:30 pm	Day 1 Evaluation		
Day Two	**Topic**	**Trainer**	**Facilitator**
8:30-8:40 am	Recap of Day One		
8:40-10:00am	Chapter 4: Indicators to measure PS		
10:00-10:15 am	**Tea Break**	**Organizer**	
10:15 -12:05pm	Chapter 4. Indicators to measure PSC		
12:05 – 12:30	Chapter 4. Indicators to measure MEM and CC		
12:30-2:00 pm	**Lunch Break**		
2:00-3:30 pm	Chapter 4. Indicators to measure MEM and CC		
3:30-3:45pm	**Tea Break**	**Organizer**	
3:45-4:45 pm	Chapter 4. Indicators collection and aggregation tool		
4:45 – 5:20 pm	Chapter 4: Practical Exercise on Indicators		
5:20-5:30 pm	Day 2 Evaluation		
Day Three	**Topic**	**Trainer**	**Facilitators**
8:30-8:40 am	Recap of Day 2		
8:40-10:30 am	Chapter 4: Practical Exercise on Indicators		
10:30-10:45 am	**Tea Break**	**Organizer**	
10:45-12:30 am	Chapter 5: Data Management		
12:30-2:00 pm	**Lunch Break**		
2:00-3:00 pm	Chapter 6: Performance monitoring, Feedback Mechanisms and motivation		

3:00-3:40 pm	Chapter 7: Roles and responsibilities of stakeholders		
3:40-3:55 pm	**Tea Break**	**Organizer**	
3:55- 4:25pm	Chapter 8: Planning and Getting started		
4:25 – 5:30 pm	Post-test, Final Evaluation, Closing/Certification		

Chapter One: Caring, Respectful and Compassionate Healthcare Service

Allocated Time: **85** minutes

Chapter Description: This chapter is designed to equip healthcare professionals and senior management in health facilities to increase core competencies of compassionate, respectful, holistic, scientifically and culturally acceptable care for patients and their families.

Chapter Objective: By the end of this chapter the participants will be able to describe Compassionate, Respectful and Caring (CRC) healthcare service delivery

Enabling Objectives: By the end of this chapter participants will be able to:

- Describe Compassionate, Respectful and Caring (CRC)
- List principles of health care Ethics
- Discuss components of compassionate care
- Explain principles of respectful care
- Discuss characteristics of Compassionate leader

Chapter Outline:

- Introduction to CRC
- Healthcare Ethics
- Compassionate care
- Respectful care
- Compassionate leader
- Summary

1. Introduction to Compassionate, Respectful and Caring (CRC)

	**Activity 1.1: Individual reflection**
	What is Compassionate, Respect and Caring (CRC)? **Time: 5** minutes

1.1. Definition of CRC

Compassion (ሩሀሩህ)

Compassion is a feeling of deep sympathy and sorrow for the suffering of others accompanied by a strong desire to alleviate the suffering. Therefore, we can say it is being sensitive to the pain or suffering of others and a deep desire to alleviate the suffering.

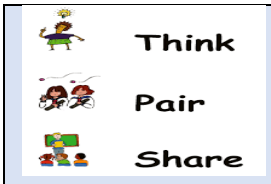
Respectful (ተገልጋይን የሚያከብር)

Respectful is the kind of care, in any setting, which supports and promotes, and does not undermine a person's self-respect, regardless of any differences.

Caring (ተንከባካቢ)

Caring is an intensification of the affective dimension of empathy in the context of significant suffering. It is coupled with effective interventions to alleviate that suffering.

Compassionate, respectful and caring (CRC) - means serving patients, being ethical, living the professional oath, and being a model for young professionals and students. It's a movement that requires champions who identify with their profession and take pride by helping people.

	**Activity 1.2: Pair discussion**
	Why CRC a transformational agenda? **Time: 5** minutes

1.1.1. Why CRC a Transformation agenda?

Helping health professionals' to become compassionate and respectful practitioners remains a major challenge for the healthcare. Compassionate and respectful care is not only morally and financially essential, but it is required in many countries through national legislation and/or national health policy.

The notion that healthcare services must be expanded beyond the prevention of morbidity or mortality is only one aspect of the agenda. It must encompass respect for patients' basic human rights, including respect for patients' autonomy, dignity, feelings, choices, and preferences. It must include choice of companionship wherever possible.

Taken from the United Nations human rights declaration, 'All human beings are born free and equal in dignity and rights.' The Ethiopian constitution of human rights article 25 and 26 states that the rights to equality and privacy.

In the Ethiopian health system, there are many health professionals who have dedicated their entire career to public service and are respected by the public they serve. However, a significant proportion of health professionals see patients as just 'cases' and do not show compassion. Lack of respect to patients and their families is also a common complaint.

A three-year report of the Ethics Committee and relevant documents in Addis Ababa showed that 39 complaints were related to death of the patient and 15 complaints were about disability. The committee verified that 14 of the 60 claims had an ethical breach and/or negligence and other study also indicated that forwarding bad words, shouting on patients, mistreatment, insulting and hitting of clients are some of unethical practices showed by the health professionals.

Studies showed the need for CRC

- Lack of role models in many health facilities.
- Measuring the worth of a profession by how much it pays.
- Senior physicians cancel their outpatient clinics without informing their patients.
- Elective surgeries get cancelled.
- Admitted patients are by default getting the care they need from relatives.
- Nurses, for various reasons, have limited their role to providing injections and securing IV lines.
- Proper counseling during dispensing of drugs is also becoming a rarity.
- The quality of lab tests and the quality assurance process that lab professionals have to take before issuing results is not practiced as expected.
- Lack of compassion, respect and care is the common source of grievances in health facilities.

1.1.1. The Benefits of CRC

Table 1: Benefits and beneficiaries of Compassionate and Respectful Care

Beneficiaries	Who	How
First	**Patients**	• When health professionals are compassionate, patients are less anxious • Adherence to medical advice and treatment plans • Compassionate care correlates positively with both prevention and disease management. Diabetic patients, for example, demonstrate higher self-management skills when they self-report positive relationships with their providers • Hostile emotional states in patients delay the healing processes • Quality of health professionals –patient communication with increased physical functioning, emotional health and decreased physical symptoms of pain in patients
Second	**Health Professionals**	• Health care Professionals satisfaction with their relationships with patients can protect against professional stress, burnout, substance abuse and even suicide attempts • Burnout is strongly associated with poorer quality of care, patient dissatisfaction, increased medical errors, lawsuits and decreased expressions of compassion • Participation in a mindful communication associated with short-term and sustained improvement in well-being and attitudes associated with patient care • A major predictor of patient loyalty • When health professionals are compassionate, they achieve earlier and more accurate diagnoses because the patient is better able to reveal information when he or she feels emotionally relaxed and safe • Respect from the client/patients • Health professionals will find their work more meaningful and gratifying
Third	**Students**	• Good role modeling is essential for students • Increased motivation to be CRC health professionals
Fourth	**Health care facilities**	• Patient satisfaction will rise • Quality of health care will be improved • Lower malpractice suits • Staff will be more loyal to their hospital or health care system • Patient adherence to treatment will rise • Resources can be conserved • Greater employee satisfaction and reduced employee turnover.

1.1.2. National Strategy and Approach of CRC

The development of caring, respectful and compassionate health workers requires a multi-pronged approach in order to make CRC as a culture, self-driven inner motive and a legacy that the current generation of practitioners leaves to their successors.

NATIONAL STRATEGY AND APPROACHES FOR CRC

- ***Reforming the recruitment of students for health science and medicine programs.***
- ***Improving the curriculum of the various disciplines.***
- ***Ownership and engagement of the leadership at all levels of the system.***
- ***Inspirational leadership that aims to create an enabling environment.***
- ***National, regional and facility level ambassadors.***
- ***An advocacy campaign through mass media will also be launched to project positive images of health professionals.***
- ***Patients and the general public will also be engaged in this movement.***
- ***An annual health professional recognition event will be organized***
- ***Putting in place a favorable legislative framework to reinforce CRC which would include regulation on patients' rights and responsibilities (PRR)***
- ***Measurement of health care providers on CRC***
- ***Comprehensive projects will be designed.***
- ***Conducting national assessment related to CRC.***
- ***Provision of continuous CRC trainings.***
- ***Engagement and ownership of professional associations.***
- ***Experience sharing from national and international best practices.***

1.2. Healthcare Ethics

1.2.1. Principles of Health Care Ethics

	**Activity 1.3: Individual reflection** ❖ What is Ethics? ❖ What is Health Care Ethics? **Time: 5** Minutes

Ethics:

Ethics is derived from the Greek word *ethos*, meaning custom or character. Ethics is the study of morality, which carefully and systematically analyze and reflect moral decisions and behaviors, whether past, present or future. It is a branch of philosophy dealing with standards of conduct and moral judgment.

Health Care Ethics:

It is a set of moral principles, beliefs and values that guide us to make choices about healthcare. The field of health and healthcare raises numerous ethical concerns, including issues of health care delivery, professional integrity, data handling, use of human subjects in research and the application of new techniques.

Ethical principles are the foundations of ethical analysis because they are the viewpoints that guide a decision. There are four fundamental principles of healthcare ethics.

1. Autonomy
2. Beneficence
3. Non-malfeasance
4. Justice

A. Autonomy

Autonomy is the promotion of independent choice, self-determination and freedom of action. Autonomy implies independence and ability to be self-directed in one's healthcare. It is the basis of self-determination and entitles the patient to make decisions about what will happen to his or her body.

Case one:

A 49-year-old client with diabetic finding came with right foot second finger gangrene to a hospital. The surgeon decided that the finger should be removed immediately. But the patient refused the procedure.

Question: How should the surgeon handle this case?

Time: 5 Minutes

B. Beneficence

Beneficence is the ethical principle which morally obliges health workers to do positive and rightful things. It is "doing what is best to the patient". In the context of professional-patient relationship the professionals are obliged to always and without exception, favor the wellbeing and interest of their patients.

Case two:

Ms. X was admitted to adult surgical ward with severe excruciating right flank pain with presumptive diagnosis of renal colic. Nurse Y was the duty nurse working that day. The physician who saw her at OPD did not write any order to alleviate the pain.

Question: What should the attending nurse do for Ms. X?

Time: 5 Minutes

C. Non-malfeasance

The principle refers to "avoid doing harm". Patient can be harmed through omitting or committing interventions. When working with clients, healthcare workers must not cause injury or distress to clients. This principle of non-malfeasance encourages the avoidance of causing deliberate harm, risk of harm and harm that occurs during the performance of beneficial acts. Non-malfeasance also means avoiding harm as consequence of good.

Case Three:

Mr "X" is admitted to internal medicine ward with cardiac failure. The physician admitted Mr "X" and prescribed some medication which should be given regularly by the ward nurse. A nurse in charge of the ward does not give a patient medication timely and appropriately.

Question: What should the ward nurse do for Mr "X"

Time: 5 Minutes

D. Justice

Justice is fair, equitable and appropriate treatment. Justice refers to fair handling and similar standard of care for similar cases; and fair and equitable resource distribution among citizens. It

is the basis for treating all clients in an equal and fair way. A just decision is based on client need and fair distribution of resources. It would be unjust to make such decision based on how much he or she likes each client.

Example:

- Resource scarcity is the common issue in healthcare settings. For example, there may be only one or two neurosurgeons and many patients on the waitlist who need the expertise of these neurosurgeons. In this case we need to serve patients while promoting the principle of justice in transparent way. Example, the rule of first come first serve could be an appropriate rule.
- Justice requires the treatment of all patients equally, irrespective of their sex, education, income or other personal backgrounds.

1.2.2. Confidentiality and informed consent.

Confidentiality

Confidentiality in healthcare ethics underlines the importance of respecting the privacy of information revealed by a patient to his or her health care provider, as well the limitation of healthcare providers to disclose information to a third party. The healthcare provider must obtain permission from the patient to make such a disclosure.

The information given confidentially, if disclosed to the third party without the consent of the patient, may harm the patient, violating the principle of non-malfeasance. Keeping confidentiality promotes autonomy and benefit of the patient.

The high value that is placed on confidentiality has three sources:

- ***Autonomy****:* personal information should be confidential, and be revealed after getting a consent from the person
- ***Respect for others****:* human beings deserve respect; one important way of showing respect is by preserving their privacy.
- ***Trust****:* confidentiality promotes trust between patients and health workers.

The right of patient to confidentiality

- All identifiable information about a patient's health status, medical condition, diagnosis, prognosis and treatment and all other information of a personal kind must be kept

confidential, even after death. Exceptionally, family may have a right of access to information that would inform them of their health risks.

- Confidential information can only be disclosed if the patient gives explicit consent or if expressly provided for in the law. Information can be disclosed to other healthcare providers only on a strictly "need to know" basis unless the patient has given explicit consent.
- All identifiable patient data must be protected. The protection of the data must be appropriate to the manner of its storage. Human substances from which identifiable data can be derived must also be protected.

Exceptions to the requirement to maintain confidentiality

- Routine breaches of confidentiality occur frequently in many healthcare institutions. Many individuals (physicians, health officers, nurses, laboratory technicians, students, etc) require access to a patient's health records in order to provide adequate care to that person and, for students, to learn how to practice care provision.
- Care providers routinely inform the family members of a deceased person about the cause of death. These breaches of confidentiality are usually justified, but they should be kept to a minimum and those who gain access to confidential information should be made aware of the need not to spread it any further than is necessary for descendants benefit. Where possible, patients should be informed ahead that such a breach might occur.
- Many countries have laws for the mandatory reporting of patients who suffer from designated diseases, those deemed not fit to drive and those suspected of child abuse. Care providers should be aware of the legal requirements to be able to disclose patient information. However, legal requirements can conflict with the respect for human rights that underlies healthcare ethics. Therefore, care providers should look carefully at the legal requirement to allow such an infringement on a patient's confidentiality and assure that it is justified.

Case four:
An HIV-positive individual is going to continue to have unprotected sexual intercourse with his spouse or other partners.
Question: 1. How do you manage such an individual?
2. Discuss situations that breach confidentiality.
Time: 5 Minutes

Ethiopia Council of ministers' regulation 299/2013, Article 77 Professional Confidentiality

Informed Consent

Informed consent is legal document whereby a patient signs written information with complete information about the purpose, benefits, risks and other alternatives before he/she receives the care intended. It is a body of shared decision making process, not just an agreement. Patient must obtain and being empowered with adequate information and ensure that he/she participated in their care process.

For consent to be valid, it must be voluntary and informed, and the person consenting must have the capacity to make the decision. These terms are explained below:

A. ***Voluntary***: the decision to either consent or not to consent to treatment must be made by the person him or herself, and must not be influenced by pressure from medical staff, friends or family. This is to promote the autonomy of the patient.

B. ***Informed***: the person must be given all of the information in terms of what the treatment involves, including the benefits and risks, whether there are reasonable alternative treatments and the consequences of not doing the treatment. This will help to avoid harm—patients may harm themselves if they decide based on unwarranted and incorrect information.

C. ***Capacity***: the person must be capable of giving consent, which means they understand the information given to them, and they can use it to make an informed decision.

General principle of Informed consent

Should be given by a patient before any medical treatment is carried out. The ethical and legal rationale behind this is to respect the patient's autonomy and their right to control his or her life. The basic idea of personal autonomy is that everyone's actions and decisions are his or her own.

The principles include:

1. Information for patients
2. Timing of consent process
3. Health Professionals responsibility for seeking consent
4. Decision making for incompetent patients
5. Refusal of treatment

Ethiopia Council of minister's regulation 299/2013, Article 52 Patient's informed consent

1.2.3. Preventive ethics in the aspect of CRC

What is preventive ethics?

Preventive Ethics is a systematic application of ethical principles and values to identify and handle ethical quality gaps, dilemmas, challenges and errors to appropriately and fairly. It could be carried out by an individual or groups in the health care organization to identify prioritize and systematic address quality gaps at the system level.

Why is preventive ethics important for CRC healthcare workers?

First and foremost, the CRC health workforce, patients, families and the community at large should have a common understanding that the experience of illness and the practice of medicine lead to situations where important values and principles come to conflict and ethical dilemmas and challenges arise everywhere. Moreover, the CRC health worker should always understand the context in which She/he operates (like the services, the clients, the providers, values, norms, principles, culture, religions, socio-economic-geographic…) as the way in which ethical dilemmas are handled vary from case to case and place to place.

Preventive ethics helps the CRC health workforce to predict, identify, analyze, synthesize and manage ethical dilemmas, challenges and errors to make the appropriate and fair decisions. Hence, preventive ethics enhances honesty and transparency between healthcare workers, patients, families and relevant others to make a deliberated joint decision. Moreover, it inspires mutual understanding and trust amongst the healthcare provider, recipient and the community at large.

Preventive ethics brings all efforts together productively and leads to the satisfaction of clients, providers and the community even if when the decisions are sometimes painful and outcomes are negative.

1.2.4. Ethics and law as enablers of CRC

The Relation between Ethics and Law

	**Activity 1.4: Individual reflection**
	What is the relationship between ethics and law? **Time: 5** Minutes

Ethics as discussed in the previous sessions, is considered as a standard of behavior and a concept of right and wrong beyond what the legal consideration is in any given situation.

Law is defined as a rule of conduct or action prescribed or formally recognized as binding or enforced by a controlling authority. Law is composed of a system of rules that govern a society with the intention of maintaining social order, upholding justice and preventing harm to individuals and property. Law systems are often based on ethical principles and are enforced by the police and Criminal justice systems, such as the court system.

Ethics and law support one another to guide individual actions; how to interact with clients and colleagues to work in harmony for optimum outcome; provision of competent and dignified care or benefits of clients/ patients. Ethics serves as fundamental source of law in any legal system; and Healthcare ethics is closely related to law. Though ethics and law are similar, they are not identical.

Often, ethics prescribes higher standards of behavior than prescribed by law; and sometimes what is legal may not be ethical and health professionals will be hard pressed to choose between the two. Moreover, laws differ significantly from one country to another while ethics is applicable across national boundaries.

The responsibilities of healthcare professionals and the rights and responsibilities of the patient is stipulated in legal documents of EFMHACA like regulation 299/2013, directives and health facility standards.

1.2. Principles and Standards of Compassionate Care

1.2.1. Qualities of compassionate care

Compassion can be defined as: "sensitivity to the suffering of self and others with a deep wish and commitment to relieve the suffering".

Developing more compassion can be a way to balance emotions to increase the well-being of patients, healthcare professionals and facilitation of healthcare delivery. For patients, compassion can help prevent health problems and speed-up recovery. Compassion can improve staff efficiency by enhancing cooperation between individuals and teams and between patient and healthcare professionals.

	**Activity 1.5: Individual reflection**
	Can compassion be trained and learned? **Time: 2** Minutes

Qualities of Compassionate Care

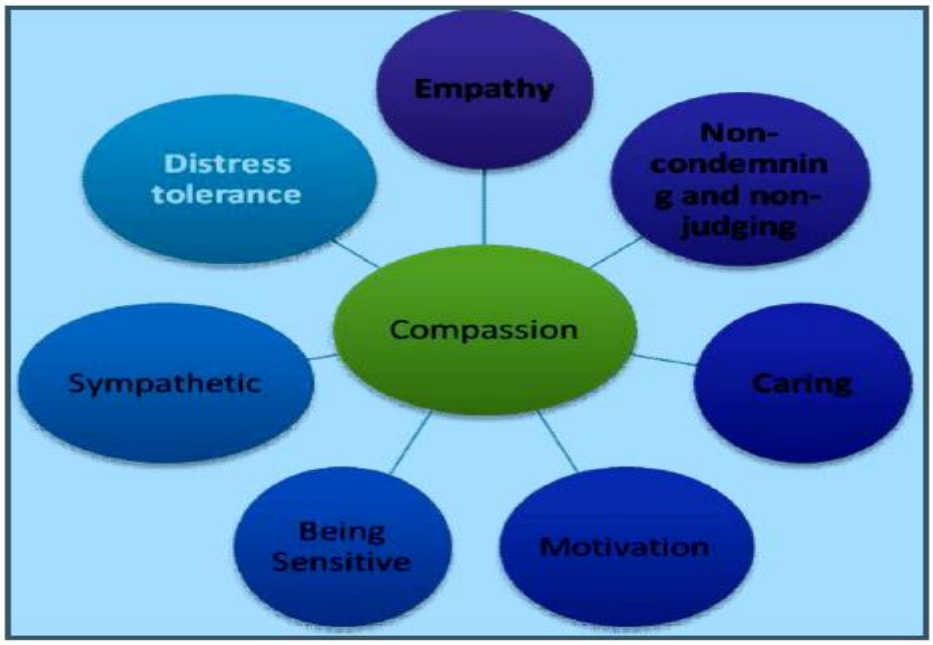


Figure 1: Qualities of compassion

Role play on qualities of compassionate care:

Instructions:

One participant will take the role of a healthcare provider and another participant will take the role of a mother [with limited mobility] of a sick child with a feeding problem. Other participants should observe and note the discussion.

Roles

Healthcare provider

A mother (with limited mobility) of a sick child:

Situation:

A mother with limited mobility brings her 3-month-old baby girl with cough and fever to the outpatient clinic. The healthcare provider seemed tired. By the time the mother enters the examination room, he was talking with his subordinate about last night's football game. He had already

noticed her but did not let her to sit. Her child was crying and she was trying to quiet her.
All of a sudden the healthcare provider shouted loudly at the mother to quiet her child or they would have to leave.
While waiting and calming her child, the mother told the healthcare provider that her child is very sick and needs an urgent care. While facing to his friend, the healthcare provider told the mother that he would see her child in five minutes.
After waiting for 10 minutes, the healthcare provider started to examine the child and felt sad about the condition of the child; apologized to her for having let her wait so long. The healthcare provider evaluated the child gently, gave the child a proper treatment, reassured the mother, and the child went home better.

Discussion Questions

Did the health provider demonstrate the characteristics of compassion?

If not, what are the areas /conversation that show poor characteristics of compassion?

If yes, what are the areas /conversation that show good characteristics of compassion?

Time: 25 minutes

1.2.2. Elements of compassionate care

According to researches the key elements of compassionate care has categories, each contains theme and subthemes.

a) **Virtue:** It is described as ‘‘good or noble qualities embodied in the character of the health care provider

b) **Relational space:** is defined as the context and content of a compassionate encounter where the person suffering is aware of and is engaged by, the virtues of the health care provider.

The category of relational space comprised two themes.

- Patient awareness which describes the extent to which patients intuitively knew or initially sensed health care provider capacity for compassion.
- Engaged care giving which refers to tangible indicators of health care provider compassion in the clinical encounter that established and continued to define the health care provider-patient relationship over time.

c) **Virtuous Response:** It is the "Enactment of a virtue toward a person in suffering,'' and it is both an individual category and an overarching principle of care that functions as a catalyst to the three core categories of compassionate care giving: ''**seeking to understand, relational communicating, and attending to needs**'' The category of virtuous response contain three broad themes within it:

- **Knowing the person** refers to the extent to which healthcare providers approached their patients as persons and view their health issues and suffering from this point of view.
- **Seeing the person as priority** involves healthcare providers' ability to priorities patient needs, setting aside their own assumptions and healthcare system priorities in the process.
- **Beneficence** refers to healthcare providers wanting the best for the patient, informing the three more targeted core categories of compassionate care giving.

d) **Seeking to Understand:** refers to healthcare providers trying to know the patient as a person and his or her unique needs.

The need to understand a person's desires and tailor his or her care is identified by most patients as a fundamental feature of compassion.

- Seeking to Understand the Person.
- Seeking to Understand the needs of the Person

e). **Relational Communication:** is an important element of compassion identified by patients consisting of verbal and nonverbal displays conveyed by the healthcare provider's engagement with the person suffering.

There are four specific themes and associated subthemes that convey compassion within clinical communication:

- **Demeanor** (''being'')
- **Affect** (''feeling for'')
- **Behaviors** (''doing for'')
- **Engagement** (''being with'')

Attending to Needs

It refers to ''a timely and receptive desire to actively engage in and address a person's multi-factorial suffering''. Attending to patients' needs has three interrelated themes:

- **Compassion-Related Needs:** refers to the dimensions of suffering that patient feel compassion: physical, emotional, spiritual, familial and financial.
- **Timely** refers to addressing suffering in a ‘‘timely’’ manner.
- **Action** refers to the initiation and engagement of a dynamic and tangible process aimed at alleviating suffering. Compassion is more action.

1.2.3. Principles of compassionate care

	**Activity 1.6: Individual reflection**
	What are the principles of compassionate care? **Time: 5** Minutes

The universal principles of compassion will help us know one another in a more meaningful way where we discover one another respectfully. They create the conditions that allow a person who is suffering to experience the healing power of compassion.

I. **Attention:** is the focus of healthcare provider. Being aware will allow the healthcare provider to focus on what is wrong with a patient; or what matters most to the patient.

II. **Acknowledgement:** is the principle of what the healthcare professional says. The report of the examination or reflection on the patient’s message. Positive messages of acknowledgment are buoyant; they let someone know that you appreciate them as a unique individual.

III. **Affection:** is how healthcare providers affect or touch people. Human contact has the ability to touch someone’s life. It is the quality of your connection, mainly through warmth, comfort, kindness and humor. Affection brings joy and healing.

IV. **Acceptance**: is the principle of being with mystery – how you stand at the edge of your understanding or at the beginning of a new experience, and regard what is beyond with equanimity. It is the quality of your presence in the face of the unknown, in the silence. Like the sun in the north at midnight, acceptance welcomes the mysteries of life and is at peace with whom we are and where we are, right now. It is the spirit of Shalom.

- The principle of acceptance is: being at peace with the way things are allows them to change.

1.2.4. Threats to compassionate care

There are factors preventing compassion and compassionate behavior for individual members of staff, teams and units and health facility. Most research discusses compassion at the individual level. In general, the most common threats for compassionate care are:

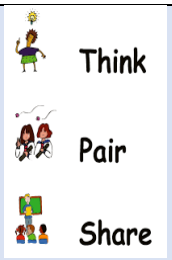
- **Compassionate fatigue:** Physical, emotional and spiritual fatigue or exhaustion resulting from care giving that causes and a decline in the caregivers' ability to experience joy or feel and care for others.
  - A form of burnout, a kind of "secondary victimization" what is transmitted by clients or patients to care givers through empathetic listening.
- **Unbalanced focus between biomedical model (clinical training) and person:** Effective clinical care is clearly fundamentally important, but human aspects of medicine and care must also be valued in training and in terms of how to be a good healthcare professional.
- **Stress, depression and burnout:**
  - **Self-reported stress** of health service staff is reported greater than that of the general working population.
  - **Burnout** (or **occupation burnout)** is a psychological term referring to general exhaustion and lack of interest or motivation to work.
- **Overall health facility context:** Attention by senior managers and health facility boards to achieve financial balance that affects priorities and behaviors of staff in health facility.

Addressing Threats of compassion

- Overcoming compassion fatigue
- Developing an inner compassionate self
- Compassion to yourself
- Teaching compassion to professionals through, training and education
- Dealing with staff stress and burnout
- Dealing with wider health facility context

1.3. Respectful care

1.3.1. Definition of Concepts of Respectful and Dignified Care

	**Activity 1.7: Pair discussion** 1. Can you share us your experience with regard to respect and dignity in the health care setting? 2. What does respectful care mean to you? **Time Allowed: 5 minutes**

Definition of Dignity (ልእልና)

The word dignity originates from two Latin words: 'dignitus' which means merit and 'dignus' meaning worth. It is defined from two perspectives:

- Dignity is a quality of the way we treat others.
- Dignity is a quality of a person's inner self.

Types of Dignity

There are four types of dignity: dignity of human being, personal identity, merit and moral status.

a) Dignity of human being

This type of dignity is based on the principle of humanity and the universal worth of human beings their inalienable rights-which can never be taken away.

b) Dignity of personal identity

This form of dignity is related to personal feelings of self-respect and personal identity, which also provides the basis for relationships with other people.

c) Dignity of merit

This is related to a person's status in a society.

d) Dignity of moral status

This is a variation of dignity of merit, where some people have a personal status because of the way they perceived and respected by others.

Attributes of Dignity

There are four attributes of dignity:

a) **Respect:** self-respect, respect for others, respect for people, confidentiality, self-belief and believe in others

b) **Autonomy:** having choice, giving choice, making decisions, competence, rights, needs, and independence

c) **Empowerment**: Feeling of being important and valuable, self-esteem, self-worth, modesty and pride

d) **Communication (may be verbal or non-verbal):** explaining and understanding information, feeling comfort, and giving time to the patients / families

Definition of Respect (አክብሮት)

- It is a term which is intimately related to dignity
- It is probably the most important action verb used to describe how dignity works in practice.

The action meanings of the word respect are:

- Pay attention to
- Honoring
- Avoiding damage e.g. insulting, injuring
- Not interfering with or interrupting
- Treating with consideration
- Not offending

People can vary by their skills, educational background, gender, age, ethnicity, and experiences. But, as human being, all are entitled to get dignified and respectful care. Every human being must respect others and get respect from others. Therefore, dignity is brought to life by respecting people:

- Rights and freedoms
- Capabilities and limits
- Personal space
- Privacy and modesty
- Culture
- Individuals believes of self-worth
- Personal merits
- Reputation
- Habits and values

Dignity and respect in the health care setting

Treating clients with dignity implies treating them with courtesy and kindness, but it also means:

- Respecting their rights
- Giving them freedom of choice
- Listening and taking into consideration what they say and
- Respecting their wishes and decisions, even if one disagrees.

Treating clients with dignity implies being sensitive to clients' needs and doing one's best for them, but it also means:

- Involving them in decision making
- Respecting their individuality
- Allowing them to do what they can for themselves and
- Giving them privacy and their own personal space

1.3.2. Principles of Respectful Care

Activity 1.8: Individual reflection

❖ Think of a person who gave you the most respectful care/service.

- Describe the situation?
- What are the qualities of that person?
- What did you value most?

Time: 5 Minutes

The principles of respectful care guide actions and responsibility of care providers in ensuring dignified care for their service users. Dignified care has seven core principles.

- Recognize diversity and uniqueness of individuals
- Uphold responsibility to shape care
- Meaningful conversation
- Recognize the care environment
- Recognize factors affecting dignity
- Value workplace culture
- Challenge dignity barriers

1.3.3. Characteristics of Disrespectful Care

Activity 1.9: Pair discussion

The situation where you received disrespectful care?

1. Describe the incident?
2. What was your reaction?

Time: 5 Minutes

The Seven categories of Disrespect and abuse

Category	**Example**
Physical Abuse	Slapping, pinching, kicking, pushing, beating
Non-consented care	Absence of informed consent or patient communication, forced procedures
Non-confidential care	Lack of privacy (e.g. Laboring in public or disclosure of patient information
Non-dignified care	Intentional humiliation, rough treatment shouting, blaming, treating to withhold services laughed at patients, provider did not introduce themselves, patients not called by their names throughout the interaction.
Discrimination based on specific patient attributes	Discrimination based on ethnicity, age, language, economic status, education level, etc.
Abandonment of care	Women left alone during labor and birth, Failure of providers to monitor patients and intervene when needed
Detention in facilities	Detention of patients/family in facility after delivery, usually due to failure to pay

1.3.4. Factors affecting Respectful Care Provision

	**Activity 1.10: Individual reflection**
	1. What do you think hinders you from providing respectful care in your health facility? 2. What are the factors that facilitate provision of respectful care in your health facilities? **Time: 5 Minutes**

Different Factors have a significant impact on hindering or facilitating the provision of respectful care service. These factors can be broadly classified in to three major groups; Health care environment, staff attitude & behavior and patient factors

Positive attributes of the physical environment which helped health professional to provide dignified care are related to aspects maintaining physical and informational privacy and dignity, aesthetically pleasing surroundings and single sex accommodation, toilet and washing facilities. Aspect of the environment that maintain physical and informational privacy are listed below

- **Environmental privacy** (for example curtains, doors, screens and adequate separate rooms for intimate procedures or confidential discussions (auditory privacy).
- **Privacy of the body**: covering body, minimizing time exposed, privacy during undressing and clothing are some of the enabling factors to ensure bodily privacy done by health professionals.
- **Aesthetic aspects** of the physical environment (for example space, color, furnishing, décor, managing smells); and the provision of accommodation, toilet and washing facilities
- **Managing peoples in the environment:** such as other patients, family and ward visitors/public contribute positively to maintain dignity in the health
- **Adequate mix and proficient Staffing**: adequately staffed with appropriate number and skill mix, as high workload affects staff interactions, and have strong leaders who are committed to patient dignity.

Physical environment which hinders health professional from providing respectful care are related to the overall health care system, lack of privacy, restricted access to facility /service and lack of resources. Aspect of the environment that hinders the provision of respectful care are listed below,

- **The healthcare System:** Shortage of staff, unrealistic expectations, poorly educated staff, 'quick fix' attitude, low wage, pay 'lip service' to dignity, low motivation, lack of respect among professionals, normalization/tolerance of disrespectful care, lack of role model, management bureaucracy and unbalanced staff patient ratio and skill mix.
- **Lack of privacy:** Lack of available single rooms, bath rooms & toilets without nonfunctional locks, use of single rooms only for infectious cases and lack of curtains or screens
- **Restricted access to facility/service:** Badly designed rooms, inadequate facilities (e.g. toilets, bath rooms), Cupboards with drawers that does not open, toilet and bath rooms shared between male and females.
- **Lack of resource:** Run out of hospital, gowns and pyjamas, Lack of medical device and supplies

The A, B, C, of respectful health care, is a tool designed to consider the attitudes and behaviors of health care providers

A –Attitude **Ask yourself:** • How would I be feeling if I was this person? • Why do I think and feel this way? • Are my attitudes affecting the care I provide and, if so, how? • Are my personal beliefs, values, and life experiences influencing my attitude?	**Action to be taken** • Reflect on these questions as part of your everyday practice. • Discuss provider attitudes and assumptions and how they can influence the care of patients with the care team. • Challenge and question your attitudes and assumptions as they might affect patient care • Help to create a culture that questions if and
B- Behavior • Introduce yourself. Take time to put the patient at ease and appreciate their circumstances. • Be completely present. Always include respect and kindness. • Use language the patient/family can understand	• Communication revolving around the patient's needs. • Patient centered communication with defined boundaries • Objectivity is an important attribute when assessing the clients' needs
C-Communication	

Ten Mechanisms to mitigate threats to respectful care -

1. Support clients with same respect you would want for yourself or a member of your family
2. Have a zero tolerance of all forms of disrespect
3. Respect clients' right to privacy
4. Maintain the maximum possible level of independence, choice, and control
5. Treat each client as an individual by offering personalized care
6. Assist clients to maintain confidence and a positive self esteem
7. Act to alleviate clients' loneliness and isolation
8. Listen and support clients to express their needs and wants
9. Ensure client feel able to complain without fear of retribution
10. Engage with family members and care givers as care partners?

1.4. Compassionate leader

4.1. Quality of Compassionate Leadership

Activity 1.11: Group exercise

Discuss in a group of 4-5 and share your experience to the larger group.

- What does it mean for you to lead, and manage?
- Can you give an example of a leader whom you know in your professional or personal life? What makes him or her good leader for you?
- Do you know of any individuals in high positions or authority who demonstrate compassionate, respectful and caring practices when they deal with their staff and clients?

Time: 20 minutes

Brief description of leadership theories

Introduces transactional, transformational, and servant leadership theories. It will also provide a better understanding of qualities of CRC leaders, which will enable participants to provide better service and increase awareness of CRC leadership.

- **Transformational leaders**: lead employees by aligning employee goals with their goals. Thus, employees working for transformational leaders start focusing on the company's well-being rather than on what is best for them as individual employees.
- **Transactional leaders**: ensure that employees demonstrate the right behaviors because the leader provides resources in exchange.
- **Servant Leadership**: defines the leader's role as serving the needs of others. According to this approach, the primary mission of the leader is to develop employees and help them reach their goals. Servant leaders put their employees first, understand their personal needs and desires empower them and help them develop their careers.

Characteristics of compassionate leaders

- **'In-tune' feeling**: Their actions abide by their words – and they always have the time to engage with others.
- **Manage their moods**: They know feelings affect others and they use positive emotions to inspire, not infect others with negative feelings.
- **Put people before procedures**: They are willing to set aside or change rules and regulations for the greater good.
- **Show sincere, heartfelt consideration**: They genuinely care for the well-being of others and have a humane side that puts other people's needs before theirs.
- **Are mindful**: They are aware of their own feelings and their impact on others. They are also attentive and sympathetic to the needs of others.
- **Are hopeful**: They move others passionately and purposefully with a shared vision that focuses on positive feeling of hope.
- **Courage to say what they feel**: They communicate their feelings, fears, even doubts which builds trust with their employees.
- **Engage others in frank, open dialogue**: They speak honestly with humility, respect and conviction, and make it safe for others to do the same.
- **Connective and receptive**: They seem to know what other people are thinking and feeling.
- **Take positive and affirming action**: They carry out compassion. They do not just talk about it; they make a promise, act on it and keep it.

What does compassionate leadership do for the organization?

- Positively affects sufferers, clients, employees
- Increases people's capacity for empathy and compassion
- Promotes positive relationships
- Decreases the prevalence of toxic viral negative emotions and behavior
- Increases optimism and hope
- Builds resilience and energy levels
- Counteracts the negative effects of judgment and bias

Self-evaluation of compassionate behavior

Good leaders can evaluate their own behavior using different methodologies. The self-assessment of compassionate leaders should be conducted every six months to enhance self-compassion through mindfulness.

Mindfulness begins with self-awareness: knowing yourself enables you to make choices how you respond to people and situations. Deeper knowledge about yourself enables you to be consistent, to present yourself authentically. You will learn and practice different ways to develop mindfulness and explore how it can contribute to developing compassionate leadership practices through:

- Enhancing attention and concentration
- Increasing creativity and flexibility
- Working efficiently in complex systems and uncertain environments
- Creating meaning and purpose
- Making effective and balanced decisions
- Responding effectively to difference and conflict
- Acting with compassion and kindness
- Enhancing relationships and partnerships
- Enabling genuine and courageous action
- Working ethically and wisely
- Developing cultural intelligence

1.5. Systems Thinking for CRC

Activity 1.12: Group activity in healthcare system thinking

Discuss in a group of 4-5 and share your experience to the larger group.

- Discuss concepts of Health System and how it relates with your Health Facility /Hospital and Health Center/ functions.
- Take your Health Facility/Hospital and Health Center/ and list the various department/core processes/support processes. Using a systems thinking approach, discuss how they interact with each other?
- Take in to account the CRC concepts and identify gaps you may have experienced in your facilities?

Time: 20 minutes

System: A system is a set of interacting or interdependent components forming an integrated whole.

Health System: A health system consists of all the organizations, institutions, resources and people whose primary purpose is to improve health.

Fully functional health system: A point which various management systems and subsystems are connected and integrated to provide the best possible health services to all the intended beneficiaries of those services.

Management systems: The various components of the overall health system that managers use to plan organize and keep track of resources. Management systems are run by people living in different contexts.

Integrate CRC into Existing System

Integration of new initiatives into existing system has paramount importance in expediting the process of implementation and ensuring sustainability of CRC in a health system. Integration can be done using "AIDED" model.

Assess: Understand the capacity of the unit structure, especially in regards to the availability of resources, as well as human resource; also to assess the level of human capability when integrating and sustaining the CRC by determining the level of support the unit requires before or after carrying out CRC.

Innovate: Design and package the CRC to fit with the existing quality of unit structure and their environmental context to spread the CRC throughout the hospital departments.

Develop: Build upon existing knowledge of main stakeholders and opinion leaders by encouraging hospital policies, organizational culture, and infrastructure to support the implementation of principles of CRC.

Engage: Use existing roles and resources within the hospital units to introduce, translate, and integrate CRC principles into each employee's routine practices.

Devolve: Capitalize on existing organizational network of index user groups to release and spread the innovation to new user groups.

1.5.2. Organizational culture

Organizational culture consists of the values and assumptions shared within an organization. Organizational culture directs everyone in the organization toward the "right way" to do things. It frames and shapes the decisions and actions of managers and other employees. As this definition points out, organizational culture consists of two main components: shared values and assumptions.

1. ***Shared Values:*** are conscious perceptions about what is good or bad, right or wrong. Values tell us what we "ought" to do. They serve as a moral guidance that directs our motivation and potentially our decisions and actions.
2. ***Assumptions:*** are unconscious perceptions or beliefs that have worked so well in the past that they are considered the correct way to think and act toward problems and opportunities.

Five key systems influence the hospital's effective performance with respect to improving the safety and quality of patient care, as well as sustaining these improvements. The systems are:

1. Using data
2. Planning
3. Communicating
4. Changing performance
5. Staffing

Leaders create and maintain a culture of safety and quality throughout the hospital. Rationale

- CRC thrives in an environment that supports teamwork and respect for other people, regardless of their position in the organization.
- Leaders demonstrate their commitment to CRC and set expectations for those who work in the organization. Leaders evaluate the culture on a regular basis.
- Leaders encourage teamwork and create structures, processes, and programs that allow this positive culture to flourish. Disruptive behavior that intimidates others and affects morale or staff turnover can be harmful to patient care.
- Leaders must address disruptive behavior of individuals working at all levels of the organization, including management, clinical and administrative staff, licensed independent practitioners, and governing body members.

Creating an Organizational culture of empowering employees for CRC

Having empowered employees is the aim of many leaders. Literature has reported that creating an organizational culture will empower employees to increase customer satisfaction levels, as well as to improve employee morale and productivity.

Employee empowerment encourages communication, participation in shared decision-making and enabling physicians and staff to reach their full potential by creating and optimal healing environment.

There are many different ways to build employee empowerment and engagement, but all share six fundamental actions to promote CRC on the part of leadership:

Share information and communication: Sharing information with employees is important because it not only helps to build trust; it gives employees important information to allow them to make the best possible decisions in critical situations when providing CRC services.

Create clear goals and objectives: Inspire employees to embrace the mission or changes of the organization by appealing to their innate desire to help patients and provide an efficient CRC service. Great leaders share important information in a structured and consistent manner.

Teach, accept and encourage: If you empower employees to make decisions that will help keep customers happy, then you have to be willing to allow them to make mistakes and learn from those mistakes.

Reward Self-Improvement: Create an environment that celebrates both successes and failures. A good leader celebrates successes; and employees who take risks for the benefits of patients/client; also, a good leader will assist employees to develop a plan for growth and reward them as they advance.

Support a learning environment: Listen to the voice of physicians, nurses and other staff to understand key barriers, issues, and opportunities to allow them to have a voice in crafting solutions for CRC challenges.

Create a clear role of autonomy: Enable frontline workers to execute change by supplying resources (education, funding, access to other skill sets within the health facility, etc.) and removing obstacles themselves.

1.6. Leading CRC Health Teams

Activity 1.13: Group activity

Discuss in a group of 4-5 and share your experience to the larger group.

- What principles do you think of when implementing CRC?
- Do you think there are differences between your current "leading" style and leading based on CRC? If yes, list the differences.

Time: 10 minutes

Health facility leaders have intersecting roles as public servants, providers of health care, and managers of both healthcare professionals and other staff.

- **As public servants**, health facility leaders are specifically responsible for maintaining the public trust, placing duty above self-interest and managing resources responsibly
- **As healthcare providers**, health facility leaders have a fiduciary obligation to meet the healthcare needs of individual patients in the context of an equitable, safe, effective, accessible and compassionate health care delivery system.
- **As managers**, leaders are responsible for creating a workplace culture based on integrity, accountability, fairness and respect.

Ethical healthcare leaders apply at least the following six specific behavioral traits:

1. **Ethically conscious:** Have an appreciation for the ethical dimensions and implications of one's daily actions and decisions or, as described by author John Worthily, the "ethics of the ordinary" (reference?).
2. **Ethically committed:** Be completely devoted to doing the right thing.
3. **Ethically competent:** Demonstrate what Rush worth M. Kidder, president and founder of the Institute for Global Ethics, calls "ethical fitness," or having the knowledge and understanding required to make ethically sound decisions (reference).
4. **Ethically courageous:** Act upon these competencies even when the action may not be accepted with enthusiasm or endorsement.
5. **Ethically consistent:** Establish and maintain a high ethical standard without making or rationalizing inconvenient exceptions. This means being able to resist pressures to accommodate and justify change inaction or a decision that is ethically flawed.
6. **Ethically candid:** Be open and forthright about the complexity of reconciling conflicting values; be willing to ask uncomfortable questions and be an active, not a passive, advocate of ethical analysis and ethical conduct.

Problem-solving in healthcare

Steps of Scientific Problem Solving Skills

1. Define the problem
2. Set the overall objective
3. Conduct a root cause analysis
4. Generate alternative interventions
5. Perform comparative analysis of alternatives
6. Select the best intervention
7. Develop implementation plan and implement plan
8. Develop evaluation plan and evaluate

Best Practice Identification

Criteria to select best practices

- **New/Novel idea-** not much practiced in other hospitals in Ethiopia
- **Effectiveness:** has brought empirical change to the implementation of CRC specifically to patient satisfaction and quality of service provision. The practice must work and achieve results that are measurable.
- **Relevant/impact:** improved CRC and quality of patient experience (Explain the relevance of the innovation using a clear baseline and current performance of CRC)
- **Diffusible:** implemented at low cost in other facilities or implemented innovation in other hospitals.
- **Sustainable:** Innovation is easy to understand, easy to communicate and works for long time.
- **Political commitment:** The proposed practice must have support from the relevant national or local authorities.
- **Ethical soundness:** The practice must respect the current rules of ethics for dealing with human populations.

By definition, "Best Practices" should be "new/novel", "effectiveness" and "relevance".

Monitoring and Evaluation of CRC Health Team

Potential focus areas where leaders focus to evaluate their CRC staff

- **Quality of work**: Provide accuracy and thorough CRC service
- **Communication and interpersonal skills**: listening, persuasion and empathy to clients/patients and teamwork and cooperation in implementing CRC
- **Planning, administration and organization**: setting objectives, and prioritizing CRC practice
- **CRC knowledge**: knowledge-based training, mentoring, modeling and coaching
- **Attitude**: dedication, loyalty, reliability, flexibility, initiative, and energy towards implementing CRC
- **Ethics**: diversity, sustainability, honesty, integrity, fairness and professionalism
- **Creative thinking**: innovation, receptiveness, problem solving and originality
- **Self-development and growth**: learning, education, advancement, skill-building and career planning

Chapter Summary

- *Dignity of human being is the basis for healthcare delivery*
- *Clients should be treated as human being not as cases*
- *Disrespect and abuse is a problem in Ethiopia.*
- *Zero Tolerance to Disrespectful care shall be a motto for all health workers in the health facilities.*
- *Improving the knowledge of ethics is important to boost the ethical behavior in practice*

Chapter Two: Overview on Pharmacy and Medical device Management Chapter Standards

Allocated Time: 90 minutes

Chapter Description: This chapter introduces participants with overview of hospitals and health centers pharmacy services and operational standards. The chapter also enlightens the participants on hospitals' medical device management operational standards.

Chapter Objective: At the end of this chapter, the participants will be able to describe the standards on supply chain, pharmacy service and medical device management.

Enabling Objectives: At the end of this chapter, participants will be able to:

- Identify hospital supply chain and pharmacy service operational standards
- Identify health center supply chain and pharmacy service operational standards
- Identify hospital medical device management operational standards

Chapter Outline:

- Introduction
- Hospital pharmacy service and supply chain operational standards
- Health center pharmacy service and supply chain operational standards
- Hospital medical device management operational standards
- Chapter summary

2.1. Introduction

Pharmaceutical management is critical step for client's services in hospitals and health centers. Since the ultimate health outcome is determined by appropriate selection, quantification, procurement and rational use of pharmaceuticals, pharmacy services should be designed to provide assurance that quality and safety is maintained at all stages of service provision.

Hospital pharmaceutical management are expected to render measurable and better quality services in a more responsible and accountable manner. The standards and guidance set for hospital pharmacy service and supply chain is designed to align with and support the services to meet the demands of the health sector transformation plan of the nation.

There is recognition that health technology management, including medical device, is among areas included in the HSTP. In Ethiopia, lack of proper management of medical device and availability of non-functional medical devices have limited the capacity of health institutions to deliver adequate health care. The rising number of these non-functional medical devices are due to poor equipment handling and utilization, frequent power surges, the age of the equipment, lack of operator training, lack of preventive maintenance, lack of spare parts, lack of maintenance capacity, and minimal knowledge regarding sophisticated equipment are factors that contribute to equipment breakdowns.

It is very crucial to implement Medical Devices Management in the hospitals in order to manage and coordinate the medical devices management cycle which includes planning and assessment of needs, procurement, training, operation, maintenance, decommissioning and disposal. Activities that ensure the successful management of resources and patient related risk in a healthcare facility. To realize this medical device management in all public hospitals FMOH introduce Medical device Management Guidelines.

2.2. Hospital Operational Standards for Pharmacy Services

1. The hospital should provide quality pharmaceutical products and effective services in its outpatient, inpatient, and emergency pharmacy service units.
    a. There should be separate Outpatient, Inpatient, emergency, Drug supply management, Drug information and Compounding pharmacy service provision units.
    b. There should be separate store for medicines and other supplies and reagents.
2. The hospital should have functional Drug and Therapeutics Committee (DTC) that develops and implements interventions promoting the rational and cost-effective use of medicines. There should be:
    a. DTC annual plan for the fiscal year
    b. Terms of reference (TOR)
    c. Official letter of assignment for members
    d. At least 6 signed meeting minutes in the last 12 months
    e. Performance report of DTC activities of the last fiscal year
3. The hospital should have facility specific Medicines and medical devices list. The list should be:
    a. Prioritized by VEN.
    b. Updated annually.
4. The hospital should ensure execution of good dispensing practices at all dispensing outlets.
    a. Dispensing area workflow organized as: Evaluation & Billing ➔Payment//Processing ➔Counseling
    b. There should be waiting area with seats in OPD pharmacies

c. Prescriptions should be signed by evaluator and counselor (hint: see randomly selected 10 prescriptions)
d. Identified DTPs and measures taken should be recorded.
e. There should be a report on patient knowledge on correct dosage and satisfaction

5. The hospital should implement Auditable Pharmaceutical Transactions and Services (APTS).
    a. Prescriptions, sales tickets and registers at dispensaries should be recorded and filed
    b. Adequate human resource should be deployed for pharmacy services units based workload analysis
    c. Pharmacy premises are arranged so as to keep patient safety and privacy
    d. Implementation of coding to uniquely identify medicines
    e. Bin ownership is implemented
    f. Presence of monthly reports for products, finance and services
    g. Presence of audit report (internal)
    h. Wastage rate in monetary value is <2%
    i. Presence of annual report on ABC and VEN analyses
6. The hospital should provide clinical pharmacy services at inpatient, outpatient and emergency departments.
    a. Completed patient medication profile form, pharmaceutical care progress recording form and medication reconciliation forms should be part of the patient chart
    b. Ward pharmacy should be available in each major ward and functions for 24 hrs.
    c. Unit dose dispensing should be implemented at ward pharmacies
    d. Pharmacists should regularly participate in ward rounds, morning sessions and seminars
7. The hospital should provide drug information services to health care providers, patients and the public.
    a. Query receiving and answering should be properly filed
    b. Drug alert/newsletter, therapy update, drug monograph should be prepared
    c. Stock availability should be updated for the hospital community on regular basis
    d. The hospital should provide medicine use education for patients
    e. The hospital should provide poison information
    f. Survey report on patient satisfaction of overall pharmacy services should be done
8. The hospital should have functional compounding service.
    a. Separate premises for compounding service is required
    b. Necessary equipment, materials and chemicals should be availed
    c. SOP should be prepared for all compounding procedures
    d. All compounded items should be documented

9. The hospital has efficient and effective pharmaceutical logistics management system that reduces the frequency of stock-outs, wastage, over supply and drug expiry.
    a. Presence of procurement policy
    b. Presence of annual pharmaceutical quantification and supply plan
    c. Report that shows percentage of procured items from the hospital list.
    d. Presence of updated bin card (check randomly selected10 bin cards)
    e. Good storage practice is being followed
10. The hospital should have appropriate paper/computer-based inventory management system.
    a. Vouchers at store should be properly recorded and filed
    b. Paper based or electronic inventory management tool should be available
    c. physical inventory report for dispensaries and stores should be available
    d. Stock status analysis report should be done
11. The hospital should established system for regular monitoring medication use and safety.
    a. Semi-annual prescription monitoring report should be prepared
    b. Annual DUE Report
    c. ADE report
    d. WHO drug use indicator study report
12. The hospital should conduct continuous segregation, documentation and safe disposal of pharmaceutical wastes.
    a. SOP for pharmaceutical disposal should be prepared
    b. List of disposed products with description should be documented
    c. Expired medicines should be separately segregated
    d. The hospital should be certified for pharmaceuticals disposed

2.3. Health Center Operational Standards for Pharmacy Services

1. The Health Centre shall have a Drug and Therapeutics Committee (DTC) which implements - various measures designed to promote the rational and cost-effective use of medicines. supports the pharmacy service
2. The health center dispensary and pharmaceutical warehouse should be led by registered pharmacist and pharmacy technician respectively.
3. The Health Center should have annually updated Medicines and medical devices list that can be used in the facility.
4. The Health Center ensures that all types of medicine and medical devices transactions and patient-medication related information are properly recorded and documented.

5. The Health Center should provide appropriate drug information service for clients and document the information provided.
6. The health center should have a system of drug information provision for the patients and healthcare providers.
7. The Health Center should have policies and procedures for identifying and managing drug use problems, including: monitoring adverse drug reactions, prescription monitoring and drug utilization monitoring.
8. The Health Centre should have a drug procurement policy approved by the DTC that describes methods of quantification, prioritization, drug selection, supplier selection and ordering of pharmaceutical supplies and is in line with national guidance.
9. The Health Centre should have a paper-based or computer-based inventory management system to reduce the frequency of stock-outs, wastage, over supply and drug expiry.
10. The Health Centre should ensure proper and safe disposal of pharmaceutical wastes and expired drugs.
11. The health center pharmacy should provide support and regulate on medicine utilization and service provision of health posts under the catchment area of the health center.
12. All Units of the pharmacy service shall have adequate personnel, equipment, premises and facilities required to store pharmaceutical supplies and carry out compounding, dispensing, and counseling services.
13. The health center should conduct auditing for all pharmacy unit of the health center at least twice a year by internal auditor and once a year by external auditor

2.4. Operational Standards for Medical Device Management

1. The hospital should have in-house Medical Device Management unit with an operational plan, required staff and led by a biomedical personnel
2. The Hospital should establish Medical Device Management Committee (MEMC) composed of doctors, nurses, technicians, pharmacists, and administrative personnel that oversee the medical device management program.
    - MEMC should have TOR and ensure the following responsibilities are included:
        - Develop and monitor implementation of medical device strategy;
        - Oversee establishment of medical device inventory;
        - Develop a model medical device list;
        - Develop and implement medical device policies;
        - Determine annual budget for medical device strategy;
        - Review incident reports related to medical device.

3. The hospital should have an appropriately equipped medical device maintenance workshop. The workshop should have
    - Administration offices
    - Electrical/Electronic Work Area
    - Biomechanical Work Area
    - Test Tools
    - Personal Protective Devices
    - Store
    - Staff Training Room
    - Measuring equipment
    - Spare parts
4. The Hospital should have paper-based and computer based inventory management system that tracks all equipment and spare parts included in the equipment management program
    - Inventory management system should update within a year.
        - Head of Medical device Maintenance (or equivalent) should confirm that all medical device in the equipment management program is listed in the inventory.
    - Inventory system is used to manage the stock of spare parts
5. The hospital should maintain Equipment History File for all medical device containing all key documents for the equipment.
    - History Files includes: SOP for equipment use, inventory data collection form and risk assessment form
6. The hospital should have policies and procedures in place for acquisition of new medical device, commissioning, decommissioning and disposal of equipment, the receipt of donations, and outsourcing technical services for medical device repair and maintenance
7. All new equipment of the hospital should undergo acceptance testing prior to its initial use to ensure the equipment is in good operating condition, and are installed and commissioned in accordance with the manufacturer's specifications
    - It should contains a copy of the Acceptance Test Log Form
8. All equipment operators and personnel of the hospital should be trained on proper operation, safety, and maintenance of medical device with standard operating procedures readily available to the user.
    - All items of medical device in each department should have SOP for each item.

9. The hospital should have schedule for inspection, testing and preventive maintenance for each piece of equipment as guided by the manufacturer's recommendations and that schedule is appropriately implemented
    - The schedule for Inspection, testing, and maintenance is present in the equipment history file and has been conducted as described in the schedule.
10. The hospital should have a notification and work order system for corrective maintenance and calibration of medical device based on their level of risk
    - Written protocol for medical device work orders.

Chapter Summary

- Appropriate pharmaceutical selection, quantification, procurement and rational use of pharmaceuticals, pharmacy service and medical device management should be designed to provide assurance that quality and safety is maintained at all stages of health service provision.
- Standards are set to support hospital and health center pharmaceutical services and medical device management to meet the demands of the health sector transformation plan of the nation.
- It is very crucial to implement Medical device Management standards in the hospitals to manage and coordinate the medical device management cycle

Chapter Three: Basics of Monitoring and Evaluation

Allocated Time: **90** minutes

Chapter Description: This chapter introduces participants with the concepts and basic terminologies of monitoring and evaluation which will be used through M&E activities. The chapter describes purpose of monitoring and evaluation. Participants will also be introduced to M&E framework.

Chapter Objective: By the end of this chapter the participants will be able to describe basic monitoring and evaluation concepts.

Enabling Objectives: By the end of this chapter participants will be able to:

- Identify and define basic terminologies of M&E
- Describe purpose of monitoring and evaluation
- M&E framework on Pharmacy Service Supply Chain, & Medical device management

Chapter Outline:

- Introduction
- Basic terminologies of M&E
- Purpose of monitoring and evaluation
- M&E framework
- Summary

3.1 Introduction

Activity 3.1: Brainstorming

- Define Monitoring and Evaluation & why are they important
- List key M&E terminology

Time: 5 min

Monitoring and Evaluation (M&E) is a process that helps improve performance and achieve results. Its goal is to improve current and future management of outputs, outcomes and impact.

It provides:

- Information on what an intervention is doing, how well it is performing and whether it is achieving its aims and objectives;
- Guidance on future intervention activities;
- An important part of accountability to funding agencies and stakeholders.

Plans for monitoring and evaluation should be made at the beginning of an intervention development process.

3.2. Basic terminologies of M&E

Activity 1.2: Group exercise-Matching quiz on key M&E terms	
	You are required to match key M&E terms with their definition correctly **Time:** 15 min
Instruction: First, try to match the key terms with their definitions. Then, tape the strips up together on the flipchart.	

Monitoring is the regular/routine collection of information about all activities. It shows whether things are going to plan and helps managers to identify and solve problems quickly. It keeps track of project inputs and outputs

Evaluation is periodic comparison of objectives, with accomplishments. It keeps track of key outcomes and impacts related to the different project components, assessing whether the objectives, aims and goals are being achieved.

Baseline data is basic information gathered before a program begins; it is used later as a comparison for assessing program impact

Data is individual facts, statistics, and raw numbers

Information is knowledge acquired in any manner; facts and data that have been turned into useful material

Analysis is a process of converting data into information; should be in a format that is useful for decision making.

Goal is a statement, usually general and abstract, of a desired state toward which a program is directed (usually not measurable)

Objective is specific statement describing the desired accomplishment(s) or results of an intervention or program; how the goal will be achieved (objectives should be measurable and should address existing problems, program weaknesses, and/or client needs [or build on strengths])

Indicator is variable that measures a particular aspect of a program (input, process, output, outcome, impact), usually related to achievement of objectives.

M&E plan relates goals, objectives, and interventions to problems; shows how indicators and tools measure achievement of objectives. It allows program staff at the field level to track progress towards specific targets for better transparency and accountability.

Quantitative is a measure that is *objective* and verifiable, usually a numeric value

Qualitative is a measure that is *subjective* and descriptive, usually based on an individual's perception or interpretation

Inputs are set of resources (e.g., funds, policies, personnel, facilities, supplies, etc.) required to implement a program/activity

Process is a set of interventions (e.g., training, supervision, reporting) in which inputs are used to achieve objectives and desired results

Outputs are results obtained at the program level, direct products or deliverables of a program (e.g., number of people trained, M&E materials developed and available for use)

Outcomes are results obtained at the population level following interventions (e.g., improved access and product availability, improved skills). It is the level of performance or achievement that occurred because of the activity or services your organization provided.

Impact is long-term results or outcomes also obtained at the population level (e.g., changes in total fertility rate [TFR] or in morbidity and mortality)

Feedback is presentation of information to decision makers or lower-level personnel, based on information received.

Tools or data sources are the resources used to obtain data for measuring indicators

Performance is a progress towards and achievement of results.

The main differences between Monitoring and Evaluation are listed below:-

Monitoring	**Evaluation**
Continuous	Periodic
Done by internal staff	Mostly done by external staff
Simple checklist used	Detailed methodology needed
Important for Managers/Decision makers	Important for policy makers
Focus on Process to Output	Focus on Outcome to Impact

3.3. Purposes of Monitoring and Evaluation

Monitoring and evaluation help to improve performance and achieve results. More precisely, the overall purpose of M&E is the measurement and assessment of performance in order to more effectively manage the outcomes and outputs known as development results. Traditionally, monitoring and evaluation focused on assessing inputs and implementation processes.

The main purposes of the M&E are:-

- To provide guidance for gathering of timely, accurate and complete information for monitoring and evaluating PSM, PS and ME.
- To promote information sharing among stakeholders
- To promote informed decision making
- To build organizational capacity and development learning
- To support substantive accountability
- To promote continuous improvement in the pharmaceutical sector and medical device management through timely identification and addressing of implementation challenges

Learning from the past contributes to more informed decision-making. Better decisions lead to greater accountability to stakeholders. Better decisions also improve performance.

3.4. M&E framework

The M&E framework provides a foundation for performance monitoring and evaluation of the pharmaceutical supply chain, pharmacy service and medical device management of the country. The framework helps to monitor how program activities contributes to the achievement of effectiveness and efficiency of pharmaceutical supply chain management system, availability and quality of pharmacy services and improved medical device availability, utilization and management system. It is outlined in Figure 2, showing how inputs are translated into outputs, outcomes and impact. System inputs, processes and outputs reflect systems capacity, whereas outcomes and impact reflect systems performance.

Multiple data sources will be used in the implementation of the M&E framework. Data sources will include routine administrative sources (such as HMIS), surveys and supportive supervision findings. Various input, output, and outcome indicators are included in the M&E framework. Input indicators will help ensure that resources are properly mobilized, equitably distributed and efficiently utilized. Output indicators will be used to measure utilization and coverage. Outcome and impact indicators have the advantage of being “integrative” (i.e. many different factors are “integrated” into the outcome/impact), reflecting the result of interventions within and outside the sector.

Data analysis will be conducted starting from facility level to national level to be used for evidence-based decision making. M&E findings will be disseminated to stakeholders using different channels. Quarterly and annual reports will be produced and shared to stakeholders. The data will be used in performance review meetings to review strengths and challenges and to agree on future interventions. FMOH/RHB will conduct inspections to verify activities are undertaken at grass roots level. In addition, the involvement of all stakeholders is highly required in the implementation of M&E process up to use of information.

Figure 2: Monitoring and Evaluation Framework for Pharmaceutical Supply Chain, Pharmacy Service and Medical device Management

<table>
<tr><th colspan="6">Program: Pharmacy Services, Supply Chain Management and Medical Devices</th></tr>
<tr><td></td><td colspan="5">Program Objectives
Improve effectiveness and efficiency of pharmaceutical supply chain management system
Improve availability and quality of pharmacy services
Improve Medical device availability, utilization and management</td></tr>
<tr><td rowspan="2">Indicator Domains</td><td>Inputs</td><td>Process</td><td>Outputs</td><td>Outcome</td><td>Impact</td></tr>
<tr><td>Pharmacy Workforce

Leadership and management

Coordination

Strategies, guidelines

Finance

Information

Logistics

Technology</td><td>- Quantification, Procurement and distribution of drugs
- Establishing DTC
- Developing facility specific drug list
- Perform activities to implement APTS
- Implement clinical Pharmacy
- Perform phar. compounding
- Capacity Building activities
- Conduct HTA
- Establish Medical device management committee (MEMC)
- Perform scheduled preventive maintenance
- Implement IPLS
- Develop electronic systems for reporting and use of data
- Conduct supervision, mentorship</td><td>- Improved Essential Drug availability
- Reduced stock out of drugs
- Availability of national and facility specific drug list
- Reduced drug wastage
- Improved storage of medicines
- Improved disposal of unfit for use drugs
- Availability of Quality pharmaceutical products and effective services
- Availability of DTC, MEMC
- APTS implemented
- Capacitated workforce on pharmacy services & supply management
- Improved availability of MEs
- Improved procurement, distribution, installation, maintenance & disposal of MEs</td><td>-Improve patient satisfaction in pharmacy services
-Improved Rational use of drugs
-Improved knowledge on rationale use of drugs
-Reduced Drug therapy problems
-Improved equitable access to quality health services
-Effective and safe utilization of medical devices
-Improved diagnostics capacity of HFs</td><td>-Improved Health Status

-Reduced drug resistance

-Improved efficiency and effectiveness in pharmacy services and ME management system</td></tr>
<tr><td>Data Collection and Reporting</td><td colspan="3">Routine Pharmacy reporting formats. Admin Reports, regular facility surveys
HMIS, EHCRIG and EHTG Reports, Supportive supervision reports
Submission and aggregation of reports with the existing hierarchy of health administration</td><td colspan="2">Facility Surveys, Population surveys</td></tr>
<tr><td>Analysis and interpretation</td><td colspan="5">Data Quality assurance at all levels; Assessment of progress of performance versus plan, use performance indicators to discuss during regular performance monitoring meetings</td></tr>
<tr><td>Dissemination and use</td><td colspan="5">Dissemination of data through different platforms such as regular reporting, quarterly and annual review meetings, publication of bulletins</td></tr>
</table>

Chapter Summary

- M&E is a process that helps improve performance and achieve results.
- There are many key M&E terminologies used in day to day activities. Among many few are Monitoring, Evaluation, Data, Information, Baseline & so on.
- The overall purpose of M&E is the measurement and assessment of performance in order to more effectively manage the outcomes and outputs.
- The M&E framework provides a foundation for performance monitoring and evaluation of the pharmaceutical supply chain, pharmacy service and medical device management of the country.

Chapter Four: Indicators to Measure Pharmacy Service, Supply Chain and Medical device Management

Allocated Time: 605 minutes

Chapter Description: This chapter introduces and briefs participants the components of the Indicators used for PS, SC and ME management. This chapter also discusses how participants use standardized M&E formats and SOP of PS, SC and ME management.

Chapter Objective: At the end of this chapter, the participants will be able to identify, interpret and apply the indicators used to measure PS, SC and ME management.

Enabling Objectives: At the end of this chapter, participants will be able to:

- Identify Components of the Indicators used for PS, SC and ME management
- Discuss PS, SC and ME management Indicators
- Use standardized M&E formats and SOP of PS, SC and ME management

Chapter Outline:

- Introduction
- Components of the indicator matrix
- PS, SC and ME management indicators
- Using standardized M&E formats (data collection & aggregation tool) for PS, SC and ME management
- Chapter Summary

4.1. Introduction

Activity 4.1: Indicators	
	• Discuss in group about indicators • List pharmacy service, supply chain and medical device management indicators you know **Time: 5 min**

An indicator is a variable that measures one aspect of a program and is related to the program's goal and objectives. Indicators provide M&E information crucial for decision making at every stage of program implementation. FMOH, in collaboration with its stakeholders, has selected a set of indicators to inform on pharmaceutical SCM, pharmacy service and medical device management program. The breakdown of these core indicators consists of routine indicators, indicators that are analysed and reported to the higher level on regular basis and non-routine indicators, those which are collected through surveys and supportive supervisory visits.

The M&E framework comprises of 35 indicators and, for ease of implementation and use, the indicators are systematically categorized into four categories: pharmacy service indicators (16), supply chain indicators (10), medical device management indicators (6) and crosscutting indicators (3) each of them having similar components.

Among the 35 indicators, 4 of them are incorporated into the national DHIS 2 reporting system; and hence, should be reported to the FMOH on routinely basis. These indicators are: Percentage of clients with 100% prescribed drugs filled, Supplier fill rate, Wastage rate, and Essential drugs availability.

To implement the M&E framework properly and to harness the benefits in improving quality of services in the area of pharmaceutical SCM, pharmacy service and medical device management, proper implementation of the framework is mandatory. Hence, good understanding and execution of proper data recording, collection and aggregation, computation, analysis and validation of the M&E indicators; and, employing of the standardized M&E formats is highly crucial for decision making.

4.2. Components of the Indicators

Activity 4.2: Indicators components	
	• What do you think are the components of pharmaceutical SCM, pharmacy service & medical device management indicators? **Time: 5 min**

Table 2: Components indicators in the PS, SC and ME management indicators

No.	Component name	Description of the component
1.	Indicator	The name of the indicator.
2.	Definition	How the indicator is defined and what information that it provides.
3.	Formula	The arithmetic formula describing how it will be computed. Depending on type of formula, proportion, ratio, percentage or number could be the result.
4.	Interpretation	This component discusses what the specific indicator measures and how the results are interpreted. Whenever assessment tool and method is annexed, this component will describe which annexes to be used for the particular indicator.
5.	Disaggregation	This component describes the level of disaggregation. If decision makers need the results disaggregated by level or type of health facilities, this components show how the data are disaggregated. If no disaggregation is required, it will be indicated as 'None'.
6.	Data Source	This component shows the source document from which the reportable data or data that will be employed for the analysis will be collected. The data sources could be registers/records, prescription papers, published/unpublished materials, minutes/reports, etc.
7.	Method of data collection	This component discusses methods employed to collect the required data from the source documents. DHIS 2, Survey, document review including electronic record cards, and observation are some of the methods that will be used to collect the necessary data.
8.	Frequency of data collection	This component describes the frequency at which reporting/collection is made to each of the relevant bodies, i.e. Health Centre (HC), Hospital, Woreda Health Office (WoHO), Zonal Health Department (ZHD), Regional Health Bureau (RHB) and Federal Ministry of Health (FMOH). Almost all the indicators that are included in the pharmaceutical SCM, pharmacy service & medical device management M & E framework are reported monthly, quarterly or annually.

4.3. Pharmacy Service Indicators

Allocated Time: 145 minutes

As mentioned earlier, 16 pharmacy services indicators are included in the M&E framework. Among these indicators, 7 of them use survey as sole method for data collection and the remaining 9 are reported/collected routinely (see the below table for list of PS indicator, functionality threshold/target, disaggregation, data source and methods of data collection).

Table 3: List of Pharmacy Services Indicators and the Corresponding type of Data Collection Method

Type of PS indicator	Target/Threshold for functionality	Disaggregation	Data source	Method of data collection
1. PS10. Percentage of clients with 100% prescribed drugs filled	100%	HC***, Hospital	DRB****, Prescription paper	DHIS2
2. PS1. Drug and therapeutics committee (DTC) Functionality	≥75%	HC, hospital	Documents from DTC secretary	Survey/SS with structured checklist/ RR**
3. PS2. Availability of health facility specific medicine list	100%	HC, hospital	Copy of facility specific medicine list	Survey/SS
4. PS3. Availability of Standard Treatment Guidelines	100%	HC, hospital	Copy of STG	Survey/SS
5. PS4. Percentage of medicines prescribed from the facility's medicines list	100%	None	DRB, Prescription paper	Survey
6. PS5. Average number of medicines per encounter	≤2	By HC, hospital	DRB, prescription paper, routine report	Survey/SS with structured checklist
7. PS6. Percentage of encounters with an antibiotic prescribed	≤ 20% to 30%	By HC, hospital	Prescription papers, DRB	Survey
8. PS7. Average dispensing counselling time	≥ 2 minutes	HC, hospital	Observation of counseling encounters	Survey
9. PS8. Percentage of medicines adequately labeled	100%	HC, Hospital	Observation of dispensed medicine by exit interview	Survey
10. PS9. Patients' knowledge on correct dosage	100%	HC, Hospital	Client, label of medicine dispensed	Survey
11. PS11. Clinical pharmacy service functionality	≥75%	None	Clinical pharmacy records and report	Survey/RR
12. PS12. Hospital with functional unit dose dispensing system (UDS)	≥75%	None	Direct observation	Survey
13. PS13. Percentage of hospitals with functional DIS	≥75%	None	Observation, Completed DIS recording and reporting form	Survey/RR
14. PS14. Percentage of hospitals with functional compounding services	≥75%	None	Observation, Compounding registration form	Survey and SS through Observation
15. PS15. APTS functionality	≥75%	By level of health facility	Observation, APTS records and report	Survey/RR
16. PS16. Client satisfaction with dispensing	≥80%	HC, hospital	Client	Survey

Type of PS indicator	Target/Threshold for functionality	Disaggregation	Data source	Method of data collection
services				

Key :- SS*= Supportive supervision ; RR** =routine report; HC*** = health center ; DRB**** = Dispensing registration book

PS1. Drug and Therapeutics Committee (DTC) Functionality - The role of DTC in improving supply and rational use of medicines has been advocated globally over the last decades. Functional health facility DTC develops and implements interventions promoting the rational and cost-effective use of medicines. DTC functionality serves as a proxy indicator of the ability of a health facility to avail pharmaceuticals and ensure their rational use. For DTC to be more productive, their functionalities must be monitored on a regular basis. For this to happen, functionality of DTCs has been made to be one of the pharmacy service indicators. This indictor monitors DTC functionality based on weight based 9 criteria. The indicator for DTC functionality requires that health facilities must meet DTC functionality criteria score ≥75% to be categorized as functional (see annex 1.1 for DTC functionality criteria). The formula for this indicator is: -

Number of health facilities that have functional DTC	X 100
Total number of hospitals that established DTC	

Health centers, Hospitals, WoHo, ZHD and RHB report this indicator quarterly.

PS2. Availability of health facility specific medicine list -Availability of health facility specific medicine list helps health facilities to prioritize their medicine and supplies budget for products that are more important to the health facility. This indicator measures the extent to which comprehensive facility specific list of medicines, reagents and supplies, medical devices are available at health facilities. The list should be prepared by the DTC and updated at least every year. The list is prepared based on relevance to treat prevalent diseases of the catchment area, and should be categorized by VEN. The formula below is used to calculate this indicator.

Number of health facilities with facility specific medicine list	X 100
Total number of health facilities	

Health centers, hospitals, WoHo, ZHD and RHB report this indicator quarterly.

PS3. Availability of Standard Treatment Guidelines (STG) - Availability of pharmaceuticals alone cannot ensure appropriate utilization of the available pharmaceuticals. There should also be a guide or standard dictating how the available pharmaceuticals should be used at the health facilities. Currently, there are national STGs that are developed for different levels of health facilities that should be available at all health facilities all the time. To calculate availability of STGs at health facilities, the below formula is employed.

Number of health facilities with recent STG	X 100
Total number of health facilities	

Health centers, hospitals, WoHo and ZHD reports the indicator quarterly while RHBs report it annually.

PS4. Percentage of medicines prescribed from the facility's medicines list - Once health facility specific medicine and medical device list is developed, procurement and use of medicines should be limited to pharmaceuticals included in the list as much as possible. This indicator monitors the adherence of health facilities to the developed list for their procurement and prescribing activities. The formula below is used to calculate this indicator.

Total number of medicines prescribed from HF medicine list	X 100
Total number of medicine prescribed	

To make analysis, the health facility should take samples of at least 600 prescriptions for the same fiscal year from OPD pharmacy using systematic random sampling and make the calculations. If the assessment is to be done by external assessors for administrative purpose to compare health facilities, the sample size per health facility should not be less than 30 and the total facilities selected should not be less than 20 using annex 1.2. Prescription papers can be used but the better is utilization of Health Facility Dispensing Registration Book which is indicated in annex 1.5. Health centers and hospitals report this indicator quarterly.

PS5. Average number of medicines per encounter- This indicator measures and monitors the incidences of poly-pharmacy, a practice of prescribing many medicines per facility visit. WHO recommends that the average number of medicines per encounter should be less than 2 and more than 2 medicines per encounter could suggest that there is a practice of poly pharmacy which might pose safety and adherence problems and could incur additional and unnecessary costs to patients.To make analysis, the health facility should take samples of at least 600 prescriptions for the same fiscal year from OPD pharmacy using systematic random sampling and make the calculations. If the assessment is to be done by external assessors for administrative purpose to compare health facilities, the sample size per health facility should not be less than 30 and the total facilities selected should not be less than 20. Prescription papers or registers can be used for the purpose. If a patient comes with two prescriptions in one encounter, the two prescriptions will be considered as one. To collect data for this indicator, please use annex 1.2. But the better is utilization of Health Facility Dispensing Registration Book which is indicated in annex 1.5. The formula below is used to calculate this indicator.

Total number of medicines prescribed
Total number of encounters

Health centers, hospitals, WoHo and ZHD reports the indicator quarterly while RHBs report it annually.

PS6. Percentage of encounters with an antibiotic prescribed - WHO recommends that antibiotic prescribing rate per encounter should not be greater than 20-30%. Indiscriminate prescribing of antibiotics leads to antibiotic resistance. This indicator measures the extent of antibiotics use in health facilities. To make analysis, the health facility should take samples of at least 600 prescriptions for the same fiscal year from OPD pharmacy using systematic random sampling and make the calculations. If the assessment is to be done by external assessors for administrative purpose to compare health facilities, the sample size per health facility should not be less than 30 and the total facilities selected should not be less than 20. Prescription papers or registers can be used for the purpose. To collect data for this indicator, please use annex1.2. But the better is utilization of Health Facility Dispensing Registration Book which is indicated in annex 1.5. The formula below is used to calculate this indicator.

Total number of encounters with one or more antibiotic	X 100
Total number of encounters	

Health centers, hospitals, WoHo, ZHDs and RHBs report this quarterly.

PS7. Average dispensing counselling time- Different studies have indicated that counselling time spent with patients is not as expected. This means, counsellors spend very minimal time with patients indicating that patients do not get the necessary information about the medicines that they are given. When the assessment is done by health facility itself, anonymous assessor will observe the time it takes for pharmacy professionals to counsel 100 patients and calculates the average time that a patient is counselled by a pharmacy professional. If the assessment is to be done by external assessors for administrative purpose to compare health facilities, the sample size per health facility should not be less than 30 and the total facilities selected should not be less than 20. To collect this data, use counseling time registering form shown in annex 1.3.The formula below is used to calculate this indicator.

Total time for counseling on medicines dispensed for series of encounters
Number of encounters observed

PS8. Percentage of medicines adequately labelled - The end result of prescribing and availing of medicines is greatly depend on how well the patients understood the instructions given to them. Verbal counseling alone, in most cases, does not enable patients to take the medicines as per the instructions given. The verbal instructions should be complemented with written instructions in a local language that the patient understands. Hence, the status of implementation of labeling of medicines should be monitored on a regular basis. During an exit interview by the health facility, the assessor should review the labeling of medicines for 100 patients and check for completeness of basic information on the label. If the assessment is to be done by external assessors for administrative purpose to compare health facilities, the sample size per health facility should not be less than 30 and the total facilities selected

should not be less than 20. Medicine is said be adequately labelled, at least when it is labelled with patient name, name of the medicine, dose, frequency, duration of use/quantity dispensed, and route of administration. To collect data for this indicator, use Annex 1.4.The formula below is used to calculate this indicator.

Number of medicines with adequate label	X 100
Total number of medicines dispensed	

Health centers, hospitals, WoHo and ZHDs report this indicator every quarter while RHBs report it annually.

PS9. Patients' knowledge on correct dosage - One of the determinants of a better therapeutic outcome from medicine is the extent to which patients understand and implement the counseling given them. Better patient knowledge about the medicines that they are taking can be linked with better adherence and also better therapeutic outcomes. This indicator measures the effectiveness of the counselling and the extent to which patients have understood the instructions provided to them by the pharmacy professionals. Patients are expected at minimum to explain the correct dosage of their medicines including dose, frequency, route and duration. During an exit interview, anonymous assessor asks at least 100 patients and check if they know, at least, the correct dosage of the medicines that they are taking. If the assessment is to be done by external assessors for administrative purpose to compare health facilities, the sample size per health facility should not be less than 30 and the total facilities selected should not be less than 20. To collect data for this indicator, use Annex 1.4. The formula below is used to calculate this indicator.

Number of patients with adequate knowledge on correct dosage	X 100
Total number of patients interviewed	

Health centers, hospitals, WoHo, ZHDs, RHBs report this quarterly.

PS10. Percentage of clients with 100% prescribed medicines filled - Availability of medicines is the pillar for patient satisfaction. Whether or not the medicines that are prescribed are dispensed by the health facility pharmacy should be vigilantly monitored. If the facility develops health facility medicines list and uses the list for procurement and prescribing medicines, it is highly probable that most of the patients treated at the facility will get all the prescribed medicines in the facility pharmacy and records high patient satisfaction. This indicator measures proportion of clients who get all the prescribed medicines from the facility pharmacy. Prescription papers or registers can be used for the purpose and the formula below is used to calculate this indicator. See Health Facility Dispensing Registration Book which is indicated in annex 1.5

Number of clients who received all prescribed drugs	X 100
Total number of clients who received prescriptions	

All levels of the health tiers report this indicator on monthly basis using routine DHIS2 reporting system.

Example 1: Using the information taken from the dispensing register for prescription of 10 patients from a hypothetical health facility, calculate % clients who get 100% of drugs prescribed for them.

Annex 1.5: Health facility dispensing registration book

Region Oromia **Woreda _Bishoftu Town** **Name of Health Facility: XXXX Center**

SN	MNR	Patient Name	Age	Sex	Diagnosis (NCoD)	Medicines Prescribed	Therapeutic Category	Level of Importance by VEN			Dispensed (Y/N)	Overall* (1,0)	Remark
								Vital (√)	Essential (√)	Non-Essential (√)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	**(13)**	(14)
1	8948	Tihetina Tilahun	34	F	UTI	Ceftriaxone 250mg inj	Antibiotic		E		√	0	
						Metronidazole 500mg Inj	Antibiotic	V			X		
						Ductopenic 25 mag tab	Antipain		E		X		
2	1001	Chali Tola	27	M	CAP	Amoxycillin 500 mg caps	Antibiotic		E		√	1	
3	1702	Mohammed Aliyi	50	M	Tonsillitis	Clarithromycin 250 mg	Antibiotic		E		√	0	
						Paracetamol 500mg tab	Antipain		E		X		
4	2102	Ayantu Lema		F	PUD	Omeprazole 20 cap	PPI		E		√	1	
5	4807	Henok Kidane	1	m	Diarrhea	ORS	Antidiarrhea	V			√	1	
6	3096	Tulu Oli	65	M	Leg ulcer	Cloxacillin 500 mg cap	Antibiotic		V		√	1	
7	5543	Tejitu Abebe	31	F	Eclampsia	Magnesium Sulphate inj.	Antiseizure	V			√	1	
8	4129	Aynalem Lema	32	F	Family planning	COC	Contraceptives	V			√	1	
9	6753	Hiruy Kebede	5	M	Pin worm	Mebendazole 100mg tab	Anthelmintic		E		X	0	
10	7484	Tesema Nemo	49	M	Gastritis	Omeprazole 20 mg cap	PPI		E		√	1	
		Count total patient	10							**Count Total 1**		**7**	
Overall*: Enter '1' only if all the prescribed medicines are dispensed and enter '0' if one or more medicines not dispensed.												FMOH V1 2009	

Percentage of clients with 100% prescribed drugs filled =

Number of clients who received all prescribed drugs	X 100
Total number of clients who received prescriptions	

Percentage of clients with 100% prescribed drugs filled =

7	X 100
10	

Therefore, percentage of clients with 100% prescribed drugs filled= 70%

PS11. Clinical pharmacy service functionality

The drugs patents get should be free from drug therapy problems (DTPs). Sustainable implementation of clinical pharmacy ensures that drugs given for patients are from drug therapy problems such as unnecessary drug therapies, missed therapies, under doses, overdoses, ineffective therapies, ADRs and noncompliance. For these DTPs to be avoided, functionality of Clinical Pharmacy has been made to be one of the pharmacy service indicators. This indicator is measured by 11 criteria (see annex 1.6). The

indicator matrix for Clinical Pharmacy functionality requires that the Clinical Pharmacy functionality criteria score be ≥75% to be categorized as functional. The formula for calculating this indicator is the one below.

Number of hospitals with functional CPS	X 100
Total number of hospitals	

The report generated by hospital is shared with ZHDs/ScHO and RHB semi-annually.

PS12. Hospitals with functional unit dose dispensing system (UDS) - It is a well-established fact that unit dose dispensing system for admitted patients can minimize/avoid wastage of medicines and supplies and costs on patients. To be categorized as functional, health facilities should score ≥75% on UDS functionality criteria. For details, see annex 1.7. Use the formula below to calculate this indicator.

Number of hospitals with functional UDS	X 100
Total number of hospitals	

Hospitals report this indicator to ZHDs/ScHO, RHBs annually.

PS13. Hospitals with functional Drug Information Service (DIS) - Availability of reliable, unbiased and current drug information serves as basis in ensuring a better outcome for medication therapy for patients. A hospital DIS is considered functional when ≥75% of the functionality criteria are met. For details, see annex 1.9. To calculate the indicator, use the formula below.

Number of hospitals with functional DIS	X 100
Total number of hospitals that established DIS	

At the end of Q2 and Q4, pharmacies must fill the DIS Functionality Criteria Format. Hospitals, WoHo and ZHD send Semi-annually while RHBs share this report annually.

PS14. Hospitals with functional compounding services - This indicator measure the presence of non-sterile preparations compounding capability at hospital pharmacies. The preparations may include dermatological preparations (ointments, creams) and bulk preparations (e.g. hand rubs, hydrogen peroxide, gentian violet,). A hospital compounding service is considered functional when ≥75% of the functionality criteria are met. For details, see annex 1.8. To calculate this indicator, use the formula below.

Number of Hospitals with functional compounding services	X 100
Total number of Hospitals	

Hospitals, WoHo, ZHDs, RHBs and FMOH report this indicator annually.

PS15. APTS functionality - Availability of system for transparent and accountable transactions of pharmaceuticals should be given due attention. Establishment and maintaining of functionality of APTS is, therefore, one of the pharmacy practice areas which has gained much focus. This indicator measures the number of health facilities that fulfilled the requirements and implemented APTS. APTS is considered functional when 75% of the functionality criteria are met. Health facilities measure their APTS functionality using these criteria and reports the results quarterly. For details, see annex 1.10. The following formula is used to calculate this indicator.

The number of health facilities with functional APTS	X 100
Total Number of Health facilities implementing APTS	

Health centers, hospitals, WoHo, ZHDs and RHBs report this quarterly.

PS16. Client satisfaction with dispensing services

Scheduled assessment of patient satisfaction on pharmacy services can help the health facility to timely adopt and implement interventions that can improve pharmacy services. This indicator measures the overall outcome of all reform activities to improve pharmacy services in general and dispensing activities in particular. It indicates the degree to which dispensing service meets clients' expectations. It can be measured in terms of availability of medicines, information provision, premises and personnel. A health facility is said to be having acceptable patient satisfaction if 80% of the patients interviewed are satisfied with the pharmacy services provided. When this assessment is done by health facility itself, anonymous assessor will observe at least 100 patients leaving the hospital pharmacy using annex 1.11. If the assessment is to be done by external assessors for administrative purpose to compare health facilities, the sample size per health facility should not be less than 30 and the total facilities selected should not be less than 20. For details, please see. The following formula is used to calculate this indicator.

Number of clients satisfied with dispensing services	X 100
Total number of clients interviewed	

Health center, hospitals, WoHo and ZHDs report this indicator quarterly; while RHBs does it annually.

Group Discussion

Activity 5.3 Group Discussion

Discuss in a group of 4-5 and share your experience to the larger group.

- Read the 15 indicators and discuss in your groups.
- Prepare to present any 4 indicators that will be assigned to your group.
- Prepare to comment other groups' presentation based on what you read.

Minimum discussion points could be the following

- Going thoroughly through 8 indicator components
    a. take note of key points
    b. sample size for data obtained from patients and prescriptions
- Disaggregation
- Data collection method
- Reporting frequency
- An in-depth review of the data sources for each of the indicators
- Functionality criteria and how to calculate percentage values

Time: 60 min

Open Quiz Q & A (10 minutes)

1. If average number of drugs per prescription is found to be 3%, does it show strength or weakness?
2. What are the criteria to show that DTC is functional?
3. If your indicator report shows antibiotic prescribing practice of 68%, is this good or bad practice?
4. If in an interview, patients tell you that they will take 1 tablet instead of 2 tablets as per the physician's recommendation, which of the 16 pharmacy indicators can show you this problem?

Exercise 1 Fill method of data collection, formula, functionality criteria and reporting frequency for the selected pharmacy service indicators assuming that you work in a health centre or a hospital (Time allowed 45 minutes)

Parameter	Methods of data collection (1/0)					Functionality criteria (write NA if not applicable)		Reporting frequency (write NA if not applicable)				
	Routine report	SS	Survey	Observation /structured checklist	Routine DHIS2 report	# criteria	threshold	HC	Hosp	WoHo	ZHD	RHB
PS1. Drug and therapeutics committee (DTC) Functionality												
PS8. Percentage of medicines adequately labelled												
PS9. Patients' knowledge on correct dosage												
PS10. Percentage of clients with 100% prescribed drugs filled												

Parameter	Methods of data collection (1/0)					Functionality criteria (write NA if not applicable)		Reporting frequency (write NA if not applicable)				
	Routine report	SS	Survey	Observation /structured checklist	Routine DHIS2 report	# criteria	threshold	HC	Hosp	WoHo	ZHD	RHB
PS11. Clinical pharmacy service functionality												
PS15. APTS functionality												
PS16. Client satisfaction with dispensing services												

Large group exercise

Using the information taken from the dispensing register for prescription of 10 patients from a hypothetical health facility, answer the questions that follow.

Annex 1.5: Health facility dispensing registration book

Region Oromia **Woreda _Bishoftu Town** **Name of Health Facility: XXXX Center**

SN	MNR	Patient Name	Age	Sex	Diagnosis (NCoD)	Medicines Prescribed	Therapeutic Category	Level of Importance by VEN			Dispensed (Y/N)	Overall* (1,0)	Remark
								Vital (√)	Essential (√)	Non-Essential (√)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	**(13)**	(14)
1	8948	Tihetina Tilahun	34	F	UTI	Ceftriaxone 250mg inj	Antibiotic		E		√	0	
						Metronidazole 500mg Inj	Antibiotic	V			X		
						Ductopenic 25 mag tab	Antipain		E		X		
2	1001	Chali Tola	27	M	CAP	Amoxycillin 500 mg caps	Antibiotic		E		√	1	
3	1702	Mohammed Aliyi	50	M	Tonsillitis	Clarithromycin 250 mg	Antibiotic		E		√	0	
						Paracetamol 500mg tab	Antipain		E		X		
4	2102	Ayantu Lema		F	PUD	Omeprazole 20 cap	PPI		E		√	1	
5	4807	Henok Kidane	1	m	Diarrhea	ORS	Antidiarrhea	V			√	1	
6	3096	Tulu Oli	65	M	Leg ulcer	Cloxacillin 500 mg cap	Antibiotic		V		√	1	
7	5543	Tejitu Abebe	31	F	Eclampsia	Magnesium Sulphate inj.	Antiseizure	V			√	1	
8	4129	Aynalem Lema	32	F	Family planning	COC	Contraceptives	V			√	1	
9	6753	Hiruy Kebede	5	M	Pin worm	Mebendazole 100mg tab	Anthelmintic		E		X	0	
10	7484	Tesema Nemo	49	M	Gastritis	Omeprazole 20 mg cap	PPI		E		√	1	
		Count total patient	10							**Count Total 1**		**7**	

Overall*: Enter '1' only if all the prescribed medicines are dispensed and enter '0' if one or more medicines not dispensed. FMOH V1 2009

1. Suggest steps you need to follow to fill this registration in your health facility
2. Calculate average # drugs per encounter
3. Calculate % cases with at least one antibiotic
4. % drugs prescribed from FSML
5. Calculate % of clients with 100% prescribed drugs
6. % Drugs actually dispensed
7. Is there problem of
    - Polypharmacy?
    - Antibiotic use?
    - Availability?
    - Nonadherence to FSML?

4.4. Pharmaceuticals Supply Chain Management Indicators

Time allowed: 135 minutes

This topic deals with indicators used for monitoring and evaluation of key supply chain activities such as availability, forecasting, warehouse, inventory management, LMIS and distribution performance.

	**Activity 4.4.1 Individual reflection**
	Mention some of the supply chain indicators that you have been using. **Time:** 3 min

In this M and E framework developed by FMOH, there are 10 supply chain indicators. These are:

Type of SC indicators	Method of data collection	Data Source	Frequency of data collection	Disaggregation
SC1. Forecast accuracy	Document review	Forecast data, Consumption data from HCMIS/Bin card	Annually	By program, by tracer product
SC2. Supplier fill rate	DHIS2	RRF report, receiving voucher,	Quarterly	By supplier, by program
SC3. Average lead time	Document review	RRF report, receiving voucher,	Quarterly	By supplier, by program/RDF
SC4. Stock out duration	Survey and SS (document review and observation)	Bin card, HCMIS and tracer drug tally sheet	Quarterly	By tracer product, by level of facility
SC5. Wastage rate	DHIS2	Bin card, model 19, inventory sheet, disposal reports, HCMIS	Quarterly	By program, RDF
SC6. Percentage of facilities that maintain acceptable storage conditions	Survey, SS	Checklist for standard storage condition	Annually	Hospital & health center

SC7. Inventory accuracy rate	Survey, SS	Bin card, HCMIS, Physical count	Quarterly	Hospital & health center
SC8. RRF reporting rate	Document review	RRF, Electronic report,	Quarterly	Hospital & health center
SC9. Essential drugs availability	DHIS2	Bin card, electronic record & tracer drug tally sheet	Monthly	Program product, by each products
SC10. Disposal of unfit-for-use medicines	Survey, SS, document review	Disposal certificate, bin card, electronic record, physical count	annually	Hospital & health center

Among these indicators; essential drugs availability, supplier fill rate and wastage rate are included in the national DHIS2. Essential drugs availability is reported monthly while supplier fill rate and wastage rate are reported on quarterly basis using the DHIS2 system.

SC1. Forecast accuracy - This indicator measures the degree of accuracy of a forecast or quantification exercises in facilities that perform forecasting of their own medicine requirement. Higher accuracy value indicates there is a correspondence between the forecasted quantities and the actual consumption and this tells the forecasting accuracy is high. Hundred percent accuracy is difficult to achieve in any facility but values greater than or equal to 75% are considered high. The health facility should calculate this indicator for tracer items for which a forecast is made by the health facility for not more than 10 products. Health facilities should use the formats indicated in Annex 2.1. The formula shown below is used to calculate this indicator.

$$1 - \left| \frac{\text{forecasted consumption} - \text{actual consumption}}{\text{actual consumption}} \right| * 100$$

Survey and supportive supervision are methods of data collection for this indicator. Hospitals and health centers report this indicator annually.

SC2. Supplier fill rate - This indicator measures suppliers' ability to fill orders completely in terms of items and quantity during a definite period of time. The analysis is done based on items requested from EPSA or other suppliers and that are received to determine whether an order is filled in the correct quantities with the correct products. A health facility said to be supplied at acceptable level if 80% of the requested items are supplied fully.

Health facilities document and measure supplier fill rate using Annex 2.2. This indicator has to be disaggregated by supplier (EPSA, others) & by RDF and Programs. The formula shown below is used for calculating supplier fill rate.

Number of line items delivered at least 80%	X 100
Total no. of line items requested	

Once calculated, health enters, hospitals, WoHo, ZHds/ScHO and RHBs report supplier fill rate quarterly using M and E reporting format of FMOH.

SC3. Average lead time - This indicator measures the average amount of time it takes by supplier to deliver products once the facilities placed order to supplier. Average lead time is the average amount of time between facilities place order to supplier and when the products are delivered to a facility. A lead time average exceeding 1 month is considered as delay. Health facilities can measure the average lead time by using the format indicated in Annex 2.3. This indicator has to be disaggregated by supplier (EPSA, others) and program & RDF. Document review is methods of data collections. The formula used to calculate this indicator is the one below.

Summation of the number of days it takes by supplier to deliver products once orders are submitted
Number of orders submitted to the supplier

Once calculated, health enters, hospitals, WoHo, ZHds/ScHO and RHBs report this indicator biannually using M and E reporting format of FMOH.

SC4. Stock out duration - This indicator provides a proxy measure of the ability of a program to meet clients' needs with a full range of pharmaceuticals because availability of pharmaceuticals can be linked with service availability. Stock out duration is the number of days in which tracer medicines were not available in a specified period because they are expected to be available at health facilities all the time. To record and calculate the indicator, health facilities should use stock out duration tally sheet and registration format indicated in Annex 2.4. This indicator is disaggregated by specific tracer product and level of health facility. Survey and SS (Review of documents and observation) are employed as methods of data collection. Hospitals and health centers report the indicator monthly while WoHO and report it ZHD/ ScHO quarterly and RHBs report annually.

SC5. Wastage rate - Wastage rate is the percentage of the stock of products, in value, that are unusable because of expiration or damage during a period to the total value of the products received during the same period plus the quantity of the products found during the beginning of the period.

This indicator can be calculated for any facility that manages pharmaceutical of interest. It can be measured over any period but it is preferable to be calculated for unusable stock with in a quarter. It is usually calculated after a physical inventory is taken. Unusable stock that has been accumulated for long period and were not disposed previously (expired and damaged items that were transferred from previous quarter) should not be included during calculation of this indicator. In addition, items that were unusable during the quarter reviewed but were disposed with in the quarter should be taken in to consideration during calculation. This indicator is one of the performance indicators to have efficiency gain and one of the HSTP indicators. The target in HSTP is to reduce wastage of pharmaceuticals to less than 2%. This indicator is calculated for medicines, reagents, chemicals and supplies by using the registration format indicated in Annex 2.5. This indicator has to be disaggregated by RDF and program. Data sources include din cards, Model 19, inventory sheet, disposal reports and electronic records. This data is collected through routine DHIS2 reports. The formula below is used to calculate wastage rate.

Unusable stock of products during a period in monetary value	*X 100*
Beginning stock + received stock during the same period in monetary value	

Once calculated, health enters, hospitals, WoHo, ZHds/ScHO and RHBs report this indicator quarterly using M and E reporting format of FMOH.

SC6. Percentage of facilities that maintain acceptable storage conditions

This indicator measures the conditions of pharmaceutical store against a list of storage conditions required to protect the integrity of products. It deals with the conditions of pharmaceutical store against a list of storage conditions required to protect the integrity of products. Evaluators can apply the indicator at pharmaceutical stores identify facilities that need improvement. The good storage guideline standards are a set of standards that a well-functioning pharmacy store should maintain and have in place. There are total of 13 standards for storage condition. The check list used to evaluate storage condition of a single health facility is indicated in annex 2.6. Storage facilities are expected to meet at least 80% of the requirements according to standard checklist. The good storage guideline standards are a set of standards that a well-functioning pharmacy store should maintain and have in place. The storage condition indicator requires that it has to be disaggregated by hospital and health center. The data source for this indicator is the Checklist for standard storage condition. This said, the formula used for calculation of this indicator is the one displayed below.

Number of facilities that meet acceptable storage condition	*X 100*
Total number of facilities	

Health centers and hospitals will conduct self-assessment to check that they meet the storage criteria or not in annual basis and will use it to improve their performance. While RHBs, woredas and zone will conduct supportive supervision or survey to capture the indicator and report it using M and E reporting format of FMOH.

SC7. Inventory accuracy rate

It measures the accuracy of stock balances recorded in stock keeping records (it can be manual or electronic) versus physical count over a range of items as a percentage of stock balances reviewed for accuracy. The calculation is performed for randomly selected 10 tracer products. High accuracy rate (80% and above) indicates good inventory practice. For administration levels, this indicator measures the percentage of health facilities that had 80% and above inventory accuracy rate. This indicator is disaggregated by health Center and hospital. The data sources for inventory accuracy rate are bin cards, electronic records and physical count while the methods of data collection are survey or supportive supervision. Once data is collected, use the formula below to calculate inventory accuracy rate.

Number of items where stock record balance equals physical stock count	*X 100*
Total number of items counted	

Hospitals, health centers, WoHO and ZHD report this indicator quarterly while RHBs do it annually using the M and E reporting format of FMOH.

SC8. RRF reporting rate

RRF reporting rate indicator is the proportion of Report and Requisition Forms (RRFs) submitted on time. Its purpose is to collect, organize and report supply chain information (data) to other levels in the system to make resupply decisions and help to ensure that all the six rights of logistics are met. This indicator provides an overall measure of whether timely reports and requests are sent to supplier (EPSA). All health facilities are expected to send RRF report every two months until the 10^{th} day of the following month. Health facilities can measure their RRF reporting rate by using the format indicated in in Annex 2.8. RRF reporting rate is disaggregated by hospital and health Center. Data sources for RRF reporting rate are RRF, electronic report, RRF submission monitoring logbook and RRF tracking dashboard while method of data collection is document review for WoHO and ZHD where EPSA and FMOH use RRF tracking dashboard. This said, it is expected that the reporting entities use the formula below to calculate RRF reporting rate.

Total number of RRF submitted on time	*X100*
Total number of expected RRF	

Hospitals, health centers, WoHO, ZHD and RHB report this indicator quarterly using the M and E reporting format of FMOH.

SC9. Essential drugs availability

Essential drugs availability indicator measures the percentage of tracer drugs available throughout the month averaged over all tracer drugs under the review in the month. This indictor is used to measure product availability and used by program managers and others working on pharmaceuticals supply management. It will help them to know if products are available whenever the client needs them, and thus it must be carefully measured. Essential drugs should always be available. It monitors product availability (or absence) over a period and serves as a proxy indicator of the ability of a program to meet clients' needs with a full range of products and services. If a product is not available (stocked out) for one day in the month, then it's considered as not available for the whole month. Health facilities can measure stock out duration of tracer items by using the tracer drug availability and stock out duration tally sheet and registration format indicated in Annex 2.4. Essential drugs availability indicator is disaggregated by each product and program products. Data sources include bin card, electronic records and tracer drug availability sheet whereas the data collection method utilizes routine DHIS 2 reporting. The formula used to measure essential drug availability is:-

Number of tracer drugs available	X 100
Number of tracer drugs under review	

Hospitals, health centers, WoHO, ZHD and RHB report this indicator monthly through routine DHIS 2 using the M and E reporting format of FMOH.

SC10. Disposal of unfit-for-use medicines

Disposal of unfit-for-use medicines indicator monitors percentage of health facilities that have disposed unfit-for-use medicines at least once in the past 12 months. It measures the performance with which health facilities dispose unfit-for-use pharmaceuticals as per the national disposal directive. Unfit-for-use pharmaceuticals include expired or damaged, pharmaceuticals with quality problems. Health facilities should be able to dispose of these products in a timely fashion to avoid their inadvertent use by patients due to dispensing errors and enables efficient utilization of storage space. The indicator assumes that pharmaceuticals are disposed of at least once in 12 months. Health facilities can measure their disposal of unfit-for-use medicines by using the format indicated in Annex 2.9. This indicator is disaggregated by hospital and health center. The data sources are disposal certificate, bin card, electronic record and physical count whereas survey, supportive

supervision and document review are used method of data collection. The formula for calculating this is the one displayed below.

Number of health facilities that have disposed of their unfit-for-use medicines	X 100
Total number of health facilities having unfit-for-use medicines	

Hospitals, health centers, WoHO, ZHD and RHB report this indicator annually using the M and E reporting format of FMOH.

Activity 4.4.2: Example: Forecast accuracy calculation and interpretation – 45 minutes

The forecasted and actual consumption data for 10 items of Tenachin hospital is indicated below. Calculate the forecast accuracy for each item and interpret the results.

Product No.	Forecasted consumption (tablets, vials, etc.)	Actual consumption (tablets, vials, etc.)	Forecast Accuracy
Product 1	38,425	37,000	
Product 2	26,547	27,777	
Product 3	35,000	71,426	
Product 4	22,425	15,567	
Product 5	68,700	72,004	
Product 6	2,500	4,200	
Product 7	3,300	3,000	
Product 8	215,000	232,000	
Product 9	355,000	305,250	
Product 10	47,475	62,000	

Group Exercise on wastage rate calculation

Instructions

- Be in group of five
- Choose a chairperson and a secretary
- Go through the exercise on wastage rate calculation and be ready to present them to the large group in 25 minutes

Wastage rate exercise

Cheleka health centre stores budget and program commodities. The health centre conducts quarterly physical inventory, registers usable products and expired products using the appropriate registration forms separately. As part of the M&E activity and the physical inventory, the health centre reports wastage rate on quarterly basis. During the previous three quarters of 2011 E.C., the information indicated in the below table indicates the three-quarter data of Cheleka Health Centre. In line with this, complete the following:

1) Complete the wastage rate registration formats for the three quarters
2) Complete the wastage rate reporting template for the three quarters for DHIS-2
3) What is the trend of the wastage rate over the three quarters?
4) How would you characterize the performance of the health center with regards to the standard set in the HSTP indicators to measure reduction of wastage?

Wastage rate information for three quarters

	Wastage rate (Damage + expiry)	**Cost**		
		Quarter 1	**Quarter 2**	**Quarter 3**
1	Total cost of Beginning Balance of **Program** drugs (total cost obtained from inventory at end of the previous quarter) in birr	382,155	401102	376,268.00
2	Total cost of **program** drugs received + transferred in to the health facility from other facility in this quarter in birr	291,903	96033.15	222,671.22
3	Total cost of **program** drugs transferred out to other health facility in this quarter in birr	21,222	0	15470
4	Total cost of **program** drugs damaged and expired in this quarter in birr	2,177	0	52,47.27
5	Total cost of Beginning Balance of **Budget** drugs (total cost obtained from inventory at end of the last Quarter) in birr	392,726	392726	392726
6	Total cost of **Budget** drugs received + transferred in to the health facility from other facility in this year in birr	36,400	185888.24	288629.73
7	Total cost of **Budget** drugs transferred to other health facility in this year in birr	2,222	0	1547

8	Total cost of **budget** drugs damaged + expired in quarter in birr	2,497	2418.04	3966.74

SC5. Wastage rate registration

Quarter 1

#	RDF Category	Unusable stock of products during a period in monetary value in the Quarter (P1)	Value of Beginning stock at the beginning of the Quarter (P2)	Value of total items received during the Quarter (P3)	Wastage Rate $\frac{P1 * 100}{P2+P3}$
1	RDF Pharmaceuticals				
2	Program Pharmaceuticals				
	Summation				
				Wastage Rate	

Quarter 2

#	RDF Category	Unusable stock of products during a period in monetary value in the Quarter (P1)	Value of Beginning stock at the beginning of the Quarter (P2)	Value of total items received during the Quarter (P3)	Wastage Rate $\frac{P1 * 100}{P2+P3}$
1	RDF Pharmaceuticals				
2	Program Pharmaceuticals				
	Summation				
				Wastage Rate	

Quarter 3

#	RDF Category	Unusable stock of products during a period in monetary value in the Quarter (P1)	Value of Beginning stock at the beginning of the Quarter (P2)	Value of total items received during the Quarter (P3)	Wastage Rate $\frac{P1 * 100}{P2+P3}$
1	RDF Pharmaceuticals				

2	Program Pharmaceuticals				
	Summation				
					Wastage Rate

4.5. Medical device Management Indicators

Allocated Time: 115 minutes

There are six indicators under this section which are systematically interlinked in such a way that they can show the performances of each level from health facilities up to the FMOH with respect to medical device management. For all the indicators under this section, the method of data collection is either document review and/or survey. Hence, the necessary data elements should be well documented at respective levels. And, the frequency of reporting is either quarterly or annually depending on the type of the indicators.

The systematic link of what the indicators measure is depicted in the below schematic diagram.

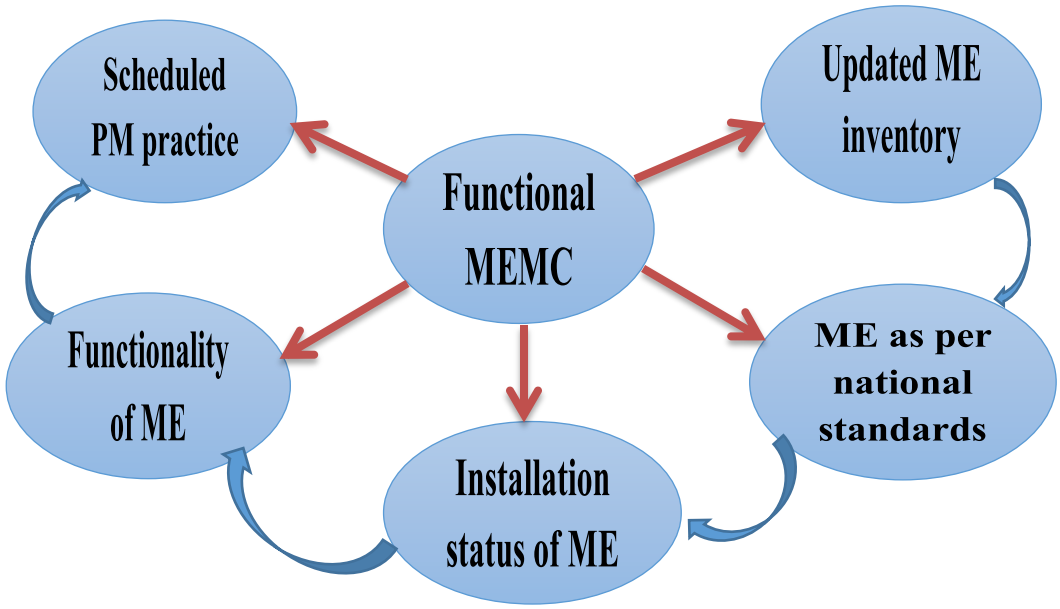


Figure 3: Schematic diagram of Medical device management indicators

MD1. Percentage of health facilities with updated medical device inventory - This indicator measures the proportion of health facilities that have updated medical device inventory list. Medical device inventory is a list of technology on hand including details of the type and quantity of equipment and the current operating status. This indicator enables the health facility and administrative bodies to take action on procurement, distribution, installation, maintenance and disposal of medical device.

For facilities:

Number of medical device with updated inventory	X 100
Total number of ME in the health facility	

ME inventory to be considered as updated inventory if the percentage of updated ME is 80%or above in proportion of the total number of the ME in the facility.

For Administrative:

Number of health facilities with updated medical device inventory Total number of health facilities	X 100

MD2. Availability of medical device as per the national standard - All health facilities are required to be equipped as per the national standards. Those health facilities that are equipped as per the national standard are assumed to deliver quality health services and satisfy the needs of the health professionals and the population. Health facilities that have 80% of the medical device according to the national standard for the level are considered as acceptable. Hence, to do the analysis, each health facility should have updated medical device inventory and the national standard medical device list. The formula shown below is used to calculate this indicator.

Number of health facilities that have medical device as per the national standard Total number of health facilities	X 100

MD3. Percentage of medical device installed - This indicator shows that whether all medical device that are delivered within the past six months are also installed and commissioned in accordance with the manufacturer's specifications and undergoes acceptance testing within the contract agreement. Hence, to do the analysis, each health facility should document the list of all medical device delivered within the past six months disaggregated by the status of installation and, for those that are installed, when the installation was conducted.

Number of installed medical device within the past six months Total number of ME delivered to the health facility in the past six months that need installation	X 100

MD4. Availability of functional medical device - This indicator measures percentage of functional medical device in the health facility during the review/data collection. Functional medical device is an instrument that gives the expected services. To monitor and evaluate this indicator, the health facility should establish computer based or manual medical device inventory system and also should update the inventory whenever additions or omissions of medical device occur to the health facility.

Number of functional medical device in the health facility Total number of medical device in the health facility from updated ME inventory list	X 100

MD5. Availability of scheduled preventive maintenance practice - This indicator measures whether scheduled preventive maintenances are performed to maintain the functionality of medical device. Preventive maintenance refers to regular, routine maintenance to keep equipment's functionality, preventing any unplanned downtime and expensive costs due to unanticipated equipment failure. It requires careful planning and scheduling of maintenance on equipment before actual problem happens. Preventive maintenance schedule includes regular inspection, testing, calibration and safety checks for each medical device as per the manufacturer's service manual.

If the manufacturer's manual is not available, inspection, testing and preventive maintenance should be conducted at a minimum every six months. A facility is considered as having a scheduled preventive maintenance practice, if it meets 80% of the criteria: care and cleaning schedule, safety procedures in place, functional and performance, testing and calibration schedule, preventive maintenance checks for at least 80% of the medical device that requires preventive maintenance.

Number of scheduled preventive maintenance performed / Total numbers of expected preventive maintenance	X 100

MD6. Availability of functional Medical device Management Committee (MEMC) - This indicator measures whether there is a functional MEMC at each health facility that advises the management on issues related to medical device management in the facility. Medical device Management committee (MEMC) is a committee that is established at health facilities to play an advisory role on management of medical device in the facility. MEMC is considered functional, if it meets 80% of the below criteria: having defined TOR, officially assigned members, annual action plan, regular meeting supported by minutes, ensures availability of model medical device list, and ensures regular inventory is conducted as per the schedule.

Numbers of health facility with functional MEMC / Total numbers of health facility	X 100

Table 4: Exercise 1 on medical device management indicators

Indicators Descriptions	**Health Facilities**									
	A		B		C		D		E	
Whether the facility has scheduled preventive maintenance?	No		Yes		No		No		Yes	
Whether the facility has functional MEMC?	Yes		No		Yes		No		Yes	
Approved and available biomedical professional positions at health facility	Approved	Available	Approved	Available	Approved	Available	Approved	Available	Approved	Available
	3	0	6	2	4	5	6	1	11	6

Based on the above table, answer the following questions on Medical device management indicators:

1. *Determine the availability of scheduled preventive maintenance in percentage.*
2. *Calculate the availability of functional MEMC.*

Exercises:

Table 5: Exercise 2 on medical device management indicators

No	**Type of equipment**	**Installed & accepted**	**Functional**	**PPM schedule**
1.	ECG	Yes	Yes	No
2.	DEFIBRILATOR	Yes	No	No
3.	Mechanical ventilator	Yes	Yes	Yes
4.	Patient monitor	Yes	Yes	Yes
5.	Oxygen concentrator	YES	YES	Yes
6.	OR Table	Yes	Yes	No
7.	Ultrasound	Yes	Yes	Yes
8.	Portable x- ray	Yes	Yes	Yes
9.	Shaker	Yes	Yes	No
10.	Microscope	Yes	Yes	Yes
11.	General centrifuge	Yes	Yes	Yes
12.	Refrigerator	Yes	Yes	Yes
13.	Patient monitor	Yes	Yes	Yes
14.	Suction machine	YES	No	No
15.	Refrigerator	Yes	Yes	No
16.	Patient monitor	Yes	No	No
17.	Suction machine	Yes	Yes	No
18.	Fetal monitor	Yes	Yes	Yes
19.	Rotator/Shaker	Yes	Yes	Yes
20.	Refrigerator	Yes	Yes	No
21.	HematologyAnalyzer	Yes	Yes	Yes
22.	Oxygen concentrator	Yes	No	No
23.	Autoclave	Yes	No	No
24.	Suction machine	Yes	No	No
25.	Anesthesia machine	No	No	No
26.	Infant incubator	No	No	No
27.	steam sterilizer	Yes	Yes	Yes

28.	Steam sterilizer	No	No	No
29.	Electric suction unit	Yes	Yes	Yes
30.	Electric suction unit	Yes	Yes	Yes
31.	operation light	Yes	Yes	Yes
32.	operation light	Yes	No	No
33.	Anesthesia	Yes	Yes	Yes
34.	Anesthesia	No	No	No
35.	Anesthesia	Yes	Yes	Yes
36.	patient monitor	Yes	No	No
37.	OR table	Yes	Yes	Yes
38.	OR table	Yes	Yes	Yes
39.	OR table	No	No	No
40.	Water distiller	Yes	Yes	Yes
41.	Olympus microscope	No	No	No
42.	Refrigerator	No	No	No
43.	Dry oven	No	No	No
44.	chemistry analyser	No	No	No
45.	cell dyne	No	No	No
46.	Hematologyanalyzer	Yes	Yes	Yes
47.	Shaker	No	No	No
48.	cd4 cell counter	Yes	No	No
49.	water distiller	No	No	No
50.	Vortex	Yes	No	No
51.	Chemistry Analyzer	Yes	Yes	Yes
52.	roller mixer	Yes	Yes	No
53.	Vortex	Yes	Yes	No
54.	Table top centrifuge	Yes	Yes	No
55.	Refrigerator	Yes	Yes	No
56.	Refrigerator	Yes	No	No
57.	Refrigerator	Yes	Yes	No
58.	Water bath	Yes	No	No
59.	Water distiller	Yes	Yes	No
60.	water distiller	Yes	Yes	No
61.	Examination Light	Yes	Yes	No
62.	Baby CPAP	Yes	Yes	Yes
63.	Refrigerator	Yes	Yes	No
64.	Examination Light	Yes	Yes	No
65.	Patient monitor	Yes	Yes	Yes
66.	Mechanical Ventilator	Yes	Yes	Yes
67.	Mechanical Ventilator	Yes	Yes	Yes
68.	Mechanical Ventilator	Yes	No	No
69.	Ultrasound	Yes	Yes	Yes
70.	Phototherapy	Yes	No	No
71.	Phototherapy	No	No	No
72.	Phototherapy	Yes	Yes	Yes
73.	Super LED phototherapy	No	No	No
74.	Super LED phototherapy	Yes	No	No
75.	Phototherapy	Yes	Yes	No
76.	Phototherapy	Yes	Yes	No
77.	Phototherapy	Yes	Yes	No
78.	Infant warmer	Yes	Yes	Yes
79.	Radiant warmer	No	No	No
80.	Incubator	Yes	No	No
81.	Incubator	No	No	No
82.	Incubator	Yes	Yes	Yes
83.	Incubator	No	No	No
84.	Incubator	Yes	No	No
85.	Suction machine	Yes	Yes	No
86.	Electrical Suction machine	Yes	Yes	Yes
87.	Infant radiant warmer	Yes	Yes	Yes

88.	Infant radiant warmer	Yes	Yes	Yes
89.	patient monitor	No	No	No
90.	patient monitor	No	No	No
91.	Phototherapy	No	No	No
92.	ECG	No	No	No
93.	Infant radiant warmer	Yes	Yes	Yes
94.	Oxygen concentrator	Yes	Yes	Yes
95.	Fetal monitor	Yes	Yes	Yes
96.	Patient monitor	Yes	Yes	Yes
97.	photo therapy	No	No	No
98.	suction machine	Yes	Yes	No
99.	suction machine	No	No	No
100.	Patient monitor	No	No	No

Based on the above table, answer the following questions on ME management indicators:

1. *How many medical device are installed for the facility X?*
2. *What is the percentage of installed medical device?*
3. *What is the percentage of functional medical device?*
4. *Does facility X meet the criteria for scheduled preventive maintenance? Justify it.*

1. **For administrative bodies** (WoHO/RHBs): Sample reports from 4-5 health facilities on selected indicators. Administrative bodies to make analysis and select areas of intervention and report aggregated data to the next level. Scheduled preventive maintenance practice, professional positions filled, functional medical device management committee (MEMC).

4.6. Pharmacy Services, Supply Chain and Medical device Management Cross Cutting (CC) Indicators

CC1- Biomedical and pharmacy professional positions filled at health facilities- This indicator measures the number of pharmacy and biomedical engineers and technicians deployed as per the approved workforce position for the health facilities. The measurement of this indicator shows the gap on the number of pharmacy and Biomedical professionals against the approved structure and help to fulfill through recruitment or other means. The Number of pharmacy and Biomedical workforce positions approved for the level and Number of professionals available at the specific level should be well documented and updated regularly.

Numbers of Biomedical or Pharmacy professionals at health facility	X 100
Numbers of Biomedical or Pharmacy workforce positions	

CC2. Review meetings conducted - This indicator measures the presence of coordination, leadership, and commitment. Pharmaceutical and medical device good governance is critical to realize sustainable commodity security and quality health services. Resilient systems require the involvement of stakeholders that are involved in all aspects of the system strengthening efforts including plan alignment and performance monitoring. Review meeting are expected to be conducted at least annually.

CC2= Number of Review meetings conducted annually

CC3. Supportive supervision of health facility - This indicator measures the percentage of health facilities that received technical and administrative support on their pharmaceutical supply chain, pharmacy service medical device management activities. The supervision should be conducted regularly and using standard checklist which is approved by RHBs/FMOH. The feedback provided and agreed action points should be documented at both the supervised health facility and the supervisor's office.

Numbers of health facility supervised	X 100
Total number of health facilities under immediate administrative level	

Example 2:

Based on the table 4, answer the following questions on Medical device management indicators:

1. *How many biomedical professionals are required to meet the work force needed for the above five health facilities?*
2. *Compute the percentage of biomedical professional positions filled at these facilities.*

4.7. Generation, aggregation, dissemination and reporting

Time allocated: 60 minutes

It must be remembered that the 35 indictors have to be generated accountably on data sources that are filled daily for the indicators which require this and as soon as a transaction is conducted for some other indicators. Once generated, the data have to be aggregated using an excel based aggregation and reporting format. Then, these have be converted into power point and then be disseminated for all including the management of health facility, pharmacy staffs and others as appropriate. While doing so, the following basic steps have to be followed.

1. Monitoring data generation
    1.1 At the begging of each quarter, print the formats indicated as annex **1 to 4** from the M & E framework manual and distribute this to all concerned units for them to start data filling with the needed care and quality. Make at least a weekly visit to these units to see how well data are being generated and correct possible mistakes before they get duplicated.
    1.2 When it is end of the quarter, get all relevant professionals who filled the data sources sign on the filled formats(e.g. DTC members for the endorsement of DTC functionality score) and convert data on these endorsed data sources into the relevant excel based aggregation and reporting format.
    1.3 Once data on these endorsed data sources have been converted to aggregation format, document the data sources in a dedicated folder in both hard and soft copy.
2. Aggregation of the quarter data
    2.1 The types of EXCELL BASED aggregation formats are those listed here:-
        - Health Center Aggregation Format
        - Hospital Aggregation Format
        - WoHo Aggregation Format
        - ZHD Aggregation Format
        - RHB Aggregation Format
        - PMED Aggregation Format

Each one of these has 3 excel sheets -the first of which is for background of the health facility, the 2nd for main data entry and the 3rd one for AUTOMATED generation of graphs. These aggregation formats are designed in such a way to make data management easier and quality better since they are partially password protected to prevent addition or deletion of the contents of the formats. Thus, only parts of the format where data are filled are editable and accessible are allowed for the reporters. Some cells of the reporting format are validated to get filled with maximum range of numbers. The system won't allow to get filled with number out of the range.

During the aggregation, health centers and hospitals fill primary data from data sources mentioned earlier. WoHo collects reports from health centers and hospitals in soft copy supported by an official letter from the health facilities. After the WoHo collects reports from all health facilities under it, the duty expected of it is to only copy paste the corresponding columns in the WoHo aggregation formats. There is no need to waste time to manually fill data into WoHo aggregation format. Similarly, ZHDs collect reports from all WoHo under their domain and copy paste data from each WoHo to the corresponding columns in the ZHD reporting format. The same analogy holds for the rest of tiers including RHBs and PMED.

3. Dissemination, utilization and documentation of the quarter data

It must be a norm that each reporting tier should make a habit that quarter M & E reports must be converted into power point and presented for the corresponding management in the reporting tiers before they are simply shared up as a report to avoid the bad practice of generating M & E data just for the sake of reporting. To make the power point preparation easier for all, the aggregation formats have been designed to do the following: -

- Automatically convert data into graphs such as bar graphs to make data visibility and presentation better and easier. The reporting personnel is only expected to copy paste the graphs automatically generated into a power point so that the time it takes to prepare graphs is avoided. The lack of skill for preparing graphs is therefore no more remains as barrier for data utilization.
- In addition to graphs, the aggregation formats do automatically generate data in the form of table which the reporting entities can easily copy paste into power point without wasting time to prepare them. In connection with this one, it must be noted the same format that was used in the previous quarter should be used throughout the year.
- Once power points are prepared, they must be presented before being shared. Then gaps identified have to be filled through an action plan. This done, the report should now be shared up the reporting channel in soft copy supported with an official letter. The reporting health facilities and the rest which receive reports should document the report and related source documents in soft copy and a hard copy with an official letter in a dedicated folder so that external assessors who come for supportive supervision can easily verify and authenticate the reports shared earlier to them.
- If power point presentation cannot be done for some reason, the point data can be disseminated/ distributed to all concerned including management of the corresponding reporting channel such as health facilities, WoHo, ZHD and the like after printing the power point supported with an official letter.

Open Quiz Q & A

1. What are basic steps for sharing reports to PMED/FMOH?
2. How does a report receiver make sure that reports sent to it in the year are valid and objective?

Experience sharing presentation

Now you will learn from the power point presentation from a hospital/health center that has generated, aggregated, presented/disseminated for the management and brought change due to M & E implementation.

Chapter Summary

- An indicator is a variable that measures one aspect of a program and is related to the program's goal and objectives.
- Indicators have different components
- There are sixteen pharmacy Service, ten Supply Chain, six Medical device management and 3 crosscutting indicators that are crucial in measuring performances of the specific activity and decision making in the health facility.

Chapter 5: Data Management

Allocated Time: 105 minutes

Chapter Description: This chapter describes about data management Principles and processes ; data quality & its impact; data recording, collecting, documenting, analyzing, aggregation & reporting and its utilization for monitoring and evaluation of PS, PSCM and MEM indicators.

Chapter Objectives: To enable participants describe data management principles, data quality and its impact on decision making and principles of data collecting, recording, documenting, analyzing, aggregating & reporting from different administrative level for PS, PSCM and MEM M&E indicators.

Enabling Objectives: At the end of this chapter participants would be able to: -

- Describe data management principles
- Describe data quality and its impact on decision making
- Validate data quality issues
- Identify the flow and schedule of the PS, PSCM & MEM indicator from the lowest to highest levels

Chapter Outline:

- Introduction to data management
- Data management principles
- Data quality dimensions & its impact on decision making
- Validating data quality for decision making
- Flow of M and E reports and schedule for different administrative level
- Utilization of PS, PSCM and MEM ME report
- Chapter Summary

5.1. Introduction to data management

Data is a value, or set of values, representing a specific concept. It represents real world objects, in a format that can be collected, stored, elaborated, retrieved, and exchanged in information systems. Data become 'information' when **analyzed** and combined with other data in order to extract meaning and to provide context. In line with this, data obtained in routine and periodic sources should be **well managed** to provide a reliable decision making.

Data recording, documentation and collection are the key components identified as part of an M&E strategy to measure and evaluate PS, PSCM and MEM through developed indicators. M&E data can be collected through different **approaches** such as periodic and routine basis. These include:-

- Supportive Supervision
- Routine & periodic reports
- Survey
- Annual assessment
- Semi-annual assessment
- Quarterly assessment

Data that can be retrieved from the above activities include; availability of medical device and essential medicines, stock-out duration, wastage rate, reporting rates (for RRF), staffing, functionality of MEMC, DTC & APTS, DIS and others. Some indicators collected and used by each level without reporting to the next level while the others are reported to the next level.

5.2. Data management principles

Data management principles ensure that data are treated as a valued resource. Data obtained from any monitoring and evaluation activities should be in a good quality, accessible, adhere to standards, be treated as an asset, and have an owner.

The most widely known data management principles are:

- **Ensure data accessibility:** timely access to accurate data is essential to improve the quality and efficiency of organizational decision-making.
- **Clearly defined data management plan**: It defines the types of data that exist and how they are stored and secured. It also outlines the best practice workflows and quality assurance procedures, including data verification and data validation. Data management plan describes the generalized outputs or data uses and how the documentation associated with the entire system is managed.
- **Implementation of data lifecycle control**: From the time data is collected or acquired until reporting and even beyond we need to have a clear understanding of how the data is being managed

in order to maintain the data quality and usefulness. Assuring the implementation of data lifecycle allows us to store, validate, and manage the appropriate data and also gives us guidance on when to archive or delete data.

- **Identification of data ownership and stewardship**: Identifying data owners and data stewards allows us to ensure that the right people are assigned to the right roles within our data management system. Integrating data management team with subject matter experts is essential to ensure that data integrity and quality is maintained while also making smart decisions about what information needs to be captured.
- **Ensuring data security**: It is important to ensure appropriate and standard security protocols are in place for all systems, including our data management.
- **Maximizing data usefulness:** it is essential to take time to collect data properly the first time to avoid re-collecting data and re-processing.
- **Establishing data quality standards**: The creation, maintenance and development of quality data require a clear and well-specified management system. It is vital to establish the level of data quality required for various decision-making scenarios.
- **Ensuring proper documentation and tracking of data:** Without the ability to review and examine how data has been collected, verified, reported, and analyzed, we cannot effectively troubleshoot areas of concern. The documentation and tracking serves as "as-builts" describing how the whole system actually works and providing key insights to improvements moving forward.

5.3. Data quality dimensions & its impact on decision making

5.3.1. Data quality

Data Quality (DQ) is defined as the planning, implementation, and control of activities that apply quality management techniques to data, in order to assure it is fit for consumption and meet the needs of data consumers. Organizations are constantly challenged to maintain the right level of data quality. This is especially true in a risk-averse industry such as healthcare, where decisions could literally mean the difference between life and death.

If data are relevant to their intended uses and are of sufficient detail and quantity, with a high degree of accuracy and completeness, consistent with other sources, presented in appropriate ways, and relevant for operations, decision making and planning, it is called quality data.

When working with data in each stage of process, attention should be paid to the quality of the data. If the data is not of good quality then the information that it provides will also not be of good quality as many people like to say, **"Garbage in – garbage out."** Therefore, the data validation,

editing, and transformation should be conducted according to written procedures and monitored through regular quality control checks during the data processing steps.

5.3.2. Data quality dimensions

Data quality is a multidimensional complex concept resulting from the composition of various characteristics or dimensions. Standard set of dimensions not yet defined, though most agrees on a common minimal set of characteristics to describe the different attributes of data quality. The widely applied data quality dimensions are accuracy, precision, reliability, completeness, timeliness, integrity, consistency and confidentiality. The data quality dimensions are not independent and need to establish trade-offs in their utilization or preference for use. Data quality explains that each of these components needs to be met in order for data to be quality. The data quality dimensions are explained in the table below.

Table 6: Data Quality Dimensions

Dimensions of Data Quality	**Description**
Accuracy	Also known as validity. Accurate data are considered correct: the data measure what they are intended to measure as well as provide required sufficient detail. Accurate data minimize errors (e.g., recording or interviewer bias, transcription error, sampling error) to a point of being negligible.
Reliability	The data generated by a program's information system are based on protocols and procedures that do not change according to who is using them and when or how often they are used. The data are reliable because they are measured and collected consistently using appropriate tools. The data actually exists and can be verified.
Precision	This means that the data have sufficient detail. For example, an indicator requires the number of individuals who received HIV counselling & testing and received their test results, by sex of the individual. An information system lacks precision if it is not designed to record the sex of the individual who received counselling and testing.
Completeness	Completenessmeansthataninformationsystemfromwhichtheresultsarederivedisappropriatelyinclusive: it represents the complete list of eligible persons or unit sand not just a fraction of the list. All data items required are available (i.e. no missing field).

Dimensions of Data Quality	Description
Timeliness	Data are timely when they are up-to-date(current), and when the information is available on time. Timeliness is affected by:(1) the rate at which the program's information system is updated ;(2) the rate of change of actual program activities; and (3) when the information is actually used or required.
Integrity	Data have integrity when the system used to generate them is protected from deliberate bias or manipulation for political or personal reasons.
Homogeneity and Consistency	Homogeneity is that information collected by a service provider would not have been different if collected by someone else (develop SOPs and train). Internal consistency is data recorded in any part of the tool does not contradict data reported in other parts, e.g. closing balance of a previous month should be consistent with the opening balance of the next month. Database consistency is data entered into a database (if available) is the same with the data recorded in the data collection instrument.
Confidentiality	Confidentiality means that clients are assured that their data will be maintained according to national and/or international standards for data. This means that personal data are not disclosed inappropriately, and that detain hard copy and electronic form are treated with appropriate levels of security (e.g. Kept in locked cabinets and in password protected files).

5.3.3. Possible sources of poor Data quality at various levels

The most commonly observed source of data quality problem in health supply chain, pharmacy service and ME management include:

- Arithmetic error
- Lack of adherence to the reporting period
- Untimeliness/delay of reporting
- Incompleteness of report
- Inconsistence reporting
- Missing of certain line item to be reported
- Lack of attention for unit of measurement
- Reporting of false/incorrect figures- data manipulation

- Data entry on wrong line items on the format.
- System related problems

5.3.4. Impact of data quality on decision making

Data quality is the responsibility of all staff. For quality data to be produced by and flow through a data management system, key functional components need to be in place at all levels of the system - the points of service delivery, the intermediate level(s) where the data are aggregated (e.g. districts, regions) and the M&E unit.

5.3.4.1. Impacts/consequences of poor data quality

The consequences/impacts of poor data quality are often experienced in everyday life. Poor data quality has serious consequences which have far-reaching significance, in affecting the efficiency and effectiveness of organizations. Some of the consequences/impacts of poor data quality in Ethiopian PS, SC and ME management are:

- **Increased Costs:**
    - Frequent/repeated delivery of products to health facilities- example increased emergency order
    - Wastage of pharmaceuticals and medical device (example through expiry, damage, etc)
    - Over or under procurement of pharmaceuticals and medical device
    - Increased workloads, detection and correction, increased process times, and rework etc.
- **Decreased confidence:**
    - Lack of trust or reputation in the health system
    - Client dissatisfaction
    - Organizational trust issues, impaired decision-making, impaired forecasting, inconsistent management reporting, etc…
    - Lack of transparency and accountability
- **Increased Risk:**
    - Long stay at health facility, disability, death, etc
- **Missed opportunities**:
    - Wrong decision making, loss of reputation, and substandard customer service
    - Lack of delivery of products to health facilities

Therefore, it is important to understand that poor data quality has a substantial impact on the safety of service users or the clients.

5.3.4.2. Impacts/consequences of good data quality

Reliable and accurate public health information is essential for monitoring health and for evaluating and improving the delivery of health-care services and programmes. Some of the impacts/consequences of good data quality in Ethiopian PS, SC and ME management are:

Decision making: The better the data quality, the more confidence users will have in the outputs they produce, lowering risk in the outcomes and increasing efficiency.

Productivity: Good-quality data allows staff to be more productive. Instead of spending time validating and fixing data errors, they can focus on their core mission.

Good service provision: Better data enables more accurate targeting and communications, especially in the good service provision and quality care

5.4. Validating M & E indicators for decision making

Validity implies precise and exact results acquired from the indicators data collected. In technical terms, a measure can lead to proper and correct conclusions to be drawn from the samples that are generalizable to the entire population. Indicators are valid to the extent that they clearly and directly measure the result they are intended to measure. It is very easy to assume that the data tool is valid. However, this must be verified through scientific processes. Data validation ensures that the data complies with the requirements and quality benchmarks.

Validity of indicators is affected by many factors, the most important of which are inaccurate, unrepresentative sampling, incomplete data, and simple calculation and transcription errors.

	**Activity 5.2: Group exercise questions**:
	Use distributed pre-prepared documents for validation (RRF) 1. Using the distributed RRF, validate the data quality of the RRF. 2. What are the major problems related with RRF as per discussion above? **Time:** 10 min

5.5. Flow of M and E reports and schedule

	Activity 5.3: Individual reflection
	What do you think about report flow of PS, PSCM and MEM indicators? **Time:** 3 min

Data elements that are selected for reporting from one level to the next follow the existing hierarchy of report flow in the health system. Report flow from the lowest to the highest levels of the health system and feedback should be bi-directional as depicted in figure 4 below.

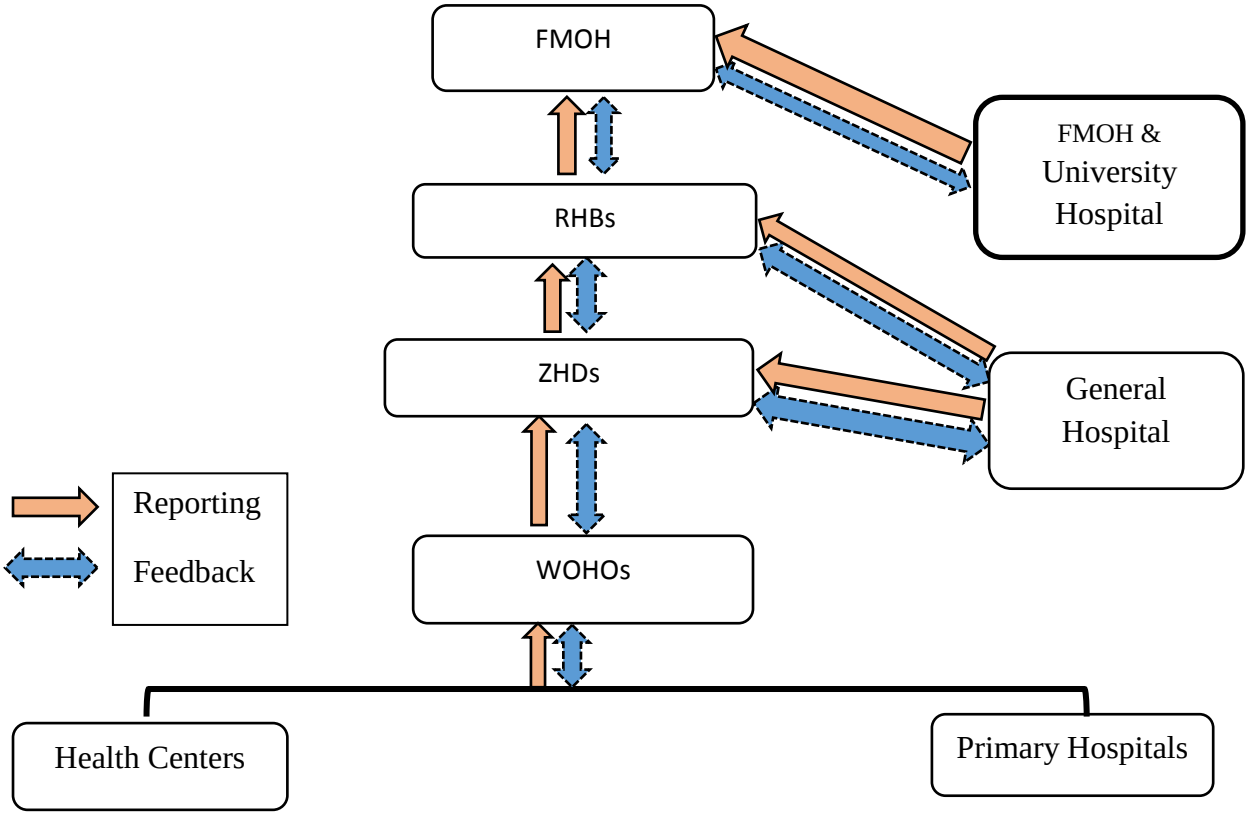


Figure 4: Pharmaceutical Supply Chain, Pharmacy Service and Medical device Management M&E Indicators Report Flows

Each level prepares the report sends to next level. All the reports will be submitted as per the schedule in the PS, SC and ME management M & E frame work. A reporting timeline, which is in line with the DHIS2 reporting schedule, is set for each level.

Accordingly, a Monthly report of a health facility is compiled from the 21st of the previous month up to the 20th of the reporting month and submitted to the next level the latest by the 26thof the reporting month.

Example: For Tikimt 2011 E.C monthly report, the data should be collected from Meskerem 21 up to Tikimt 20, 2011. The reporting channel and period of public health facilities and administrative health units will follow the following schedule, as depicted in the table 7 below.

Table 7: Reporting hierarchy, frequency and schedule of public health facilities and administrative health units

Unit	**Reports to**	**Timeline**	**Latest date report should be submitted***	**Type of reporting form**
Health Centre	WoHO	Quarterly	26th day of the last month of the quarter	Reporting form for health centres
Hospital	ZHD/RHB	Quarterly	26th day of the last month of the quarter	Reporting form for hospitals
WoHO	ZHD	Quarterly	2nd day of the 1st month of the next quarter	Reporting form for Woreda Health Offices
ZHD	RHB	Quarterly	7th day of the 1st month of the next quarter	Reporting form for Zonal Health Departments
RHB	FMOH	Quarterly	15th day of the 1st month of the next quarter	Reporting form for RHBs

Quarterly reports consist of data for three months according to the Ethiopian fiscal year. It should follow the following periods:

- Quarter 1: Sene 21-Meskerem 20
- Quarter 2: Meskerem 21- Tahsas 20
- Quarter 3: Tahsas 21- Megabit 20
- Quarter 4: Megabit 21- Sene 20

Annual reports contain data for a one-year period from Sene 21 of the previous fiscal year to Sene 20 of the current fiscal year.

Example:

For the 1st quarter of the Ethiopian Calendar, health facilities should submit their quarterly reports of the first quarter the latest by Meskerem 26; WoHO will aggregate the reports and submit to ZHD until Tikimt 2; ZHD will submit their report to RHBs until Tikimt 7; and RHBs should submit their quarter report to the FMOH by the 15th of Tikimt.

5.6. Utilization of PS, PSCM and MEM ME report

At health facility the pharmacy department is responsible not just for reporting of data, but primarily to use the data for performance and service improvement through evidence-based decision making. The FMOH, RHBs, ZHDs and WoHOs should aggregate, analyse and utilize reports received from respective lower level. Utilization of PS, PSCM and MEM M&E indicator reports is crucial in measuring performances and decision making.

Chapter summary

- Data is a value, or set of values, representing a specific concept.
- Data management principles ensure that data are treated as a valued resource.
- Data quality dimensions are accuracy, precision, reliability, completeness, timeliness, integrity, consistency and confidentiality.
- If the data is not of good quality, then the information that it provides will also not be of good quality (**garbage in – garbage out).**
- Utilization of PS, PSCM and MEM M&E indicator reports is crucial in measuring performances and decision making.

Chapter Six: Performance monitoring, Feedback Mechanisms and Motivation

Allocated Time: 60 minutes

Chapter Description: This chapter describes about performance monitoring, feedback mechanisms and motivation.

Chapter Objectives: To enable participants to describe performance monitoring, feedback mechanisms and motivation

Enabling Objectives: At the end of this chapter participants would be able to:-

- Describe method of performance monitoring
- Explain different feedback mechanisms
- Discuss motivating factors for enhanced performance

Chapter Outline:

- Introduction
- Performance monitoring
- Feedback mechanisms
- Motivation

6.1. Introduction

Performance is understood as achievement of the organization in relation with its set goals. It includes outcomes achieved through contribution of individuals or teams to the organization's strategic goals. Performance is an impact. Performance of each activity has to be monitored to check if it is aligned with the set goals using different methods. Then feedback has to be given based on findings to acknowledge for what is done properly and to take corrective action and to be in the right track. Motivating staffs/ stakeholders using different technique is also important to bring attitude change and increase commitment/ performance.

6.2. Performance monitoring

Performance is what the manager's actually achieve. Performance in a role refers to the extent to which the managers achieve the purpose for which the role is created. Performance reviews will be conducted to monitor performance towards attainment of targets. Performance can be presented through indicators that have been selected to evaluate the outcome, output and input level.

Performance monitoring can be conducted through self-assessment, participatory review meetings, supportive supervision, and dissemination using different methods.

Indicator analysis and interpretation should follow basic analytical procedure for understanding the health facilities' performance by:

- Comparison of performance with the targets / performance objectives
- Comparisons with previous performance over time (time trends)
- Comparisons with other similar Health facilities
- Comparisons with national or international standards
- Disaggregate performance by different levels

The results of PS, SC and ME management M&E activities can be presented in the performance review meetings organized either at facility level or at higher level such as Woreda, Zonal or Regional level. The overall objective of the performance review meetings is to assure result-based monitoring and evidence-based decision making to improve system performance in-line with the objectives set in the annual plan and set standards.

The pharmacy department, together with performance monitoring team/ quality team should analyzed the performance and develop action plan for indicators with lower/below the set plan or standard to improve performance.

6.3. Feedback mechanisms

A feedback mechanism is a process that uses the conditions of one component to regulate the function of the other. It is part of a cause-and-effect loop where information about a system is returned to the controller of the system to improve its performance. When the process tends to increase the change in the system, the mechanism is known as positive feedback. Negative feedback is when the process seeks to counter the change and maintain equilibrium. The positive and negative naming of the mechanisms do not indicate whether the feedback is good or bad.

After routine supportive supervision to facility, woreda or zones the mentor or supervisor should give relevant feedback that help to improve the underperformance and keep best performance. The feedback should be based on the findings and not extend outside those findings. FMOH should give feedback to each RHB, prepare annual review meeting and give the chance to selected region to present their M&E report, and report can be used as an input for subsequent supportive supervision, mentorship and develop policy to improve area that needs improvement.

The RHB should give feedback to each ZHDs reports, asking for clarification or further information whenever required. The RHB should also use the reports to identify areas for action. The reports can be used as an input for subsequent supportive supervision /mentorship visits.

Developing feedback is one of the major parts of systems improvement**.** Effective feedbacks are specific and feasible actions that can be done soon to improve the system.

During developing feedback: -

- Develop a consolidated summary of key points and observations.
- Develop action points for improvement as per the expectation and objectives set for further action.
- Outline feedback for health supply chain management, pharmacy service and medical device system strengthening.

Presenting feedback is an equally important as selecting effective feedback. Giving feedback is a skill. Here are the key guidelines for presenting feedback:-

- Observe all courtesies, greetings, protocols that are presumed to be in the local culture.
- Mention at least as many good things among your observations as you do problems.
- Pick a limited number of key feedbacks rather than list of points.
- The feedback themselves can usually be expressed in one sentence. The impact of the feedback is always appropriate to mention.
- Do not make the error of giving the decision-makers information that they first gave you. You need to go beyond that information and make some solid feedback with a brief rational for each.
- Briefly mention how you gathered the information, e.g., sites you visited, interviews you did, documents you studied.
- Offer your thanks for the support and cooperation you received from various parties.
- Summarize with the action points at the end. Recap the feedback.

Feedback reports can help managers make operational decisions, monitor the performance of the system, and manage the system overall. These reports are sent to all levels of the supply chain down to the facility level; at the central level, they can be shared with program managers or donors, if the program is externally funded. So, feedback can, and should, be given up, down, and sideways

Effective feedback

The purpose of giving feedback is to improve the situation or the person's performance. It is not accomplished by being harsh, critical or offensive. Hence effective feedback should be:-

Timely

The closer to the event you address the issue, the better. If the situation involved is highly emotional, wait until everyone has calmed down before you engage in feedback.

Regular

Feedback is a process that requires constant attention. It's **not** a once-a-year or a once-every-three-month event. When you make a conscious choice to give and receive feedback on a regular basis you demonstrate that it is a powerful means of personal development and positive change.

Prepare specific comments

Clear points should be prepared and discussed rather than reading a handful of documents. It needs to be clear about what are going to be said and improved. Always discuss the direct impact of the behaviour and don't get personal or seek to blame.

Criticize in Private

While public recognition is appreciated, public scrutiny is not. Establish a safe place to talk where you won't be interrupted or overheard.

Talk About Positives Too

To get much more from people approach is positively and focused on improvement. That's not to say feedback always has to be good, but it should be fair and balanced. A good rule is to start off with something positive. This helps put the person at ease. It will also allow helps to "see" what success looks like and what steps needs to take next time to get it right. Try to end on a high note, too.

Many people tend to overdo this and end up sandwiching the constructive feedback between too many positives. It may cover the main take away message and affects the end result.

Follow Up

The whole purpose of feedback is to improve performance. It needs to be measured whether or not that is happening and then make adjustments as you go. Be sure to document all the conversations and discuss what is working and what needs to be modified.

Case study for role play

Bikila went for integrated supportive supervision to Gindebret hospital and found they were doing well with respect to overall pharmacy activities. They have started implementing APTS in outpatient pharmacy but not in inpatient pharmacy. The implementation also not fully as per the

APTS implementation guideline as they were not tracking exact batch with their price and summary report is not done per the requirement.

Their storage was well organized, and all the products have bin cards but bin cards of some of the products were not up to date when checking physical inventory. Also, the transaction in the Dagu was not up to date as some of models 22 were not registered in the system. During detail check Bikila found some of expired items were found mixed with long shelf life products. But they have an experience of disposal every year for expired items.

6.4. Motivation

Motivation is a need or desire that energizes behavior and directs it towards a goal. In order to motivate health professionals, health facilities and respective administrative bodies should implement contextualized benefits package for the staff. To this effect, RHBs and health facilities should apply monetary and non-monetary incentives.

Health facilities can enhance motivation and improve performance of the workforce, by applying non-monetary incentive packages including continuous feedback and recognition of best performing employees. Providing feedback on employee's performance, recognizing employee of the month and employee of the year by linking with performance management. Training of all managers on the non-monetary ways of recognition, team building; accommodating life events (death, birth, wedding), and creating a sense of belongingness.

Moreover, health facilities and RHBs/WoHO can implement monetary incentive packages as per the rules and regulation of the finance.

Chapter Summary

- Performance of each activity has to be monitored to check.
- After routine monitoring or periodic evaluation, feedbacks should be provided for continues improvement.
- The feedback should be given based on the findings.
- Effective feedbacks are specific and feasible actions that can be done soon to improve the system.
- Feedback reports can help managers make operational decisions, monitor the performance of the system, and manage the system overall.
- Motivation is a need or desire that energizes behaviour and directs it towards a goal.
- There should be a motivating mechanism for health systems which include both monetary and non-monetary.

Chapter 7: Roles and responsibilities of Stakeholders

Allocated Time: **40 minutes**

Chapter Description: This chapter describes the roles and responsibilities of stakeholders across the health facility setting and the health administration chain who are involved in recording, documentation, reporting, monitoring and evaluations of pharmaceuticals and health care technology related information. It also introduces activities that each stakeholder will have and possible interventions.

Chapter Objective: By the end of this chapter, participants will be able to describe the roles and responsibilities of stakeholders in implementing M & E framework.

Enabling Objectives: By the end of this chapter, participants will be able to:

- Identify stakeholders
- Explain list of activities
- Describe roles and responsibility of each stakeholders

Chapter Outline:

- Introduction
- Stakeholders for M & E framework
- Roles and responsibilities of stakeholders
- Summary

Activity 7.1: Probing Questions	
	○ What is role? ○ What is responsibility? ○ What is the difference between them? **Time:** 5 Minutes

7.1. Introduction

Roles are the positions team members assume or are assigned --the part that each person plays in the organization. **Responsibilities** are the specific tasks or duties that members are expected to complete according to their roles.

Monitoring and Evaluation implementation requires collaborative efforts of different officials and professionals working at all levels of the FMOH system. The effectiveness of M & E implementation depends on strong linkage between different stakeholders involved.

7.2. Stakeholders for M & E framework

All government health institution at all levels of the health system and partners working on health care specially those whose activities are related with pharmaceuticals and healthcare technology management are stakeholders for the implementation of this frame work. These stakeholders can be classified into four categories based on the activities expected from them in implementation of the frame work. These are:

- FMOH/RHBs/EPSA
- ZHDs/WoHOs
- Health Facilities (Hospitals/Health Centers)
- Partners organizations

7.3. Roles and responsibilities of stakeholders

Activity 8.2: Group Discussion

❖ What are the roles and responsibilities of each stakeholder in M&E implementation?

Time: 10 Minutes

Each health institution at all levels of the health system has specific roles and responsibilities in implementing and monitoring the implementation of the M&E plan for pharmaceutical supply chain, pharmacy services, and medical device management. The following sections are the major roles and responsibilities of each stakeholder.

7.3.1. FMOH/RHBs

The Federal Ministry of health has roles and responsibilities in the M & E. Different directorates at the MOH may has a stake in implementing M & E, however, the Pharmaceuticals and medical service directorate is directly responsible for the implementing M & E. FMOH, together with the RHBs, will review the M&E plan/framework every two to three years to determine if adjustment is needed on the indicators, and data collection tools. Regional health bureaus have significant roles and responsibilities in the implementation of the M & E across health facilities found in their respective regions. The major role of the bureaus is to monitor and evaluate the implementation of

the system. The following are roles and responsibilities expected from FMOH/RHBs in implementing the frame work.

- Design the M&E system
- Periodically review and update the M&E plan
- Develop standardized reporting forms and electronic database
- Reviews the appropriateness of technology transfer and application which are important for implementation of M & E
- Follow the implementation of the M&E plan
- Collect performance data from lower levels
- Analyze data and use for performance improvement
- Provide feedback to health facilities or administrative levels
- Assign focal persons for data management
- Conduct supportive supervision visits
- Conduct research and evaluations
- Provide capacity building to staff at all levels of the health system
- Conduct data quality assessments
- Organize and conduct national performance review meetings
- Recommends policy options and programme implementation strategies
- Sets national M & E programme targets
- Monitors M & E programmes performance against set targets
- Tracks and ensures timely and uninterrupted implementation of M & E
- Recommends, leads, and/or coordinates M & E related national surveys and operational researches
- Mobilizes local and international resources necessary for the M & E programme at national level
- Tracks and coordinates utilization M & E indicators at national level

7.3.2. ZHDs/WoHOs

The zonal health desk ensures implementation of M & E programme by supporting woredas and those hospitals which directly report to them. The Woreda health offices have major roles and responsibilities in the implementation of M & E in health centers directly reporting to them. The following are some of the roles and responsibilities expected from them in implementing the frame work.

- Follow the implementation of the M&E plan
- Collect performance data from lower levels

- Analyze data and use for informed decision making
- Provide feedback to health facilities
- Assign focal persons for data management
- Conduct supportive supervision visits
- Provide trainings and other capacity building activities
- Conduct data quality assessments
- Present the data in review meetings and other platforms
- Coordinating and facilitating overall programme implementation in the zone and woreda level
- Facilitating linkages between zonal hospitals and health centers in the catchment area

7.3.3. Health facilities

In order to ensure the provision of the health services as per the standards, health facilities have to play their role in the implementation of M & E frame work. They are the sources of data where all the expected indicators emanate. The following are the major roles and responsibilities of hospitals and health centers in M & E implementation.

- Assign focal person for data management
- Maintain the primary data source(s) for KPI information
- Compile data regularly,
- Perform data quality checks
- Compute indicators
- Conduct self-assessment
- Receive feedback and take actions
- Provide data for monthly progress review meetings
- Submit quarterly reports to the next level

Summary

- *The key stakeholders in M&E implementation are: FMOH/RHBs, ZHDs/WoHOs, Health Facilities (Hospitals/Health Centers) and Partners organizations*
- Each *stakeholder* has significant roles and responsibilities in the implementation of the M & E in their respective level.
- *All stakeholders have their own activities to perform and should take possible interventions.*

CHAPTER 8: PLANNING AND GETTING STARTED

Allocated Time: **30** minutes

Chapter Description: This chapter discusses on steps to implementation and action plan preparation of M&E.

Primary Objective: By the end of this chapter, the participant will be able to prepare M&E implementation plan at their organization.

Enabling Objectives: By the end of this chapter, participants will be able to:

- Discuss the steps of starting a performance monitoring system
- Prepare draft action plan to implement M&E framework at their organizations

Chapter Outline:

- Introduction
- Stepwise approach to establish M&E system
- Planning to implement M&E framework
- Summary

8.1. Introduction

Ethiopia Health Sector Transformational Plan (HSTP 2016-2020) emphasized on the need to have strong health commodity supply chain management, medical device management and pharmacy services to fulfill customer satisfaction with regards to obtaining the right diagnostic, treatment and pharmaceutical with right quantity and right condition, at the required time, for the right client. It is essential to have implementable monitoring and evaluation (M&E) framework that help continually improve program performance; particularly for sector-wide approaches in complex sector like Pharmaceuticals and medical device management.

However, in Ethiopia, the M&E system for pharmaceuticals and medical device lacked standardization and was implemented in a fragmented manner.

This could be a good beginning to initiate the establishment of M&E system at health facilities, WoHO, ZHD, and RHB.

8.2. Stepwise approach to establish M&E system

Steps stated below are formulated in such a way the initiative in establishing M&E system.

Table 8: Stepwise approach to implement M&E framework

Steps	Activity	Approach
Steps1:	Organize Sensitization for the management, pharmacy and biomedical staffs	• Organize orientation for department heads and other relevant staff. • The M&E framework manual and the materials collected from this training can be used as a main reference for the orientation.
Step 2:	Assign M&E focal	• The management will assign with official letter
Step 3:	Print data source	• Print (and also soft copy) data sources and distribute to all concerned units with an official letter which is aimed at generating data
Step 4:	Generate *baseline data*	• using the M & E data aggregation and reporting format and share this with management and higher administrative body
Step 5:	Monitor the quality of data	• Monitor the quality of data sources at least once per week
Step 6:	Develop action plan	• Develop action plan to fill all possible gaps each quarter report may indicate

8.3. M&E Implementation plan of Action

Activity 8.1: Group Exercise on Planning

Prepare draft plan of action to implement M&E at your organization.

Use the planning template annexed.

Time: 20 min

Chapter Summary

- Preparing action plan to implement the national M&E framework should include: organize sensitization, assigning focal, generate baseline, monitor the quality of data, understand underlying reasons for the gaps, developing and implementing an intervention to area that needs improvement.

ANNEX

Annex 1. Registration formats for Pharmacy Service indicators

Annex 1.1: DTC functionality Criteria

S.N	Criteria (weight in %)	Weight (%)	Score
1	Assigned DTC members by official letter (10)	10	
2	Has approved TOR (10)	10	
3	Meets regularly at least every month with documented minute (10)	10	
4	Has developed action plan (10)	10	
5	Has updated health facility specific medicine and medical devices list (15)	15	
6	Has medicine use policy and procedures (at least two policies (10)	10	
7	Conduct supply and medicine use problem studies (10)	10	
8	Take actions based on the supply and medicine use study findings (15)	15	
9	Report its performance activities to the management (10)	10	
DTC functionality (%) Sum of total score			
Functionality of DTC, if ≥75%, **Yes**. If <75%, **No**			

A health facility is considered as having functional DTC if it scores greater than 75%

Name of DTC members who filled the score and their signature

1. _____
2. _____
3. _____

DTC Approval date _____

Annex 1.2: Data Collection form for indicators obtained from Prescriptions/ Prescription registration book

1. Data Collection Form for Indicators Obtained from Prescriptions

Health Facility: _____
Investigator: _____
Reporting period: from _____ to _____

SN	# Drugs	# Generics	Injection (0/1)	Antibiotics (0/1)	# on FSML*	Diagnosis
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
--						
--						
--						
100						
Total	X			XXX	YYY	X
Average	X		X	X	X	X	X
Percentage	X		*% of total drugs*	*% of cases*	*% of total cases*	*% of total drugs*	X

**FSML: Facility Specific Medicines List*
For this M&E framework, Antibiotics (XXX) and # on FSML(YYY) are reported to the next administrative level.*

Take a sample of 100 prescriptions using systematic random sampling from the prescription register/prescription paper during the fiscal year.

Name of DTC members who filled the score and their signature

1. _____
2. _____
3. _____

DTC Approval date _____

Annex 1.3: Counseling time registering form

Patient #	Counseling time in seconds		
	T1	T2	T2-T1
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
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22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			
31.			
32.			
33.			

Method

Observe a series of at least 100 patients and record the time spent for each encounter. Time is recorded when a patient receives the medicine during which instruction on the use of medicine is provided.

Name of DTC members who filled the score and their signature

1. _____
2. _____
3. _____

DTC Approval date _____

Annex 1.4: Data Collection Form for patient knowledge and labeling Interview

Labelling and knowledge data is obtained by observing a sample of at least 100 clients during exit interview. To analyze knowledge, the label of medicine dispensed to patients can be checked.

Data Collection Form

Health Facility: _____
Investigator: _____
Reporting period: from _____ **to** _____

Case #	**Dispensing Counseling Time (seconds)**	**Adequacy of Labeling**							**Patient Knowledge on Dosage**				
		Patient Name	Drug Name	Dose	Frequency	Duration	Route	Adequate (1), If not adequate (0)	Dose (Y, N)	Frequency (Y,N)	Route (Y,N)	Duration (Y,N)	Adequate (1), If not adequate (0)
1.													
2.													
3.													
4.													
5.													
6.													
7.													
8.													
9.													
10.													
11.													
--													
--													
--													
100													
Total													
Average													

NB. When regional/national assessments are conducted, take 30 encounters from each of 20 health facilities.

Annex 1.5: Health Facility Dispensing Registration Book

Region ________ Woreda __________ Name of Health Facility _______________

SN		Patient Name	Age	Sex	Diagnosis (NCoD)	Medicines Prescribed	Therapeutic Category	Level of Importance by VEN			Dispensed (Y/N)	Overall* (1,0)	Remark
								Vital (√)	Essential (√)	Non Essential(√)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	**(13)**	(14)
		Count total patient								**Count Total 1**			
Overall*: Enter '1' only if all the prescribed medicines are dispensed and enter '0' if one or more medicines not dispensed.												FMOH V1 2009	

Annex 1.6: Functionality of clinical pharmacy

Criteria to measure clinical pharmacy functionality			
S.N	**Criteria**	**Weight**	**Score**
1	Dedicated pharmacist	9	
2	Continuous care (24/7)	8	
3	Service provided in all wards	5	
4	Assess medication history at admission	8	
5	Participate in multidisciplinary round	8	
6	Participate in multidisciplinary morning session	8	
7	Conduct pharmacy only rounds	8	
8	Identify drug therapy need / problem	15	
9	Perform medication reconciliation	15	
10	Provide discharge planning and counseling	7	
11	All clinical pharmacy service activities documented and reported	9	
Total Score			
Functionality of Clinical pharmacy, if ≥75%, Yes. If <75%, No			

Annex 1.7: Criteria to measure UDS functionality

SN.	Criteria	Availability	
		Yes (1)	No (0)
1	Dedicated ward pharmacy (s)		
2	Dedicated pharmacist		
3	Medicines are dispensed in a single dose package		
4	Medicines are dispensed in a ready to administer form		
5	Medicines are dispensed only for 24 hours		
6	Pharmacy specific documentation is maintained		
7	The pharmacist reviews all medication orders written by the physician		
	Total Yes/7		
	UDS functionality (%)		
	Functionality of UDS (≥75%) (If yes 1, If no 0)		

Annex 1.8: Criteria to measure compounding functionality

SN.	Criteria	Availability	
		Yes (1)	No (0)
1	Separate room/area dedicated for compounding,		
2	Dedicated pharmacist		
3	Compounding equipment		
4	Chemicals		
5	Standard Operating Procedure (SOPs)		
6	Compounding registration form		
	Total Yes/6		
	Compounding functionality (%)		
	Functionality of compounding (≥75%) (If yes 1, If no 0)		

Annex 1.9: DIS functionality

Criteria to measure DIS functionality			
S.N	**Criteria**	**Weight**	**Score**
1	Dedicated room	8	
2	Dedicated pharmacy professional	8	
3	Reference materials	8	
4	DIS equipment (furniture, computer, printer)	8	
5	Standard operating procedure	8	
6	Sample query responses	15	
7	Medicine education program and report	15	
8	Sample alerts/newsletters prepared	15	
9	Annual action plan	7	
10	Performance reports	8	
Total Score			
Functionality of DIS, if ≥75%, Yes. If <75%, No			

Annex 1. 10. APTS functionality

Criteria to measure APTS functionality			
S.N	**Criteria**	Weight	Score
1.	Designed workflow	15	
2.	Implement APTs in all dispensaries and stores	15	
3.	Produce daily summary and monthly report	15	
4.	Bin ownership	5	
5.	Conduct audit as per the standard	5	
6.	Workforce deployment and development as per the workload analysis	10	
7.	Availability of adequate APTS registers and vouchers	5	
8.	Conduct physical inventory as per the standard	10	
9.	Perform ABC/VEN analysis and reconciliation	10	
10.	Perform stock status analyses	10	
Total Score			
Functionality of APTS, if ≥75%, Yes. If <75%, No			

Annex 1. 11. Patients' satisfaction with pharmacy service

SN	**Client satisfaction criteria**	Client Response	
		Yes (1)	No (0)
1	The OPD pharmacy is easily accessible		
2	The pharmacy is clean		
3	The pharmacy room is adequate for the service		
4	The pharmacy ensures reasonable privacy		
5	The waiting area is convenient		
6	The dispensers were welcoming to patients		
7	The dispensers were ready to listen to my problems		
8	Waiting time was appropriate		
9	All my prescribed medicine were given me		
10	The medicines are affordable to me		
11	I trust the competence of the dispensers		
12	I received adequate information about how I should use my medicines		
13	I am generally satisfied by the service I received		
	Total Yes/13		
	Patient satisfied with dispensing service (%)		
	Satisfaction (>80%) (If yes 1, If no 0)		

Annex 2. Registration formats for supply chain indicators

Annex 2.1. Forecast Accuracy

	Forecast accuracy for tracer products				
	Quantity				
S.N.	**Tracer products**	**Forecasted quantity (P1)**	**Consumed (Issued) Quantity (P2)**	**Forecast error (P3) |(P1-P2)/P2|**	**Forecast Accuracy (1-P3x100)**
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Summary Forecast accuracy					

Annex 2.2. Supplier Fill Rate

EPSA					
S.no	**Pharmaceutical Category**	**Total number of line items requested to EPSA in the quarter (P2)**	**Total Number of line Items supplied in the quarter**	**Total Number of Items which are correctly supplied in greater than 80% of the quantity requested (P1)**	**Supplier Fill Rate P1*100 P2**
1	Program from RRF				
	RDF Pharmaceuticals				
	Total				
EPSA Refill Rate for RDF and program drugs = P1* 100 P2					

Private					
S.no	**Pharmaceutical Category**	**Total number of line items requested to private supplier in the quarter (P2)**	**Total Number of line Items supplied**	**Total Number of Items which are correctly supplied in greater than 80% of the quantity requested (P1)**	**Supplier Fill Rate P1*100 P2**
1	RDF Pharmaceuticals				
2	RDF Pharmaceuticals				
3	RDF Pharmaceuticals				
Private Supplier Refill Rate for RDF drugs = P1 * 100 P2					

Annex 2.3. Average Lead Time

#	Reporting Period	Date the report & request was summited to EPSA	Date the products are delivered by EPSA to HF	Number of days it took by EPSA to deliver products
1	Reporting Period 1			
2	Reporting Period 2			
3	Reporting Period 3			
4	Reporting Period 4			
5	Reporting Period 5			
6	Reporting Period 6			
7				
	Total Number of Days			
	Number of reporting periods considered for the calculation			
Average Lead Time =				

Annex 2.4 Tracer drug availability and stock out duration tally sheet and registration format

Federal Democratic Republic of Ethiopian
Ministry of Health

Tracer Drug Availability Tally Sheet and Stock Out Duration Registrtion Form

Woreda---------- **Facility Name----------** **Month----------** **Year----------**

S/No	Tracer drug list	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Overall* (1,0)	No. of stock out days in the month
1	Amoxicillin dispersable tablet																																
2	Oral Rehydration Salts																																
3	Zinc dispersible tablet																																
4	Gentamycin Sulphate injection																																
5	Co-trimoxazole																																
6	Magnesium Sulphate injection																																
7	Oxytocin injection																																
8	Enalapril tablets																																
9	Medroxyprogesterone Injection																																
10	Glibenclamide tablet																																
11	Adrenaline injection																																
12	Pentavalent vaccine																																
13	Glucose 40%																																
14	Dextrose in normal saline																																
15	Ferrous sulphate + folic acid																																
16	Ciprofloxacin tablet																																
17	Ceftriaxone injection																																
18	Hydralazine injection																																
19	TDF/3TC/EFV adult																																
20	RHZE/RH																																
21	Tetanus Anti toxin (TAT)																																
22	Tetracycline eye ointment																																
23	Arthmeter + Lumfanthrine (Coartem) tablet (any packing)																																
24	Artesuante injection																																
25	Implanon NXT																																
																																Sum of stock out days	

Note: Tick on each day, if the drug is available on the working day or leave it as blank if the drug is not available. Enter 1 in ''overall'' column if the drug is available on working days and zero if it is out of stock for one or more working days in that reporting period. If the facility doesn't give service on holidays and weekends, enter "NA" in the specifc dates and exclude the dates from the list of stock out dates. For the number of stock out days in a monthly: count the number of stock out days (Number of zeros) in the month and write on the last column. Then, sum the stock out days for all tracer drugs.

Annex 2.5 Wastage rate

#	RDF Category	Unusable stock of products during a period in monetary value in the period (P1)	Value of Beginning stock at the beginning of the Period (P2)	Value of total items received during the Quarter (P3)	Wastage Rate $\frac{P1}{P2+P3} * 100$
1	RDF Pharmaceuticals				
2	Program Pharmaceuticals				
	Summation				
				Wastage Rate	

Annex 2.6. Percentage of facilities that maintain acceptable Storage Conditions

Assess the storage conditions of main storage area. Place a check (tick) mark in the appropriate column based on visual inspection of the storage area. **To qualify for a "Yes" response, all products must meet the criteria for each item.**

Good Storage Condition Criteria			
S.N.	**Criteria**	**Met**	
		Yes (1)	**No (0)**
1	Products are arranged on shelves with arrows pointing up, and with identification labels, expiry dates, and manufacturing dates clearly visible.		
2	Drugs are stored and organized to FEFO procedures and are accessible for counting and general stock management.		
3	Outer cartons are in good condition (not crushed, perforated, stained, or otherwise visibly damaged).		
4	Damaged and expired products are separated from usable products in the storeroom, and procedures exist for removing them from inventory.		
5	Drugs are stored in a dry, well-lit, well-ventilated storeroom. *(Visually inspect roof, walls, and floor of storeroom.)*		
6	Cartons and products are protected from direct sunlight.		
7	There is no evidence of rodents or insects in the storage area. *(Visually inspect the storage area for evidence of rodents [droppings] or insects that can damage or contaminate the products.)*		
8	Storage area is secured with a lock and key but is accessible during normal working hours; access is limited to authorized personnel.		
9	Products are stored at the appropriate temperature according to product temperature specifications (8°–30°C) and including cold chain storage (2°–8°C), as required for certain products.		
10	Roof is maintained in good condition to avoid sunlight and water penetration.		
11	Storeroom is clean, with all trash removed, no evidence of food and drinks, products stored on sturdy shelves/bins, and boxes organized neatly.		
12	Current storage space is sufficient for existing products and planned program expansion.		
13	Drugs are stored separately from insecticides, flammable products, and chemicals.		
	Total number of Yes		
	Storage condition score (%)=$\frac{\text{Total Yes}}{13}$ *100		
	If storage condition score is $\geq$ 80%, say acceptable		

Annex 2.7. Inventory Accuracy Rate

S.No.	List of Tracer Drugs	Bin Card/Electronic Record Balance	Physical Count	Bin Card Balance equals with physical count (if yes put 1, if no put 0)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Number of items where bin card (Manual or Electronic) balance equals physical stock count **Sum=Total number of "1" Checks**				
Inventory accuracy rate =Total yes *100 / 10				

Annex 2.8. RRF Reporting Rate

Date entry: (enter 1 if the facility reported using the RRF, 0 if the facility does not use RRF report in the reporting period. Please fill for each period**).**

RRF reporting rate			
S.N.	**Reporting Period**	**Date RRF sent to EPSA**	**Send RRF report on time (if sent until the 10th day of the month, put 1. if not, put 0)**
1	Reporting Period 1		
2	Reporting Period 2		
3	Reporting Period 3		
4	Reporting Period 4		
5	Reporting Period 5		
6	Reporting Period 6		
	RRF reporting rate (total number of RRF sent on time/expected number of RRF)		

Annex 2.10. Disposal of unfit-for-use medicines

S.no.	Activity	Write 1 if yes; write 0 if no
1	Did the health facility dispose unfit-for-use medicines at least in the past 12 months (EFY)?	

Annex 3. Registration and Reporting Formats for Medical device Management

Annex 3.1. Availability of updated medical device inventory and Percentage of Functional Medical device

Medical device inventory form

Name of Hospital…… Date of conducting survey……

										Operational condition										
No_	Location / Department	Name of Equipment	Inventory No.	Model	Serial No.	Manufacturer	Country of Origin	Year of manufacturing	Supllier/ Local agent	functional	Non Functional but reparable	Non Functional and not reparable	why down	When down	How often is it Used	Trained Operator (yes/No)	Trained Technician/Engineer (yes/No)	Spare parts availability (Yes/No)	Do you have user Manuals (Yes/No)	Do you have service Manuals (Yes/No)

Annex 3.2. Functionality of Medical device Management Committee

	Criteria to functionality of Medical device committee		
S.N	**Criteria**	**Functional**	
		Yes	**No**
1	Assigned Medical device Committee members by official letter		
2	Has approved TOR		
3	Meets regularly at least every two months with documented minute		
4	Has annual action plan and monitor performance		
5	Has updated Model Medical device list		
6	Conduct Annual Medical device Inventory		
7	Has Medical device policy and procedures		
8	Maintain Equipment History Profile for all Model Medical device		
9	Follow disposal of non-functional medical device		
10	Follow the reporting and implementation of Medical device indicator findings		
11	Review and follow medical device procurement and installation request		
	Total number of "yes"		
	Total Criteria	11	
	Percentage Functionality of MEMC		
	Note: A health facility is considered as having functional MEMC if 80% of the above requirements are met.		

Annex 3.3. Percentage of health facilities with scheduled preventive maintenance practice

	Criteria											
No_	Medical device	Caring & Cleaning schedule (C&C)		Safety Procedure in place		Functional & Performance (F&P)		Calibration testing		Preventive maintenance checks (PMC)	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	ME4.1=Total no. of yes										
	ME4.2=Expected PPM										
	Percent PPM performed = (ME4.1/ ME4.2) *100										
	Overall average PPM performed	Percent PPM performed / 5 = _____									

Annex 3.4. Percentage of Medical device Installation

S.N	**Criteria**	**Number**
ME5.1	Number of installed medical device within the past three months	
ME5.2	Total number of medical device delivered to the health facility in the past six months that needs installation	
	Percentage of medical device installed in the past three months that needs installation (ME5.1/ ME5.2*100)	
ME5.3	Number of installed medical device within the past 4-6 months	
ME5.4	Total number of medical device delivered to the health facility in the past six months that needs installation	
	Percentage of medical device installed in the past six months that needs installation (MD5.3/ MD5.4*100)	

Note: ME5.2 and ME5.4 (total medical device delivered within the past six months) are the same number

Annex 3.5.Availability of medical device as per the national standard

S.N	Criteria	**ME available as per standard?**	
		Yes	**No**
1	Does the health facility have medical device as per the national standard?		
	NB: it is "yes" if it meets 80% of the national standard.		

Annex 4. M&E Implementation plan

"Pharmacy Services, Pharmaceuticals Supply Chain and Medical device Management Monitoring and Evaluation"

S. N	Areas to be improved or challenges	Responsible person	Due date
1.	Collect the relevant documents including the Manual on M & E framework, M & E data aggregation and reporting format		
2.	Organize Sensitization for the management, pharmacy and biomedical staffs and others on the M and E indicators and role of respective staffs		
3.	Assign a focal person for M&E		
4.	Generate *baseline data* using the M & E data aggregation and reporting format and share this with management and PMED		
5.	Print (and also soft coy) data sources and distribute to all concerned units with an official letter which is aimed at generating data for the Q1 2012 report required by PMED		
6.	Monitor the quality of data sources at least once per week		
7.	Generate, aggregate and disseminate report of Q2, Q3 and Q4 M and E reports		
8.	Develop action plan to fill all possible gaps each quarter report may indicate		
9.	Share **soft copy** of Q2, Q3 and Q4 M and E reports with management and PMED -supported with an official letter		
10.	Document M and E documents (both soft copy and hard copy) of the M and E reports and data sources for each quarter in a dedicated folder		
11.	Make an annual trend analysis		
12.	Develop a scheme for skill transfer among staffs		

13.			
14.			
15.			

S. No	Name	Responsibility	**Tel**	**Signature**
1.				
2.				
3.				

Management approval date: _____ Management approval letter ref. No: _____