



REPUBLIC OF BOTSWANA

MINISTRY OF HEALTH AND WELLNESS

### MODULE 3

# CONTINUOUS QUALITY IMPROVEMENT AND DATA MANAGEMENT

## INSERVICE TRAINING CURRICULUM FOR INTEGRATED HEALTH SERVICES

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UNIVERSITY of MARYLAND  
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## **MINISTRY OF HEALTH AND WELLNESS**

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# ACKNOWLEDGEMENTS

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# FOREWORD

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# ABBREVIATIONS

Acquired immunodeficiency syndrome

Antiretroviral

Botswana Routine Data Quality

Continuous Quality Improvement

Data Quality Audit

District Health Management Team

Human immunodeficiency virus

Monitoring & Evaluation

Plan, Do, study, Act

Prevention of mother-to-child transmission

Quality Improvement

Quality Improvement Team

Quality Management

Routine Data Quality Assessment

Safe male circumcision

Small Test of Change

Specific, Measurable, Achievable, Relevant, Trackable

Technical working group

Toyota Production System

Work Improvement Team

**AIDS**

**ARV**

**B-RDQA**

**CQI**

**DQA**

**DHMT**

**HIV**

**M&E**

**PDSA**

**PMTCT**

**QI**

**QIT**

**QM**

**RDQA**

**SMC**

**STOC**

**SMART**

**TWG**

**TPS**

**WIT**





# WRITING ICONS

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While studying, you will come across the following icons, which we have used so as to guide you. Each one stands for what is written on the right side.

**ACTIVITY**



**OBJECTIVES**



**IN-TEXT QUESTIONS**



**SUMMARY**



**TAKE NOTE**



**REFERENCES**





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# MODULE OVERVIEW

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This module is developed to equip you and your fellow healthcare workers with a sound understanding of quality improvement in your day-to-day work as you seek to better the lives of your patients. It also seeks to help you create a link between good documentation practices and proper data management with quality improvement. The module will therefore aim to inculcate the culture of using programme data for quality improvement and decision-making.

## INTRODUCTION

The provision of quality health services is essential for prevention, care, and treatment of diseases. Health services across the country should be accessible, appropriate, effective, efficient, equitable, safe, and timely in order to realize the desired patient outcomes.

This module should be used as a guide and resource for implementing continuous quality improvement (QI) that will enable QI teams to plan, improve, monitor and evaluate quality interventions. The module will target all cadres of healthcare workers providing HIV services at facility, district, and national levels

## COURSE GOALS

**At the end of this module, you will be able to:**

- Acquire skills to implement quality improvement initiatives in your organisation/ facility using the models and tools described
- Promote the use of quality improvement plans to systematically guide the implementation of quality improvement activities for your organisation/ facility
- Use programme data in decision-making and quality improvement.
- Apply leadership and team building skills to your organisation's/ facility's quality improvement initiative.
- Develop understanding of monitoring and evaluation, and data management skills

## MODULE STRUCTURE

**This module is organized into four (4) units namely;**

1. Unit 1: Understanding quality improvement
2. Unit 2: Enablers of quality improvement
3. Unit 3: Implementing quality improvement
4. Unit 4: Data management

**Each unit includes several topics comprising:**

- Introduction
- A number of topics
- In-text questions
- Self-reflection activities
- A tutor marked assignment
- References



**UNIT**

**1**

**3.1**

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**UNDERSTANDING QUALITY  
IMPROVEMENT**



## INTRODUCTION

The Ministry of Health is committed to providing services of high quality to clients and patients in order to ensure the well-being of the population. In line with the aforesaid, the MOH has developed standards, guidelines, and other related documents to support this cause.



**After completing this topic, you should be able to:**

- Define the terminologies related to quality
- Discuss the principles of quality improvement
- Explain the dimensions and enablers of quality improvement
- Discuss the Ministry of Health QI Framework and priority areas
- Describe the Donabedian model for quality improvement
- Explain the opportunities for quality improvement HIV care



## TOPIC 1

### 3.1.1 DEFINITION AND RATIONALE FOR QUALITY IMPROVEMENT

#### DEFINING QUALITY IMPROVEMENT



**Explain what you understand by the term quality improvement. What things might you require to enable you undertake a quality improvement activity?**

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If you mentioned meet or surpass expectations, desired outcomes for the first part, and teamwork, skills, and leadership for the second part, then you are on the right track.

- **Quality is a broad**-based term that can be defined in several ways depending on the context and the level at which it is applied. It is important for you to understand the terms listed below and how they relate to the process of quality improvement.
- **Quality**- the degree to which services meet or exceed guidelines and/or customer expectations(Marlene Matosky and Susan Robilotto, 2014).
- **Quality of Care** – the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (PEPFAR, 2014).
- **Quality Improvement**- Quality improvement is a systematic and continuous process carried out by multidisciplinary teams and managers to measure the current quality of care or service, act quickly to change to make care better for the patients or clients, and measure again to confirm that practice has been made better(Ministry of Health Botswana, 2015).
- **Continuous Quality Improvement**- an approach to quality management that builds upon traditional quality assurance methods by emphasising the organisation and systems. It focuses on the 'process' rather than the individual, recognises both internal and external 'customers' and promotes the need for objective data to analyse and improve processes. At the core of CQI is serial experimentation to identify problems and improve the services offered (PEPFAR, 2014).

- **Quality Assurance** – refers to the oversight process including adherence to guidelines and standards or full cycle of activities and systems for maintaining the quality of patient care. A "formal and systematic exercise in identifying problems in medical care delivery, designing activities to overcome the problems, and carrying out follow-up monitoring to ensure that no new problems have been introduced and that corrective steps have been effective". Generally associated with the monitoring of compliance with standards (PEPFAR, 2014).
- **Quality Management** – a systematic process with identified leadership, accountability, and dedicated resources, and uses data and measurable outcomes to determine progress towards the desired outcome or a set of management practices throughout the organisation, geared to ensure the organisation consistently meets or exceeds customer requirements (PEPFAR, 2014).



Apply the knowledge you have just learnt in the previous section to distinguish between quality improvement, quality assurance, and quality management. Upon completing the task, refer back to the text to check how you have done.

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### RATIONALE FOR QUALITY IMPROVEMENT

**Quality improvement is at the forefront of all major stakeholders in the health industry:**

- Ministry of Health and Wellness – As reflected in the QI framework
- World Health Organisation – The global technical advisor on public health matters
- PEPFAR 3.0 – The leading funder of HIV/AIDS programmes to high-burden countries worldwide
- Clients/ patients – The consumers of health services at public and private facilities

**Quality is built on:**

- Standards: Documents developed by the MOHW that clearly state desired and achievable performance of healthcare intervention which serves as a reference point for evaluation.

- Guidelines: Documents developed by the MOHW to guide healthcare workers on standardized way of providing certain services (diagnosis, treatment, and continuity of care) for clients/ patients in order to obtain the expected results.
- Client needs and expectations: the ultimate consumer of health care services. You will read more about this under the topic client satisfaction.



List down MOHW standards documents that you know and briefly describe the purpose of each of the listed standards. Also list the guidelines that are currently used in HIV care.

Take time to check with your workmates/ colleagues to verify, add to your list and understand the purpose of each document. This is IMPORTANT!

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## TOPIC 2

### 3.1.2 DEFINITION AND RATIONALE FOR QUALITY IMPROVEMENT

To underscore the importance of quality improvement the Ministry of Health and Wellness (MOHW) has developed a framework document to guide the integrated and coordinated strategy for measuring, managing, improving and monitoring the quality and safety of the care services (Ministry of Health Botswana, 2015). The strategy prioritizes key quality improvement areas in provision of health care services especially at implementation level.

#### The aim of the QI framework is to:

- Develop a common understanding among health facilities and the public of what is involved in delivering and improving the quality of healthcare
- Safety of care
- Set priorities among health facilities on key aspects of quality and safety of care.
- Clarify responsibilities for leadership and accountability for quality improvement
- Enable the MOH to measure progress on improving quality and safety in health facilities.

#### Dimensions of quality

Specific attributes referred to as dimensions will make it possible for you to provide quality services to the satisfaction of your client/patient (Ministry of Health Botswana, 2012b). These include:

**Table 3.1. Dimensions of Quality**

DIMENSION	DETAILS
<b>Safety</b>	The avoidance or reduction to acceptable limits of actual or potential harm from health care management or the environment in which health care is delivered
<b>Accessibility</b>	Obtaining health care that is timely, geographically reasonable, and provided in a setting where skills and resources are appropriate to medical need
<b>Effectiveness</b>	Care, intervention or action achieves desired outcome
<b>Efficiency</b>	Achieving desired results with the most cost-effective use of resources
<b>Acceptability/ Patient Centeredness</b>	Service provides respect and is client orientated; respect for dignity, confidentiality, participation in choices, promptness, quality of amenities, access to social support networks and choice of provider

<b>Equity</b>	Delivering health care which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status
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**Priority Areas for quality improvement**

The Ministry of Health has adapted the domains of quality improvement from the World Health Organisation's framework. These domains are – Acceptability, Accessibility, Appropriateness, Effectiveness, Efficiency, Equity, Safety, and Timeliness. Out of the aforesaid domains, MOHW has prioritized three key areas for the first phase of implementation namely: **‘Appropriateness, Safety, and Acceptability’** as summarized in the table below.

**Table 3.2. Quality Improvement Priority Areas**

Quality Improvement Priority Area	For the patient (Client)	For Health System
<b>Appropriateness</b>	<ul style="list-style-type: none"> <li>• Right care for patient's condition/illness</li> <li>• Care based on current scientific knowledge and evidence</li> <li>• Involvement in decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Standards, guidelines, and protocols</li> <li>• Review of care and improve practice</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>• Avoid preventable harm</li> <li>• Avenues to redress any concerns</li> <li>• Explanation for any potential harm</li> </ul>	<ul style="list-style-type: none"> <li>• Safety procedures in place</li> <li>• Report incidents</li> <li>• Inform and support patient in harm</li> </ul>
<b>Acceptability</b>	<ul style="list-style-type: none"> <li>• Respect and compassion</li> <li>• Cultural sensitivity</li> <li>• Patient rights relating to healthcare</li> </ul>	<ul style="list-style-type: none"> <li>• Improve client experience of care</li> <li>• Promote patient rights (displayed)</li> </ul>

**Enablers of quality improvement**



List down the factors that you think can provide a conducive environment for implementing a successful quality improvement initiative. When done, compare your responses to the items provided in the table below.

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In order for you to successfully implement quality improvement, certain conditions or resources, referred to as enablers are required to be in place (Ministry of Health Botswana, 2012b). These include:

**Table 3.3. Enabling Factors for Quality Improvement**

Enabling Factor	Details
<b>Leadership</b>	<ul style="list-style-type: none"> <li>• Lead facility QI team and QI initiatives</li> <li>• Lead QI plan development and monitoring</li> <li>• Supervisory duties</li> <li>• Resource Management</li> <li>• Conflict Resolution</li> <li>• Change Management</li> </ul>
<b>Infrastructure</b>	Teams in place at the : <ul style="list-style-type: none"> <li>• National level – Policy/Coordination</li> <li>• District level – Coordination</li> <li>• Facility level – Implementation</li> </ul>
<b>Organisational culture</b>	Can be achieved through: <ul style="list-style-type: none"> <li>• Objective performance appraisal</li> <li>• Regular QI meetings</li> <li>• Regular review of QI plans</li> <li>• On-going mentoring/support supervision</li> </ul>
<b>Effective communication</b>	QI initiatives to have a Communication Strategy detailing: <ul style="list-style-type: none"> <li>• Stakeholders</li> <li>• Methods, frequency and content of communication</li> <li>• Documentation of communication</li> </ul>
<b>Teamwork</b>	QI initiatives involve collaboration between stakeholders, which, depending on level, will comprise: <ul style="list-style-type: none"> <li>• Multidisciplinary teams within the organisation</li> <li>• Stakeholders that include:               <ul style="list-style-type: none"> <li>○ Other governmental departments</li> <li>○ Funding partners and implementing partners</li> <li>○ Community members</li> <li>○ Clients/ patients</li> </ul> </li> </ul>

<b>Recognition and reward</b>	Best practice and effort recognition. Team effort and achievement should be celebrated and acknowledged in order motivate the team(s) in question. This should be done at: <ul style="list-style-type: none"> <li>• Implementation level</li> <li>• District level</li> <li>• National/regional level</li> </ul>
<b>Training</b>	Systematic: <ul style="list-style-type: none"> <li>• Comprehensive 5-day didactic/ practical mix</li> <li>• Using district approach targeting:                 <ul style="list-style-type: none"> <li>o DHMT Leadership/ Coordinators</li> </ul> </li> </ul>



**Discuss how you support implementation of the Ministry of Health quality improvement framework priority areas in your day to day work.**

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**Principles of quality improvement**

Quality is a broad-based term that can be defined in several ways depending on the context and the level at which it is applied. It is important for you to understand the terms listed below and how they relate

**Table 3.4. Principles of Quality Improvement**

PRINCIPLE	DETAIL
<b>Customer orientation:</b>	Aims at addressing and satisfying the needs of customers External customers – patients/ clients Internal customers – providers/ staff
<b>Process orientation:</b>	Quality improvement focuses on processes, the context in which service is provided to the customer
<b>Systems approach to management:</b>	QI also applies systems approach in line with the World Health Organisation’s health systems strengthening (HSS) building blocks
<b>Continuous Quality Improvement:</b>	Strives to continually improve performance towards attaining excellence
<b>Leadership:</b>	To provide guidance Avail resources and motivate the QI team

<b>Involvement of people and stakeholders:</b>	QI embraces a multidisciplinary approach with multiple stakeholders including governmental bodies, technical agencies, funding agencies, implementing partners, and community entities.
<b>Evidence-based Decision-Making</b>	Data to identify performance gaps Data to track QI project implementation

### Donabedian Model for Quality Improvement

This is a model for quality improvement adapted by MOHW. The Donabedian model is a conceptual model that provides a framework for examining health services and evaluating quality of healthcare. It stipulates that the context in which care is delivered affects processes and outcomes.

#### The three components of the Donabedian framework are:

- **Structure:**
  - The attributes of setting where the care is delivered
  - Physical and organisational characteristics where health care occurs
- **Process:**
  - Focus on the care or services delivered to the clients/ patients
  - Whether or not good medical practices are followed
- **Outcome:**
  - Effect of health care on the status of patients and populations
  - Impact of the care on health status

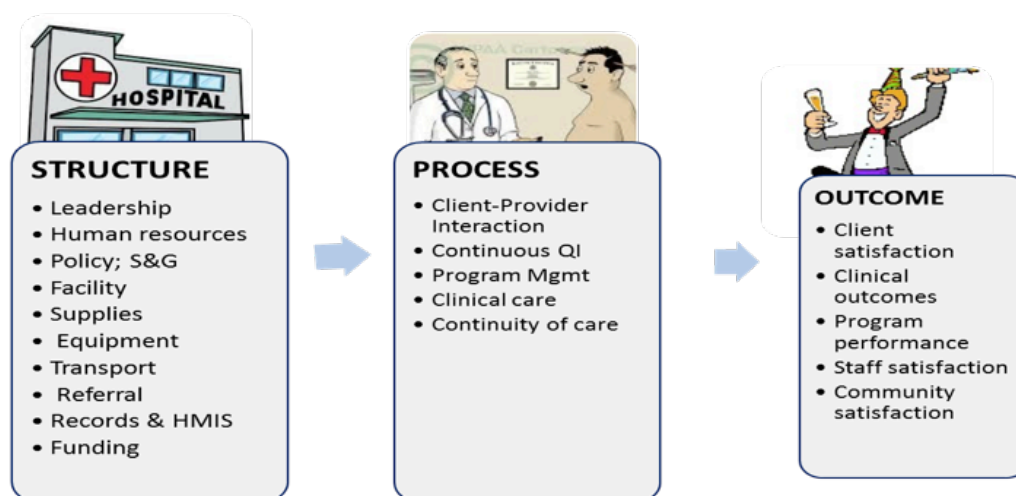


Figure 3.1: The Donabedian framework



#### To summarize the topic, you have learnt that:

- Quality can be defined in several ways depending on the context and the level at which it is applied.

- There are numerous attributes of quality referred to as dimensions that determine the perception from the patient's/ client's point of view.
- QI enablers are conditions or resources that provide appropriate environment for quality improvement implementation
- The Ministry of Health has developed a quality improvement framework to guide the implementation of quality improvement and identified priority areas for immediate implementation.

## TOPIC 3

### 3.1.3 OPPORTUNITIES QUALITY IMPROVEMENT IN HIV CARE

#### WHY THE EMPHASIS ON QUALITY IMPROVEMENT FOR HIV PROGRAMMES?

To achieve the MOHW goal for HIV care that is describe below:

- Support quality improvement of HIV programmes towards achievement of epidemic control by 2020 and elimination of AIDS by 2030.

**Key Concepts:**



**Attempt to define the following terms before reading on:**

- **Continuum of care cascade**

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- **90-90-90 targets**

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- **Epidemic control**

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- **Elimination of AIDS**

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Now read on:

### Continuum of care cascade

HIV care is provided along the continuum of care cascade. The entry point is HIV testing, from where identified HIV positive cases are linked to care. The HIV positive cases linked to care are initiated on ARV treatment and thereafter retained in care through scheduled monitoring to achieve viral suppression and monitored on a life-long schedule.



Figure 3/2: Continuum of care cascade

### The 90-90-90 Initiative

Sometimes referred to as the three 90s, this is an initiative introduced by UNAIDS and adapted by Botswana for implementation in order to achieve epidemic control of HIV. The three 90s stand for:

- First 90: 90% of people living with HIV should be identified and be linked to care
- Second 90: 90% of all HIV positive people identified should be initiated on ARV treatment
- Third 90: 90% of all HIV positive people on ARV should be virally suppressed

### Epidemic control of HIV

An epidemic refers to the occurrence of a disease beyond normal expectations in a country or region.



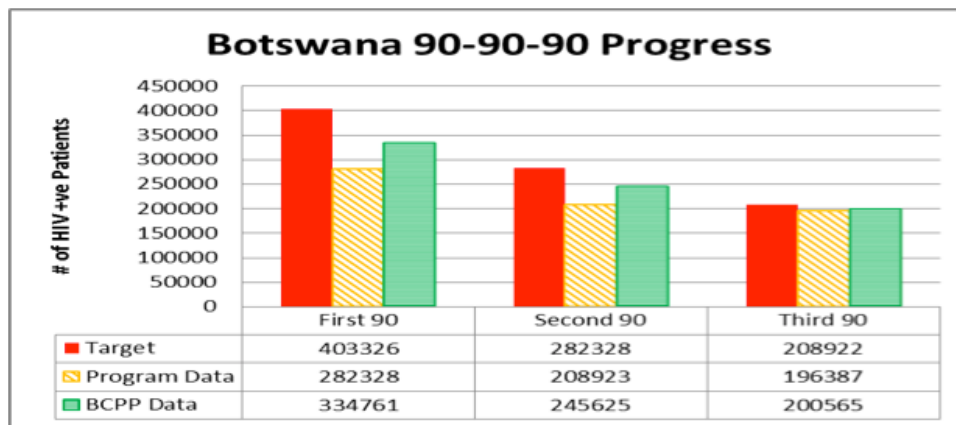
Imagine the HIV epidemic is like a tank of water. The tank is receiving water from a tap, while it is losing water through evaporation and small drainage outlet. Assume the tank is overflowing due to excess water from the tap causing flooding and all the bad effects. What is the most effective way to stop the flooding?

**If you said close the tap, you are very right.**

**How to achieve epidemic control of HIV**

- The water from the tap represents new infections, while the loss from evaporation and small drainage represent deaths. If the incoming water from the taps (new infections) becomes less than the loss from evaporation and small drainage (death), then the tank will not overflow and we will have achieved epidemic control!
- The HIV epidemic is driven by new cases (new infections) occurring in the communities from people who are infected with the virus but are unaware of their status because they have not been tested.
- The 90-90-90 initiative involves using both facility-based and community-based approaches to identify the cases of HIV positive people not on treatment and link them to care (at least 90%); initiate them on ARV treatment (at least 90%); and achieve viral suppression on those on treatment (at least 90%). Under the "Treat All" strategy every HIV positive case is eligible for ARV.
- The basis of this is that HIV positive people on treatment and virally suppressed are less likely to transmit HIV, thus a reduction of the community transmission cycle, reduction of new infections, and thus our tap is closed.

*Botswana progress towards epidemic control March 2017: Source MOHW*



**Figure 3.3: Botswana 90-90-90 Progress**

**Elimination of AIDS**



**Take time to reflect on this before reading on. Can Botswana eliminate AIDS by 2030? Explain your answer.**

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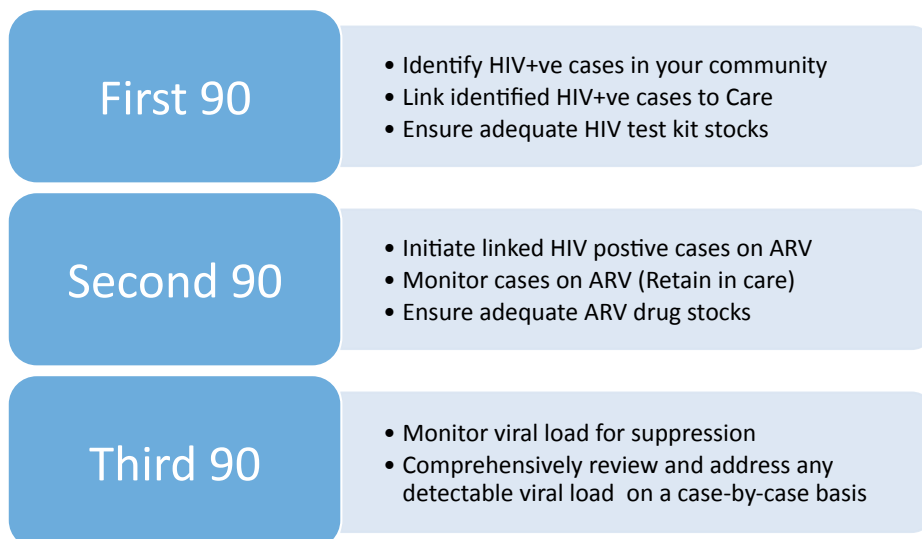
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- AIDS is defined as an HIV positive test and the presence of AIDS defining conditions (usually in WHO stage 3 or 4).
  - If you implement your 90-90-90 strategy well and ensure that the targets for HIV positive case detection, ARV initiation, and viral suppression are achieved, then you are on track to helping Botswana achieve epidemic control by 2020 and eliminate AIDS by 2030.
  - The rationale is that by identifying HIV positive cases, linking them to care, and initiating them on ARV treatment early in line with "Treat All" strategy, they are less likely to progress to developing conditions classified under the WHO clinical stages 3 and 4 which are AIDS defining conditions.

### How you can improve quality of HIV care

Your role in helping Botswana achieve epidemic control of HIV and elimination of AIDS is to ensure effective implementation and monitoring of key milestones in the continuum of care cascade:

#### Key milestones in HIV care



**Figure 3.4: Key milestones in HIV care – three 90s**





**UNIT**



**3.2**

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**ENABLERS (DRIVERS) OF  
QUALITY IMPROVEMENT**

Using Quality Improvement to improve service delivery is key to any health care organisation. More importantly, implementation of key Quality Improvement principles continues to be the backbone in instituting change geared towards moving from hard working to smart working. This unit therefore will introduce you to four (4) main principles that are necessary for quality improvement to occur and these are: Teamwork and Team Building, Leadership, Attitude and Client Satisfaction.



**At the end of this unit you should be able to:**

- a. Explain the importance of teamwork, leadership, attitude and client satisfaction in quality improvement
- b. Do a self-introspection on all the principles as a change agent

## UNIT READINGS

**To help you gain knowledge of the unit, the following reading resources are recommended:**

1. Teambuilding Workbook: Ministry of Health, Botswana 2008
2. Seven Habits of Highly Effective People: Stephen Covey
3. The Five Practices of Exemplary Leadership: James Kouzes and Barry Posner



# TOPIC 1

## 3.2.1 TEAM, TEAMWORK AND TEAM BUILDING

### INTRODUCTION

This topic will introduce you to the concept of teamwork and will help you understand the principles that contribute towards the building of a functional team. Furthermore, you will learn about team building which is an on-going process aimed at improving the effectiveness and functioning of a team, enabling team members to achieve their shared purpose. It will help you understand the importance of clarifying the team purpose, identifying and addressing barriers that may hinder fulfilling the purpose. The topic will also help you understand the composition and roles of teams that work towards improving quality of services at the various organisation levels. Lastly, you will learn the importance of convening regular team meetings and documenting the proceedings in a structured manner.



**After completing this topic, you should be able to:**

- Discuss the importance of teamwork
- Elaborate the principles of building an effective team
- Describe in detail the stages of team development
- Describe main types of teams involved in quality improvement
- Compare and distinguish between the roles of quality improvement teams at the various organisational levels
- Understand the importance of documenting proceeds of your QI team minutes in a structured manner

#### **Teamwork Definitions:**

**Team:** a group of people with complementary skills who are committed to a common purpose, goal and approach for which they are mutually accountable (Katzenbach& Smith, 1983).

**Team work:** solving problems together whereby all members have the ability to influence decisions and apply their strengths effectively

**Team building:** a wide range of activities that work to build team cohesion and efficiency in the workplace. It is achieved through exercises which aim to enhance a group effort. Team building focuses on bringing out the best in a team of individuals to ensure self-development, communication, leadership skills and the ability to work closely together as a team. The goal

of team building is to reinforce positive group behaviours which can then be brought back into the working environment.



Recall a time when you worked on a task with your colleagues as a team. What benefits did you realize and what challenges did you encounter?

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If you talked about collaboration, diversity of ideas, complementing each other then you are on the right track. Now read on.



**Benefits of teamwork**

Study the picture below and share with your group members what you think it reflects considering this topic on team work. Once you are done with your discussions continue reading



**Some benefits to working as a team are(Ministry of Health Botswana, 2008):**

- Shared vision and responsibilities ensure continuity of services
- Multidisciplinary teams enhance holistic customer care
- Working in a team creates opportunities to gain new skills from peers
- Effective teamwork enhances morale
- Team members complement each other thus balancing workload (many hands make light work)
- Teamwork creates a positive approach to effective problem-solving (two heads are better than one)
- Performance improvement can be gained from team involvement

## Principles for effective team building

What, in your opinion, ought to be done in order to build an effective team? See some ideas below.

**a. Developing a sense of a trust-**

People with different personalities, backgrounds and skill sets, are likely to have different ideas and viewpoints. It is important that you trust each other's abilities, knowledge and motivation for the purposes of achieving your team goals.

**b. Communicate roles of team members clearly**

Clarity and transparency about the roles of individual and other team members can help avert conflicts, and enhance support within the team for the purposes of achieving team goals.

**c. Know fellow team members' skills and their contribution to the team** – this helps you better understand how to share, shift, and delegate tasks, as well as support each other.

**d. Provide environment for open and honest communication among members** - This type of supportive environment is critical to the successful implementation of a QI programme. You can create opportunities for this by holding regular staff meetings and one-on-one meetings between supervisor and employee.

**e. Encourage a sense of belonging and pride in accomplishments** –Every member's contribution is important to the success of the team. If individuals do not have a sense of belonging, they may lose a sense of the team goals.

## Character traits & teamwork



**What do you think are some traits that can contribute to the success of a team?**

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If you gave any of the traits below, well-done! Together with your peers, continue to discuss all the traits listed below including those that may not be included:

The traits below are important for the success of any team. Team members should understand the reason or rationale for the team, understand the importance of learning and internalizing these traits for the success of the team. There may be many more traits that you have

brainstormed on that are not covered or listed below but as a change agent, you need to be true to yourself to enable change to occur.

Honesty/integrity	Selflessness	Patience
Dependability	Resourcefulness	Initiative
Enthusiasm	Punctuality	Perseverance
Responsibility	Tolerance/sensitivity	Cooperativeness
Compromise		

In addition to the above-listed traits, there are four (4) main traits that enhance an effective team and these are communication, commitment, involvement and trust.

**Communication** is the exchange of idea and feelings in a way that respects everyone's contributions. When team members communicate effectively, they promote continuous improvement, help to prevent and resolve conflicts and encourage cooperation among themselves.

**Commitment** is the willingness to give 100% of yourself. Commitment can build belief in the team and its goals

**Involvement**- Ensuring involvement means that the team benefits from the skills and talents of all members; values individual differences and encourages input that may help it meet goals or solve problems. As a result, everyone should be encouraged to participate

**Trust** - Team members have expectations and assumptions about each other. It is your belief that the team members will live up to their promises. Trust allows a team to Take risks, Try new ideas as well as Take greater initiative

### Stages of Team Development

Team development occurs through a series of unique but related phases first described by Psychologist Bruce Tuchman in 1965 as Forming – Storming – Norming –Performing. In 1970, he added a fifth stage, "Adjourning" mainly applicable to short-term teams that typically disband after completing a task.





**Figure 3.5: Stages of team development**

By looking at the graphics above, explain in your own words what each stage involves.



**Forming**

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**Storming**

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**Norming**

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**Performing**

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If you mentioned initial tension, distrust, holding back, learning about one another, all the way to developing trust and performing tasks in a structured manner, you are on the right track. Now read on.

During the stages of development from Forming through storming, the team members may exhibit a variety of characteristics related to team communication, team relationships, and task accomplishment. These are listed in the table below:

Table 3.5. Team characteristics during stages of development

	TEAM	CHARACTERISTICS		LEADER ROLE/ STYLE
STAGE	Communication	Relationship	Task Level	
<b>FORMING (Infant)</b>	<ul style="list-style-type: none"> <li>• Courteous</li> <li>• Hierarchical</li> <li>• Polite</li> </ul>	<ul style="list-style-type: none"> <li>• Curious</li> <li>• Excitement/ anxiety</li> <li>• Avoid conflict</li> </ul>	<ul style="list-style-type: none"> <li>• Information gathering</li> <li>• Adjusting</li> <li>• Routine</li> </ul>	<ul style="list-style-type: none"> <li>• Dominant (Telling/ directing)</li> </ul>
<b>STORMING (Puberty)</b>	<ul style="list-style-type: none"> <li>• Broken down</li> <li>• Unstructured</li> <li>• Disagreement</li> <li>• Impatience</li> </ul>	<ul style="list-style-type: none"> <li>• Stressful</li> <li>• Challenge authority</li> <li>• Poor collaboration</li> <li>• Clique forming</li> </ul>	<ul style="list-style-type: none"> <li>• Define boundaries</li> <li>• Tasks seem difficult</li> <li>• Role clarity conflicts</li> </ul>	<ul style="list-style-type: none"> <li>• Coaching/ advising</li> <li>• Conflict resolution</li> <li>• Clarify roles</li> </ul>
<b>NORMING (Adolescent)</b>	<ul style="list-style-type: none"> <li>• Structured</li> <li>• Reflective</li> </ul>	<ul style="list-style-type: none"> <li>• Stable roles</li> <li>• Rules defined</li> <li>• Reflective</li> <li>• WE (team) before I</li> </ul>	<ul style="list-style-type: none"> <li>• Structured</li> <li>• Organized</li> <li>• Collaborative</li> <li>• Clear goals and targets</li> </ul>	<ul style="list-style-type: none"> <li>• Participating</li> <li>• Facilitating</li> <li>• Enabling</li> </ul>
<b>PERFORMING (Maturity)</b>	<ul style="list-style-type: none"> <li>• Generative</li> <li>• Productive</li> <li>• Forming networks</li> </ul>	<ul style="list-style-type: none"> <li>• Development seeking</li> <li>• High trust and commitment to team</li> <li>• High morale</li> <li>• Enabled</li> </ul>	<ul style="list-style-type: none"> <li>• Task oriented</li> <li>• Creative</li> <li>• Exhibit role flexibility</li> <li>• Handle complex tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Delegating (Overseeing)</li> </ul>
<b>ADJOURNING (Reversion)</b>	<ul style="list-style-type: none"> <li>• Purposeful</li> <li>• Conclusive</li> </ul>	<ul style="list-style-type: none"> <li>• Bonded memories</li> <li>• Maintain connection</li> <li>• Anxiety</li> <li>• insecurity</li> </ul>	<ul style="list-style-type: none"> <li>• Handing over</li> <li>• Conclusive</li> </ul>	<ul style="list-style-type: none"> <li>• Directing (Concluding)</li> </ul>

### Roles of Quality Improvement Teams

Generally, there are two (2) main types of teams supporting quality improvement at all levels:

- Quality Improvement Team (QIT)** - which is nominated by the top leadership and should include members of middle management from all respective programmes including the relevant stakeholders and/or partners.

#### Primary Roles:

- Coordinate planning and implementation of quality improvement activities
- Sets overall vision for QI at national/district level
- Mentorship and coaching to WIT

- Facilitates "Total Quality Management"
- b. Work Improvement Team (WIT)**-Nominated by QIT at district level and largely includes relevant health facility members as well as relevant stakeholders within their catchment area.

**Primary Roles:**

- Implement CQI activities at section level (PDSA) and on-going performance measurement
- Share and disseminate findings
- Work with QIT to institutionalize changes

**Table 3.6. Membership of quality improvement teams**

Level	Structure	Membership
<b>National</b>	National QM TWG	<ul style="list-style-type: none"> <li>• MOH Heads of Directorates, Departments, and Units</li> <li>• Developmental partners</li> </ul>
	National HIV QI TWG	<ul style="list-style-type: none"> <li>• Representatives of relevant MOH departments/ units</li> <li>• HIV client representatives</li> <li>• Implementing partner's representatives</li> <li>• Private sector representatives</li> </ul>
<b>District</b>	District QI Committee (CQI)	<ul style="list-style-type: none"> <li>• District Health Management Team</li> <li>• HIV client representatives</li> <li>• Implementing partner's representatives</li> <li>• Private sector representatives</li> </ul>
<b>Facility</b>	Facility Quality Improvement Team (QIT)	<ul style="list-style-type: none"> <li>• Facility QIT management</li> <li>• Community and HIV client representatives</li> <li>• Implementing partners representatives</li> </ul>

**Table 3.7. Roles and responsibilities of quality improvement teams**

	QM TWG	HIV QI TWG	District QIT	Facility QIT	Prog WIT
National/ District level environmental scanning for emerging trends to influence policy	x	X	x		
Periodic review of the HIV specific indicators, training material, and curricula		X			
Development of policies guiding implementation of QI in health setting	x	X	x		
Mobilization of resources for QI at respective levels	x	X	x		

Coordination of development partners for QI at different levels	x	X	x	x	X
Holding quarterly TWG/QIT meetings for stakeholders	x	X	x	x	X
Training of district and facility teams	x	X	x		
Capacity building, mentorship, and coaching to district teams	x	X			
Capacity building, mentorship, and coaching to facility QIT		X	X		
Capacity building, mentorship, and coaching to WITs		X	x	x	
Conducting annual organisational assessments at respective levels	x	X	x	x	X
Development of annual QI work plans	x	X	x	x	X
Holding regular (at least monthly) meetings with performance data reviews		X	x	x	X
Implementing CQI (PDSA) and on-going performance measurement			x	x	X
Routine reporting on QI projects and QI indicators every 6 months		X	x	x	X
Organizing and attending learning sessions for levels	x	X	x	x	X
Scale-up best practices in CQI including use of learning collaborative	x	X	x	x	X
Monitoring and evaluation of QI programmes at respective levels	x	X	x	x	X



Now that you have read through this section, summarize the composition and functions of the quality improvement teams at the different levels of the healthcare system.

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## QI team meetings and documentation



Before reading on, recall any of the team meetings that you held in your facility or organisation.

**What was the importance of the meeting? What was the format/procedure of conducting the meeting?**

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If you mention achieving specific objectives, leadership of the session, tracking progress, status of action items, registration, documentation, and other related items, you are on the right track. More often than not, QI teams hold meetings but fail to document the proceedings of the meetings as well as some action items coming from the meeting. As a standard for quality improvement, documentation generally is important and the same applies to QI team meetings. Proceedings of all the meetings have to be documented, filed and shared with members of the team depending on the frequency of meetings.

### Importance of QI team meetings:

**It is important that the quality improvement (QI) teams meet regularly, at least once per month to:**

- Discuss programme progress based on measures provided by identified indicators
- Discuss programme challenges
- Review the organisational quality improvement plan
- Determine action items for the identified issues
- Provide feedback on remedial actions undertaken from previous meeting's finding

But generally the frequency of meetings will be determined by the priority projects at hand and these may require the team to have weekly meetings to review the data, plans, etc. as well as plan for the forthcoming week; as is the case with SURGE and FEDISA targets and QI meetings.

### Documenting QI team meetings:

Quality improvement meeting proceedings should be documented in a structured manner. Structured documentation will help you and your colleagues to track through records and

follow progress of QI meetings action items with great efficiency. It also helps with institutional continuity in case of staff transitions and hand-over take-over processes. Important information to document includes:

- Names of participants, their contacts, and responsibilities
- Status of action items from previous meeting
- Matters arising from the previous meeting minutes
- Action items with responsible persons and timelines
- Date/Time and venue of the next meeting



Summarize the importance of conducting team meetings and documentation. When finished, check your answers against the section you have just read.

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**To summarize the topic, you have learnt about:**

- The role and importance of teamwork in quality improvement
- The principles that will assist you to form an effective team
- The various stages of team development and their associated characteristics
- The role of a leader at the various stages of team development
- The composition, roles, and responsibilities of QI teams at the national, district, and facility levels.
- The importance of holding frequent QI meetings and documentation

## TOPIC 2

### 3.2.2 ROLE OF LEADERSHIP IN QUALITY IMPROVEMENT

#### INTRODUCTION



One of the questions to which you should have a clear answer is: What is leadership? This begs yet another question: How is leadership linked with quality improvement? You will recall that earlier, we discussed quality and quality improvement. What do you still recall about those two?

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Leadership is one of the important enablers for quality improvement identified in unit 1. Leadership can be provided at different levels from national, district, facility, and programme level. Leadership support at all levels is critical for the success of programmes and associated initiatives. You can be the leader whose support maybe required for quality improvement initiatives to succeed!



**At the end of this session you should be able to:**

- a. Define a leader
- b. Describe the important role of a leader in quality improvement initiatives
- c. Describe the qualities and attributes of a good leader
- d. Describe how to manage change and resolve conflicts



**Activity:**

Imagine yourself as a leader in an organisation, which you probably are, and discuss what your role would be with regards to quality improvement in your organisation.

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### **Leader and Leadership**

A leader is a person who defines the organisational goal (vision), formulates plans (strategy), and organizes the people (team) to achieve the goals. He/she is a person who places him/herself before the group; facilitates progress and inspires the group to accomplish its goals.

**Leadership** is the art or process of influencing people so that they will strive willingly and enthusiastically towards the achievement of group goals

### **Qualities of a Good Leader**

There have been various qualities that have been attributed to good leadership. These can be summarized in five habits that encompass several attributes (James Kouzes and Barry Posner). These habits are:

- a. Model the way**
  - Clarify values and affirm shared ideals
  - Set example by aligning actions to shared values (Role model)
- b. Inspire a shared vision**
  - Envision a future that is full of success
  - Enlist others to be part of your envisioned future
- c. Challenge the process**
  - Look for opportunities by seizing initiative and being innovative
  - Experiment and take risks by constantly generating small wins and learning from experience (CQI initiatives)
- d. Enable others to act**
  - Foster collaboration by building trust and facilitating relationships
  - Strengthen others by building their competencies through training and assigning tasks
- e. Encourage the heart**
  - Recognize contribution and appreciate/reward good performance
  - Celebrate the values, victories, and achievement of your team,

### **Roles and Responsibilities of Team Leader in the QI team**

- Provide guidance and direction to the team
- Allocate or manage resources for QI initiatives
- Lead the development, implementation, and monitoring of QI plan and projects



- Manage conflicts between team members at the various team development stages
- Manage changes that might impact on organisational culture and foster resistance
- Schedule, set agenda and chair team meetings
- Enforce documentation of QI team activities (working documents in binder)
- Participate in management meetings (including providing update reports)
- Teach and mentor team members while actively participating in QI initiatives

### Conflict

Conflict is any situation in which your concerns or desires differ from those of another person. It refers to an active disagreement between people with opposing opinions or principles (Cambridge dictionary). Whenever you have a group of people pursuing a common goal, conflict is bound to arise. In the section dealing with team formation, you notice that earlier stages are characterized by potential or real conflicts that you have to address as a leader.



Before you proceed, recall a situation in your professional life when you had to deal with a conflict. What was the cause of the conflict? How did you resolve the conflict?

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### Conflict can arise because people:

- Compete for scarce resources
- Don't clearly understand what they are expected to do (Lack job clarity)
- Have different points of view.
- Communicate to one another differently.
- Spend large amounts of time together.
- Depend on one another to "get the job done".
- Established expectations of one another are not communicated and then not met.

### Negative vs. Positive conflict

Conflict will always exist to various degrees within teams. However, conflict does not always have to be negative.

- Positive conflict: Occurs when team members are able to challenge one another's ideas in a supportive environment, new ideas are generated and fostered.
- Negative conflict: Occurs when team members get involved in personal attacks, name

calling, gossiping, rumour mongering, forming cliques, and other associations that result in lack of mutual respect.

Effective leaders should have the skills to manage the conflict process and turn disagreements into ideas.

### Conflict management

Conflict management is the process of limiting the negative aspects while increasing the positive aspects of conflict. The aim is to enhance learning and group outcomes.

The methods for conflict resolution as illustrated in the diagram below are based on a combination of two attributes of the conflicting parties

- **Assertiveness:** Level of forcefulness or defence of one's position (high or low)
- **Cooperation:** Willingness to work together with other party (high or low)

Table 3.8. Methods for conflict resolution

Resolution Method	Conflicting Party Characteristics and outcomes
<b>Competing</b>	<ul style="list-style-type: none"> <li>• Both parties are highly assertive and low in cooperation</li> <li>• They <b>compete</b> resulting in <b>Win-Lose</b> power struggle</li> </ul>
<b>Avoiding</b>	<ul style="list-style-type: none"> <li>• Both parties are high in assertion and low in cooperation</li> <li>• <b>Avoid</b> conflict and remain <b>neutral</b></li> </ul>
<b>Accommodating</b>	<ul style="list-style-type: none"> <li>• Both parties are less assertive and highly cooperative</li> <li>• They <b>accommodate</b> each other to <b>maintain harmony</b></li> </ul>
<b>Collaborative</b>	<ul style="list-style-type: none"> <li>• Both parties are very assertive and highly cooperative</li> <li>• They <b>collaborate</b> achieving <b>Win-Win</b> outcome</li> </ul>
<b>Compromising</b>	<ul style="list-style-type: none"> <li>• Both parties are neither very assertive nor highly cooperative</li> <li>• <b>Compromise</b>- minimally acceptable, <b>relationship undamaged</b></li> </ul>

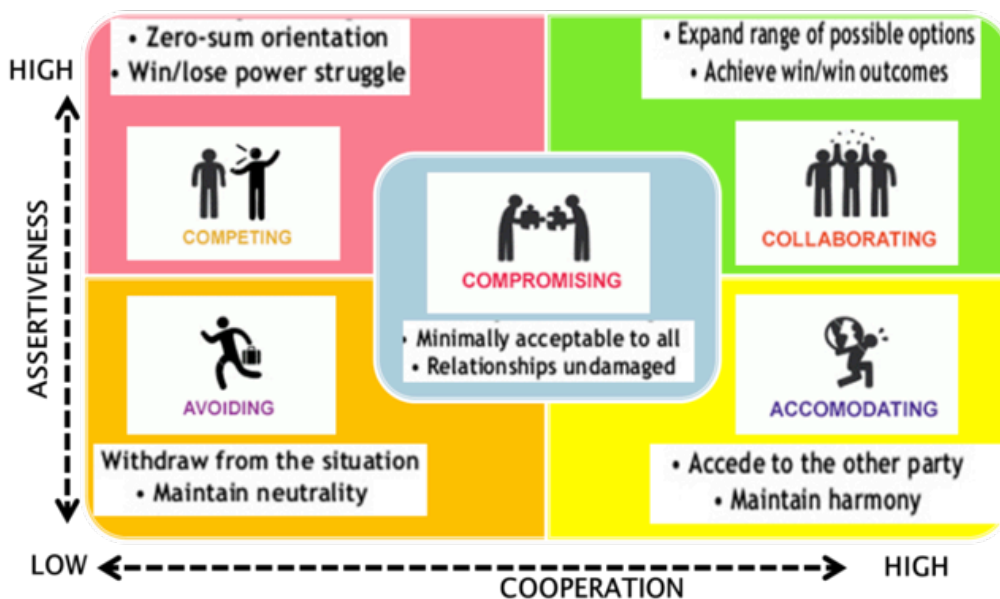


Figure 3.6. Methods of conflict resolution

## Change Management

The quality improvement initiative might represent a shift in the routine way you have been doing your work with emphasis on smart working that is informed by data. Before you read further, list down events that have occurred (or are expected to occur) within the MOHW system that might constitute change. What was/ is your team's reaction to the changes? How did you (do you plan to) handle the changes?

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### Some of your answers might include:

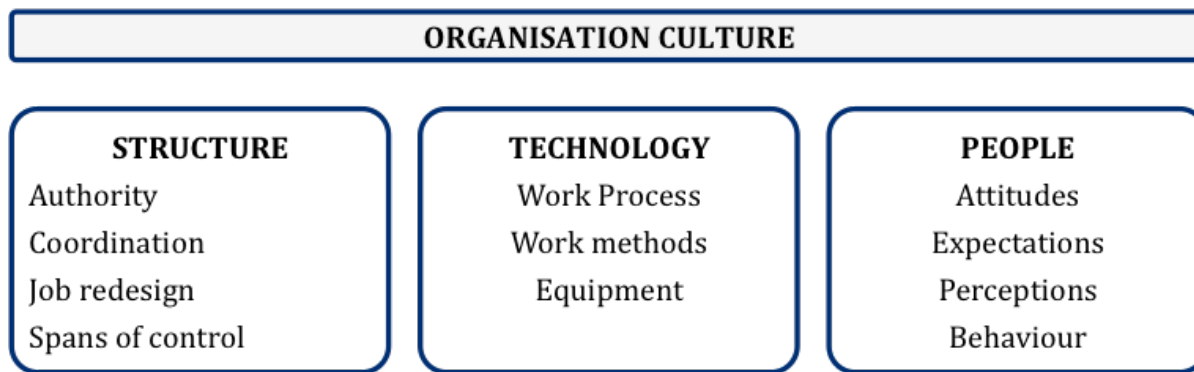
- "Treat All" strategy for HIV management
- HIV verification test
- HIV serial testing replacing parallel testing
- PMTCT Option B+ replacing PMTCT Option B
- Integration of services
- Reorganisation of MOHW – Decentralization with merger of some DHMTs

### Change: Definition and categories

Change refers to an alteration of an organisation's environment, structure, culture, technology, or people. It can be viewed from various perspectives:

- **A constant force** – due to ever evolving priorities, strategies, and technology, etc.
- **An organisational reality** – is a fact of life if you are to remain competitive or relevant
- **An opportunity or a threat** – can be beneficial or detrimental to some of the organisation's established practices

The three major categories of change that affect organisations are structure, technology, and people. The table below details the categories.

**Table 3.9. Organisation Culture****Role of leader in change management:**

As a leader, you are viewed as a change agent. A change agent is a person who initiates and assumes the responsibility for managing a change in an organisation. You will be required to interrogate various aspects of impending change.

- **What are the forces acting upon me?**
  - What one should take into consideration in deciding what to change
- **What should we change?**
  - Specifics of what needs to be changed – is it organisation-wide or partial
- **How should we change it?**
  - Modalities of implementing the change

**The To-dos for change:**

The what-to-do for change constitutes actions that need to be taken in a timely manner with participation of the entire team for the purpose of making collective decisions on how to navigate the change process while minimizing the negative impacts of change. These include:

- Creating a sense of urgency
- Deciding what to change
- Creating a guiding coalition and mobilizing commitment
- Developing and communicating a shared vision
- Empowering employees to make the change
- Generating short-term wins and consolidating gains
- Anchoring the new ways of doing things in the company culture
- Monitoring progress and adjusting the vision as required

**Resistance to change:****Individuals show resistance to change due to the following:**

- Fear of the unknown – loss of job, change in JD, relocation, different management
- Fear of losing something of value – mainly authority and control
- Belief that change is not good for the organisation – favour existing status quo

**Managing resistance to change should ideally be done through a process that is informative and participatory to increase acceptance and ownership of change by team members**

- Education and communication
- Participation and involvement
- Facilitation and support
- Negotiation and agreement

## SUMMARY

**To summarize the topic, you have learnt:**

- The attributes of that will help make you a good leader for your team
- Your pivotal role as a leader of your team
- How to manage conflict during the team development process
- How to manage change that affects your organisation and team

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## TOPIC 3

### 3.2.3 BUILDING A POSITIVE ATTITUDE



#### OBJECTIVES

**At the end of the session participants will be able to:**

- Define attitude
- Understand effects of positive and negative attitude
- Relate the iceberg concept to the various attributes of human attitude
- Describe the ABCs and Can-do attitude
- Identify steps for building positive mind set



#### DEFINING ATTITUDE

**In your own words, explain what you understand by the term attitude.**

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**Now take a look at the definitions below:**

- A way of feeling or acting toward a person, thing, or situation (Collins Dictionary)
- A predisposition or tendency to respond positively or negatively towards a certain idea, object, person, or situation (Business Dictionary)
- The way you think or feel about someone or something: a feeling or way of thinking that affects a person's behaviour (Merriam-Webster Dictionary)

Read the following quote and reflect individually or with your colleagues on what you understand by it.

"Your talent determines what you can do. Your motivation determines how much you are willing to do. Your attitude determines how well you do it". Lou Holtz

### Iceberg Phenomenon: Attitude is everything

An iceberg is a massive block of frozen ice in the sea that can be visualized as a solid mass protruding above the surface of the sea. Typically, only 10% of an iceberg is visible above the sea surface. The remainder 90% is invisible below the sea surface. This phenomenon is also applicable to some attributes of the human being:

- Visible 10%: Knowledge and skills represent the 10% of what is known to others
- Invisible 90%: Attitude represents the 90% of what is largely unknown to others
- Result: Invisible 90% (Attitude) impacts on the Visible 10% (Behaviour)

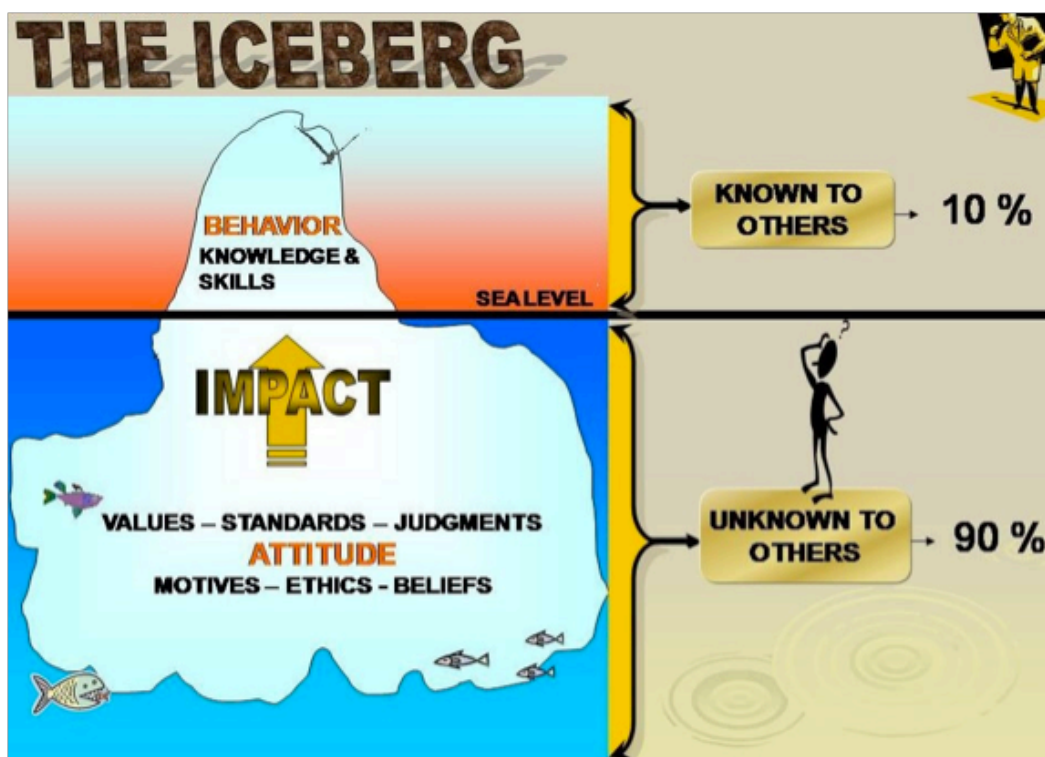


Figure 3.7. The Iceberg Phenomenon

Interpretation of the iceberg: Knowledge and skills are not enough. It is your positive attitude which makes the difference.

#### On the surface, attitude is the way you communicate your mood to others.

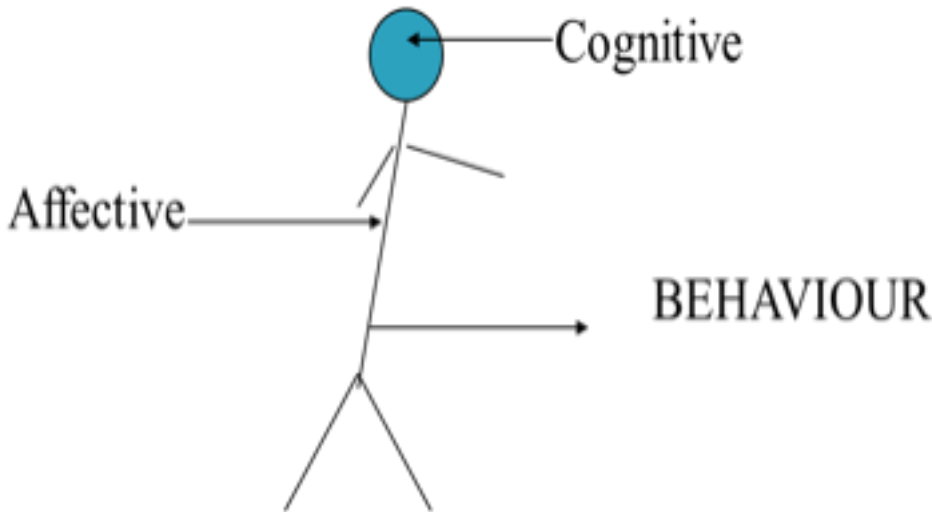
- When you are optimistic and anticipate successful encounters, you transmit a positive attitude and people usually respond favourably.
- When you are pessimistic and expect the worst, your attitude is often negative and people tend to avoid you.

#### ABC Model of Attitude



**Three components of attitude that are widely referred to as the ABC model include:**

- **Affective:** Refers to the feelings or emotional reaction one has towards an attitude object. Can manifest as fear, anxiety, love, and hate among others. Example "I love my job"
- **Behavioural:** Refers to the way one behaves or acts when exposed towards the attitude object. For example "I am going to get to work early with a smile on my face"
- **Cognitive:** Refers to the thoughts and beliefs that one has towards the attitude object. These come to light in generalities or stereotypes. For example, "My job is interesting"



**Figure 3.8. ABC Model of Attitude**



Inside your head, where it all starts, attitude is a mind-set. It is the way you look at things mentally. Negative thinking can become a destructive habit. Watch your thoughts more closely, and aim to turn your negative self-attitude around.

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

Calculate the cumulative sum of the attributes below expressed as percentage using the numbers assigned in the table. For example: cumulative value for **HUMAN** is **8+21+13+1+14=57%**

- Skills\_\_\_\_\_
- Knowledge\_\_\_\_\_
- Hard work\_\_\_\_\_
- Attitude\_\_\_\_\_

**How did each of the attributes score? What is the take-home message of the exercise?**

### The Can Do attitude

**A can-do attitude refers to the predisposition or tendency to look at situations in a positive light, thus opening yourself to new opportunities and readying yourself to take on challenges.**

- You CAN DO everything, but not all at once.
- You CAN DO everything, if it's important enough for you to do.
- You CAN DO everything, but you may not be the best at everything.
- You CAN DO everything, but there will be limitations.
- You CAN DO everything, but you'll need help.

### How to build a positive attitude:

Think of and list down the actions you can take to build a positive attitude. Once you are done, compare with the list below.

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### The following are some of the steps you can undertake to build a positive attitude:

- Step 1: Change Focus, Look for the Positive. Be a good finder.
- Step 2: Make a Habit of Doing It Now (Avoid procrastination)
- Step 3: Develop an Attitude of Gratitude
- Step 4: Get into a Continuous Education Programme
- Step 5: Build Positive Self-Esteem
- Step 6: Stay Away from Negative Influences
- Step 7: Learn to Like the Things That Need to be Done
- Step 8: Start Your Day with something Positive



## SUMMARY

### To summarize the topic, you have learnt:

- Definition of attitude
- Iceberg concept of attitude

- The ABCs of attitude
- The Can-do attitude
- How to build a positive attitude



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## TOPIC 4

### 3.2.4 CLIENT FOCUS



#### OBJECTIVES

**By the end of session participants should be able to:**

- Discuss the importance of client satisfaction
- Discuss the causes of client dissatisfaction
- Develop strategies to improve client involvement and satisfaction
- Describe the various methods of conducting client satisfaction surveys



**In your own words describe what you understand by client focus in the context of healthcare profession.**

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#### DEFINING CLIENT FOCUS

Client focus is a business concept that was developed for the purpose of attracting, satisfying, and retaining clients or customers through quality service provision and customer engagement. Now read the definitions provided below and see how you did in your attempt.

- The orientation of an organisation toward serving its clients' needs. Having a customer focus is usually a strong contributor to overall success of a business and involves ensuring that all aspects of the company put its customer satisfaction first (Business Dictionary)
- Company policy, philosophy, or mission intended to be responsive to client needs, attentive to developing client relationships, and committed to client service and innovation. (AllBusiness.com)
- Bringing excellence to internal or external clients by focusing efforts on discovering and meeting their needs. (National Research Council Canada)

In the past, health care professionals were viewed as entities with supreme authority. However, this relationship has since changed and today a patient or client is viewed as customer while the healthcare professional is viewed as a service provider. The healthcare industry, as with other businesses has put the client as the focus of its services.

**Benefits of client focus**

Providing client-focused services has tangible benefits to the client, providers of the service and the system in which the service is being provided. Benefits include:

- An expression of client autonomy through empowerment
- Improvement of other positive health outcomes, including client retention
- An informed and participating client increases productivity and staff morale
- Increased involvement of client in his/her management reduces risk of malpractice suit.
- Focusing on the customer can help make activities more efficient, maximizing operational performance
- Eliminate the cost of poor services, lowering expenses and improving efficiency

**Client dissatisfaction**



Think of an occasion(s) when you or your facility encountered clients who were not satisfied with the services you provided. What was/were the issues? What are other possible causes of client dissatisfaction?

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**Now read on**

Client dissatisfaction refers to a situation where your client is not happy or content with the services that you provided. It typically takes the form of a report from a customer providing documentation about a problem with a service or a product. Causes of client dissatisfaction include:

- Negative staff attitude
- Lack of communication
- Prolonged waiting times
- Isolation in the exam room
- Complicated service provision processes

- Lack of understanding of diagnosis and treatment plan
- Difficulty in obtaining an appointment
- Unclear charges for services provided
- Complaints not addressed in timely manner

### Improving Client Satisfaction:

**Below are things you and your team can do to improve the level of satisfaction of your clients:**

- Prioritize what is important to clients and their care givers, whilst maintaining professional standards
- Service recovery plan when things go wrong: Apply the triple A action plan: Acknowledge, Apologize and Amend.
- Maintain what is perceived to be good, improve what needs improving, and continuously monitor client satisfaction

### Measuring client satisfaction



Describe some methods of measuring client satisfaction that you might have used before or that you may be aware of.

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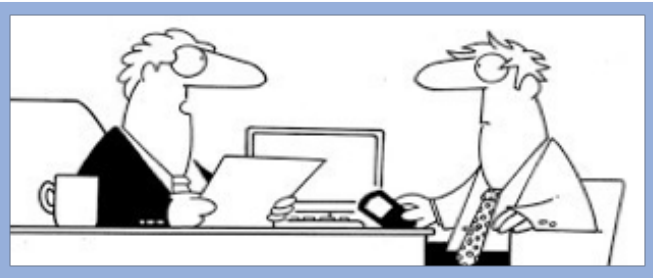


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**Methods of measuring client satisfaction include the following:**

#### Exit Interviews

- Final meeting between you and your patient/client after services have been provided. The main purpose is to get feedback from your patient/client on services they received.



**Suggestion boxes:**

- This is a container for obtaining information such as comments, opinions, suggestions, etc, from clients on services that have been provided. It is usually secured and anonymous thus promoting the provision of real and honest feedback.



**Focus Group Discussions**

- In this setting, your team participates in a planned interview of a group of patients/ clients about their perception and opinions of the services you provide



**Community meetings:**

- In this setting, your team participates in a planned meeting with members of the community you serve to discuss the services you provide



**Staff surveys:**

- These are designed to help get feedback and also measure morale of your team. They can be used by management to build positive employee relations, improve work environment and ultimately quality of services to the customers



**Patient satisfaction survey:**

- This is a survey using a set of questions designed to measure the extent to which the patient is content with the healthcare which they received from your facility







## SUMMARY

### To summarize the topic, you have learnt:

- The importance of client satisfaction
- The causes of client dissatisfaction
- The strategies to improve client involvement and satisfaction
- The methods of conducting client satisfaction surveys



## REFERENCES

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Patients' needs, satisfaction, and health related quality of life: Towards a comprehensive model  
Mohsen Asadi-Lari, Marcello Tamburini and David Gray *Biomed Central Health and Quality of Life Outcomes* 2004;2:32

Patient Satisfaction with Health Care Critical Outcome or Trivial Pursuit?: Richard Kravitz, MD  
*J Gen Intern Med.* 1998 Apr; 13(4): 280–282.

2014 Customer service vs. Patient care: Kathy Torpie: *Patient Experience Journal* - Volume 1, Issue 2, Article 3

**UNIT** **3**

**3.3**

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**IMPLEMENTING QUALITY  
IMPROVEMENT**

## UNIT INTRODUCTION

This unit will develop your understanding and skills in the process of continuous quality improvement that include utilizing data to identify problems and make decisions, indicators to monitor process of interventions, tools to identify and prioritize interventions, and methods to implement quality improvement projects. Additionally you will also learn to utilize templates and worksheets that will form useful documentation for your quality improvement plans and documents.



# TOPIC 1

## 3.3.1 PERFORMANCE MEASUREMENT

### INTRODUCTION

In order to effectively improve quality of services, it is important to determine your current status or baseline (where you are) and what you would like to achieve (where you desire to be). Both the baseline and desired statuses are quantifiable and hence are data points.

By measuring one's performance, it implies that you are tracking progress from the baseline towards the desired (target) data point.



### OBJECTIVES

**After completing this topic, you will be able to:**

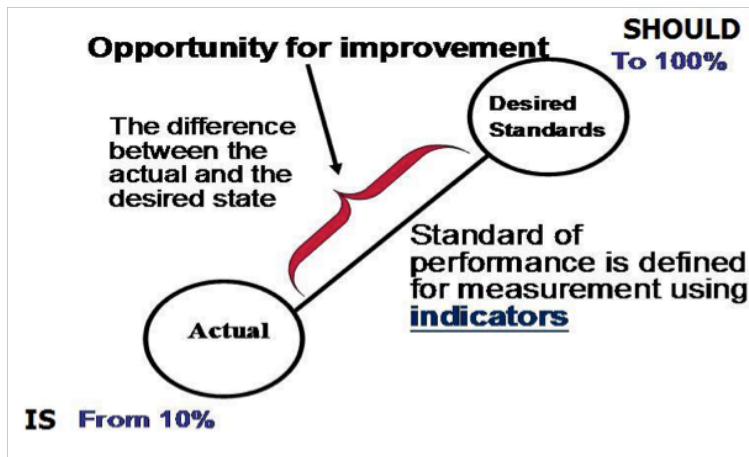
- Describe the concept of performance measurement
- Define indicators and their components
- Develop indicators from set objectives

### RATIONALE FOR PERFORMANCE MEASUREMENT

**A programme performance is tracked using data so that you can:**

- Separate what you think is happening from what is really happening
- Establish a baseline or a starting point from which you want to improve
- To avoid putting ineffective solutions in place
- To monitor improvements and prevent slippage

The figure below illustrates the concept of performance measurement from a baseline point towards a desired end-point



**Figure 3.9. Concept of Performance Management**

### Using indicators to measure performance

Measuring programme performance involves tracking progress from the baseline (starting point) towards the target (desired point).

Indicators are variables/measures/instruments used to track progress towards meeting an aim or objective (target).

#### Indicators help you:

- Answer the question: How will I know if a change leads to an improvement?
- Track steps along the path to change
- Understand the performance of your programmes, they act as the basis for action plans

#### Components of an indicator

The following are important components of an indicator that you need to know:

- **Title** - A brief heading that captures the focus of the indicator.
- **Definition** - A clear and concise description of the indicator.
- **Purpose** - The reason that the indicator exists; i.e. what it is for.
- **Rationale** - The underlying principle(s) that justify the development and deployment of the indicator; i.e. why the indicator is needed and useful.
- **Method of measurement** - The logical and specific sequence of operations used to measure the indicator; e.g. data collection tools, sampling frame and quality assurance.
- **Numerator** - The top number of a common fraction, which indicates the number of parts from the whole that are included in the calculation.
- **Denominator** - The bottom number of a common fraction, which indicates the number of parts in the whole.

#### Characteristics of an indicator

These can be summarized by acronyms SMART (Peter Drucker, 1954) and CREAM (Schiavo-Campo and Tommasi, 1999) as detailed in the table below.

**Table 3.10. Characteristics of an Indicator**

SMART	Description	CREAM
Specific	Precise and Unambiguous	Clear
Measurable	Appropriate to the subject	Relevant
Achievable	Of a reasonable cost	Economic
Relevant	Serve to assess performance	Adequate
Trackable	Easy to validate or verify	Monitorable

### Types of indicators in quality improvement

- **Process Indicators**  
Process indicators for traditional public health programming can describe programme implementation activities
- **Outcome Indicators**  
Outcome indicators examine how a project affects individuals, populations or systems
- **Balancing Indicators**  
Used to detect potential negative or unintended consequences of a change initiative  
For example - a QI project designed to increase utilization of services may want to monitor service quality and/or patient satisfaction

### Basic rules about developing an indicator

The points listed below will help you develop an indicator that aligns with the objective and is SMART

- Indicator must align to the objective
- Indicator must measure the progress towards target (object)
- Numerator must speak to the achievement (defined location/ reporting time)
- Denominator must speak to the total targeted population (defined location/ reporting time)
- Keep as simple and straightforward as possible



**Attempt the task on indicators below:**

**Objective: Increase the percentage of new HIV positive clients linked to care from 60% to 80% by March 2018.**

- What indicator might you use?
- What is the indicator definition?
- What is the numerator?
- What is the denominator?
- Is your indicator SMART?

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**If your responses for the respective questions were as below, then you are on the right track!**

- a. Percentage of new HIV positive clients linked to care during the reporting period
- b. It refers to the number of HIV positive clients linked to care as a proportion of the number of new HIV positive clients in the reporting period
- c. Number of HIV positive clients linked to care
- d. Number of new HIV positive clients in the reporting period
- e. Yes: It is Specific (new HIV positive clients), it is Measurable (counts of new HIV positive clients and those linked to care), it is Achievable (it is possible that all new HIV positive clients can be linked to care), it is Relevant (serves to measure linkage to care of the new HIV positive clients), and it is Trackable (can be tracked to the data collection tool in the reporting period – week, month, quarter, etc.)

**Now attempt the same task with the objectives below**

**1. Increase the rate of sputum testing among presumptive TB cases in Clinic X from 56% to 80% by March 2018**

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**2. Increase the percentage of HIV positive clients initiated on ARV at Clinic X from 60% to 90% by March 2018.**

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## TOPIC 2

### 3.3.2 CONTINUOUS QUALITY IMPROVEMENT (CQI) TOOLS

#### INTRODUCTION

As a healthcare worker who is charged with providing high quality services to your patients, you are expected to systematically review and improve your valued services using data. This topic will help you understand the tools for implementing continuous quality improvement initiatives.



#### OBJECTIVES

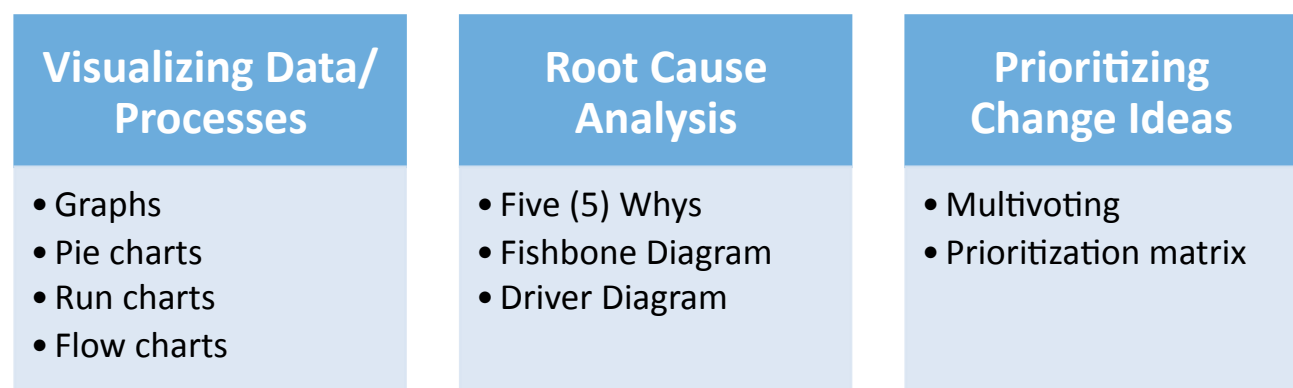
**After completing this topic, you will be able to:**

- Describe the various categories of QI tools and their uses
- Demonstrate the use of 2 QI tools each for displaying data, performing root cause analysis, and prioritizing change ideas
- Systematically use the QI tools to develop a project for implementation

#### Systematic approach to quality improvement implementation

**For purposes of facilitating better understanding, we will categorize QI tools into 3 generic groups, namely:**

- For visualizing data and process mapping
- Tools for conducting root cause analysis
- Tools for prioritizing change ideas
- A common crosscutting tool to be applied during the entire process is brainstorming



**Figure 3.10: Categories of quality improvement tools**

This schematic representation is designed to help you understand how to implement the QI project in a systematic manner starting from viewing your data through prioritizing change ideas.

<b>OBTAIN DATA</b>
Sources: Programme Data, Surveys, Quality Audits
<b>VISUALIZE DATA - Can I see a problem or gap?</b>
Tools: Graphs, Run Charts, Pie Charts & Flow charts (map process)
<b>ROOT CAUSE ANALYSIS - What could be causing the problem?</b>
Tools: Five (5) Whys, Fishbone Diagram
<b>GENERATE CHANGE IDEAS - What can I change to address the problem?</b>
Tools: Driver Diagram
<b>PRIORITIZE CHANGE IDEAS - What do I start to change?</b>
Tools: Prioritization Matrix, Multivoting
<b>TEST CHANGE - Does my change idea work?</b>
USE QI METHOD (PDSA) - Will learn later

**Figure 3.11: Systematic approach to QI implementation**

### Brainstorming

The most powerful weapon you possess as a human being is your brain. It empowers you to think without limits, analyse situations, generate ideas, and find solutions, among other things. Brainstorming is an idea-generating technique used by teams to generate many ideas in a short period of time.

#### Format:

- Structured: Everyone takes a turn
- Unstructured: Group members speak whenever they have an idea.
- Verbal or written format

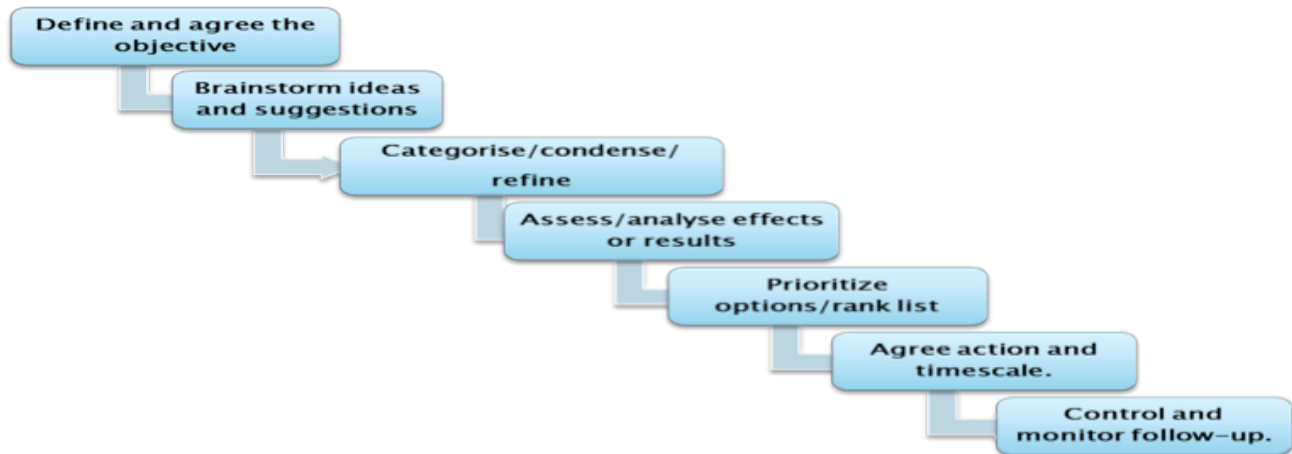
#### Benefits

- Rapidly produces a large number of ideas
- Encourages creativity and innovation
- Encourages involvement by all members
- Fosters a sense of ownership
- Provides input to other tools – VERY IMPORTANT!!

#### Rules for Brainstorming

- Quantity not quality is important
- No discussion, judgment, or criticism during the idea-generating process
- "Piggybacking" on other ideas is encouraged
- Creativity, not practicality, is the goal
- Idea statements should be from three to six or seven words long

## Process of brainstorming



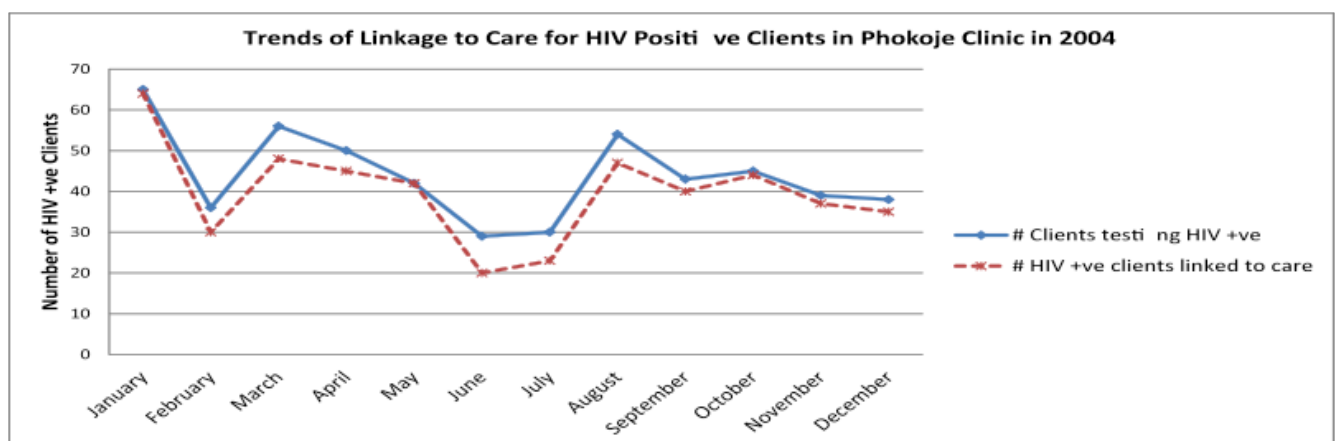
**Figure 3.12: Brainstorming process**

## Graphs

Graphs and charts are tools that are used to represent information for your visual analysis. You may already know that most people have the tendency to appreciate information more easily in graphical/visual form than in plain digits.

### a) Line graphs

A simple tool that uses a line to connect data points. You can use a line graph to observe trends or to determine whether two variables relate to/correlate with one another.



**Figure 3.13: Line graph**

### b) Bar graphs

A type of graph where the column/bar represents a measured value or frequency, with the height or length of the bar being directly proportional to the value. The x-axis represents data that is discrete, meaning entities that are distinctly separate from one another

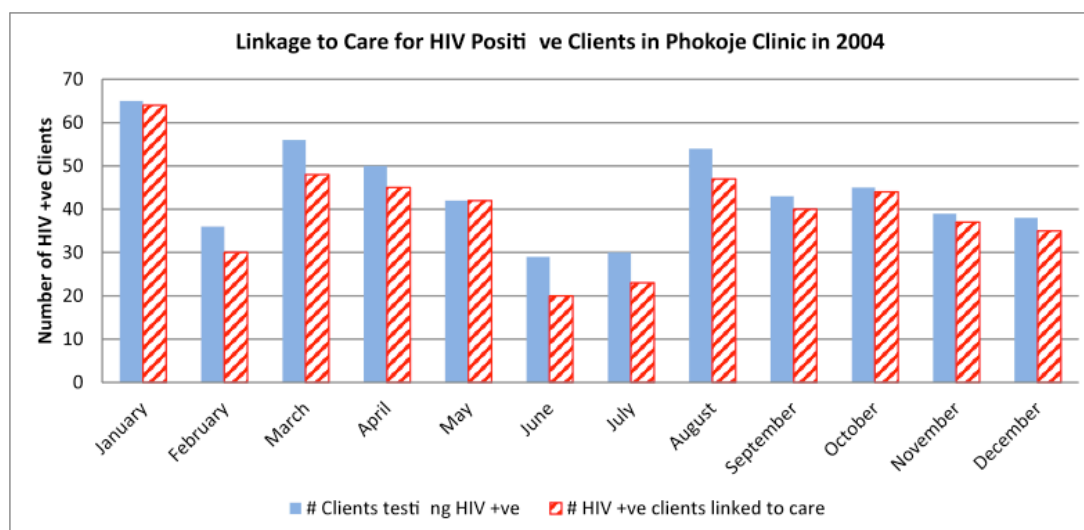


Figure 3.14: Bar/column graph



The table below shows HIV care data for Good health Clinic from week 13 to week 35. Week 22 corresponds to June 1, 2016 when Treat All was launched in Botswana. Prior to week 22 the eligibility criteria for initiation on treatment was CD4 <350 or WHO clinical stage 3 or 4; while from week 22 forward every HIV positive individual became eligible for initiation regardless of CD4 count or WHO clinical staging. The data represent new HIV positive cases identified (and verified after week 22) - (# New HIV+ve), new HIV positive linked to care (# New HIV+ve Linked to Care), and new HIV +ve initiated on treatment (# New HIV+ve initiated on ARV). Getwell district is striving to meet its 90-90-90 targets, where the first 90 refers to 90% of people living with HIV being identified and linked to care; second 90 referring to 90% of HIV positive people linked to care being initiated on ARV, and the third 90 referring to 90% of HIV positive people on ARV treatment achieving viral suppression.

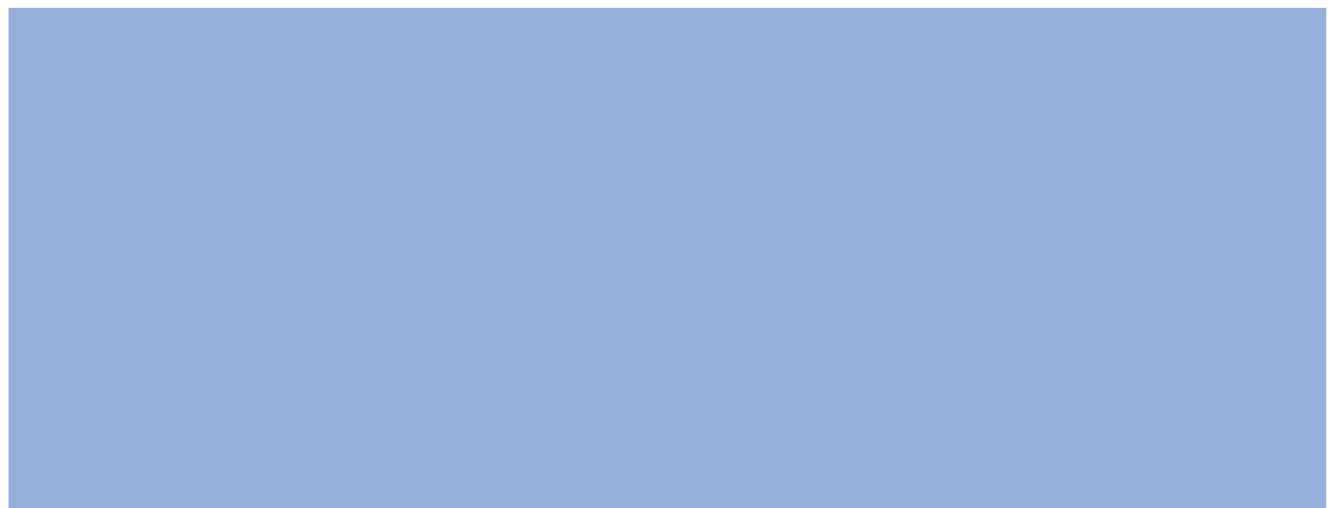
Table 3.11: HIV care data for Getwell district

	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	Week 32	Week 33	Week 34	Week 35
# New HIV+ve	103	173	222	170	136	93	129	159	175	266	362	446	546	488	394	430	505	699	689	712	955	890	669
# New HIV+ve Linked to Care	94	173	185	162	109	93	128	130	142	166	226	279	341	305	292	336	297	437	492	548	597	578	478
# New HIV+ve Initiated on ARV	65	133	151	123	134	89	121	137	132	124	144	179	251	210	242	233	147	309	251	297	388	433	310

- Construct a line graph comparing the two variables (# New HIV+ve and # New HIV+ve Linked to Care) in Table 3.11 above. Interpret what you observe on the graph



- Construct a column/bar chart comparing the two variables (# New HIV+ve Linked to Care and # New HIV+ve initiated on ARV) in the table above. Interpret what you observe on the bar chart



### **Pie charts**

**A pie chart is a circular graphical representation of data in slices of relative proportion.**

**It has the advantages of:**

- displaying relative proportions of multiple classes of data
- summarizes a large data set in visual form
- being visually simpler than other types of graphs
- being easily understood, requiring minimal additional explanation

Figure 7: Pie chart

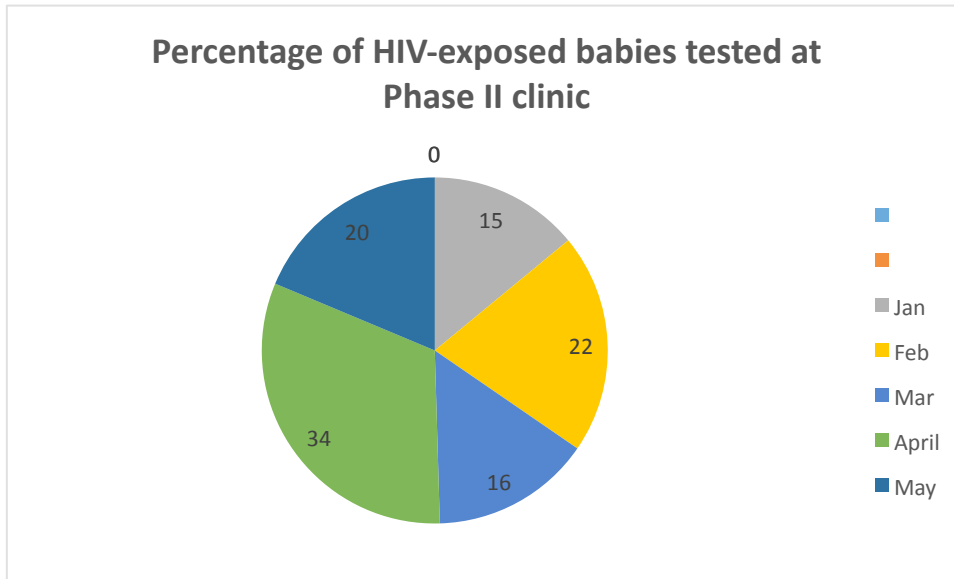


Figure 3.15. Pie Chart

**Run Charts**

Graphs of data over time are used to monitor behaviour of a variable for a process. The run chart has the advantage of being simple to create and maintain. Displaying data in a straight forward, easy to analyse manner.

**Parts of a run chart are:**

- The X-axis: Timeline
- The Y-axis: Values of variable
- Median line: Centremost value after arranging the data in ascending or descending order

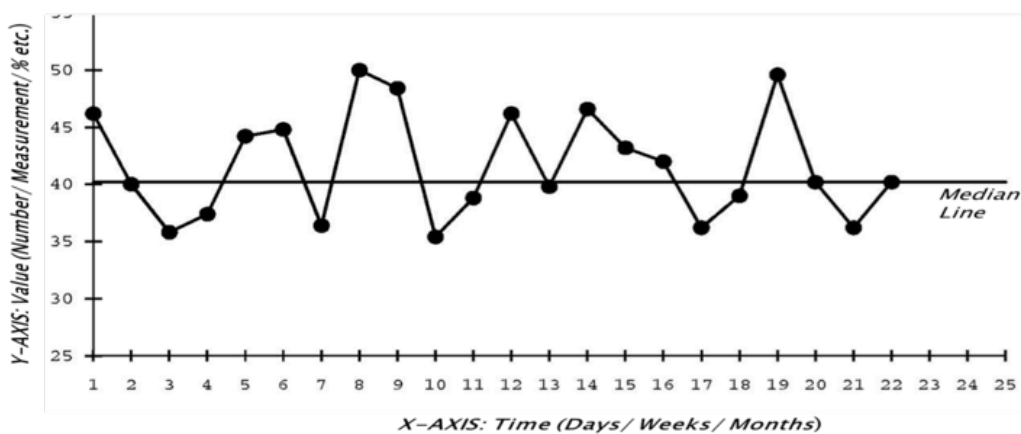


Figure 3.16: Run chart

**What to look for (refer to figure 17 below) – focus on trends, shifts, and astronomical data points:**

- Runs – Refers to the number of times the graph crosses the median line plus 1. It is more for statistical significance depending on the number of data points

- Trends – Refers to 5 or more points moving in the same direction upwards or downwards regardless of whether they cross the median line. A trend represents a consistent rising or falling in performance of the variable of indicator of interest.
- Shifts– Refers to 6 or more successive points on either side of the median line. A shift represents a consistent maintenance above or below the median in performance of the variable/indicator of interest.
- Astronomical data points– Refers to data points that are far away (outliers) on either side of the median line. They could represent an error in measurement or documentation, or could represent an abnormal change in the status of a programme or an individual's clinical condition

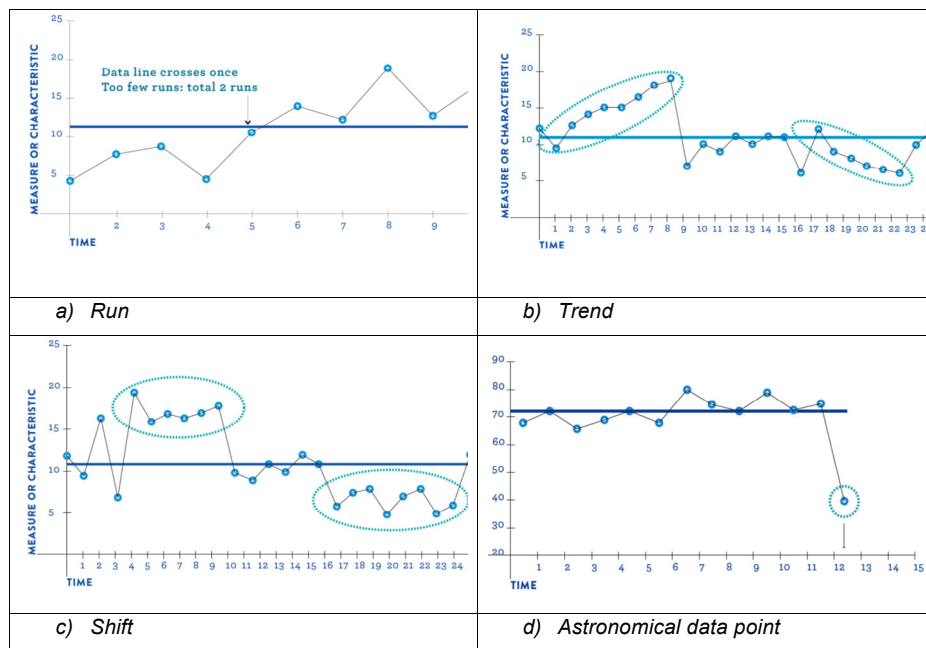


Figure 3.17: Interpreting run charts



The table below represents the variables from figure 6 have been used to develop two indicators namely: % New HIV +ve Linked to Care and % New HIV +ve initiated on ARV

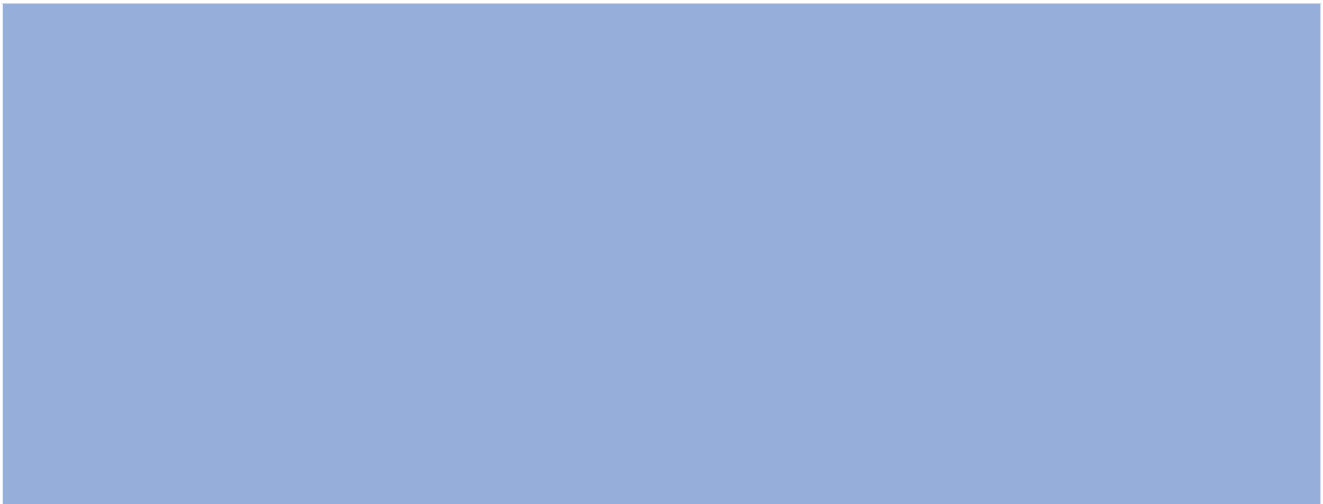
Table 3.12: Performance indicators for Getwell district

	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	Week 32	Week 33	Week 34	Week 35
% New HIV+ve Linked to Care	91%	100%	83%	95%	80%	100%	99%	82%	81%	63%	63%	63%	63%	63%	74%	78%	59%	63%	71%	77%	63%	65%	71%
% New HIV+ve Initiated on ARV	69%	77%	82%	76%	123%	96%	95%	105%	93%	75%	64%	64%	74%	69%	83%	69%	49%	71%	51%	54%	65%	75%	65%

- Construct run charts for each of the following indicators using data contained in figure 10 above:
  - o % New HIV+ve Linked to Care



- o % New HIV+ve initiated on ARV



- Describe and interpret what you observe on the run charts

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- From your graphs above and the run charts, what are the problems facing the HIV care programme in Getwell district

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### Root Cause Analysis:

Reflect back on the diagram at the beginning of this chapter. Now you have visualized your data and detected a problem/s.

Once you have a problem, the next thing you want to do is find out what the causes are, hence root cause analysis.

Root cause analysis is an approach for identifying underlying causes of a problem so that the most effective solutions can be identified and implemented.

### The tools that you are going to learn about are:

- Five (5) Whys
- Fishbone diagram
- Driver diagram

### Five (5) Whys

The 5 Whys is a simple tool that can be used during brainstorming with great flexibility for quality improvement. It applies an interrogative technique to explore the cause-effect relationship underlying a specific problem. :

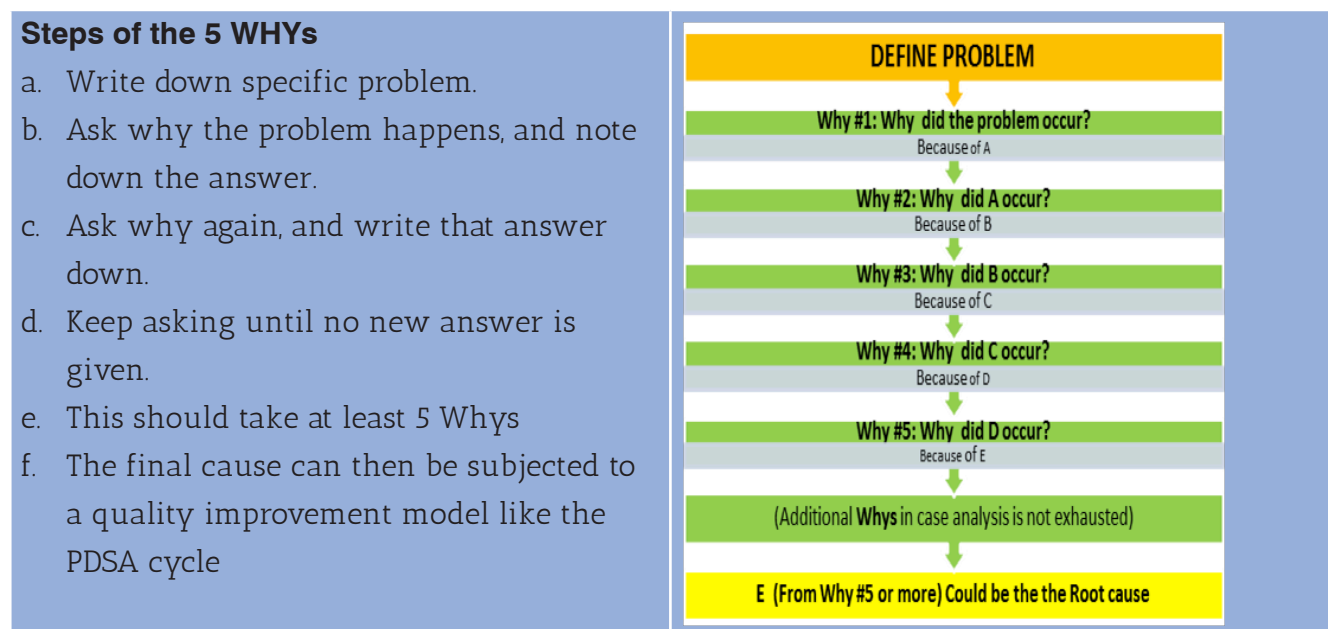


Figure 3.18: Five Whys process

**To conduct a root cause analysis, it is important to:**

- Individually or as a group brainstorm and list down all the possible causes of the problem within your institution/ facility.
- Categorize the listed causes under the categories in figure 19 below (5M3P)

**Manpower (Staff)** – Related to human resources and their skills

**Machines (Equipment)** – Laboratory equipment, weighing scales, autoclaves, X-rays etc.

**Management (Leadership)** – Related to functions like planning, resources allocation

**Measurement (Info/ M&E)** – Related to data processes, accuracy of measurement

**Materials (Commodities/ Drugs)** – Consumable items such as drugs, reagents, etc.

**Processes** – Related to flows, pathways e.g. client flow, procurement process

**Policy (Strategy/ Guidelines)** – Related to guidance/ decisions from headquarter level

**Patients (Clients)** – Refers to your customers who receive your services

**Figure 3.19: Systems categories for root cause analysis (5M3P)**

**Fishbone diagram**

Also referred to as the cause-effect diagram it is useful in performing root cause analysis, an important step in determining an existing problem prior to introducing solutions.

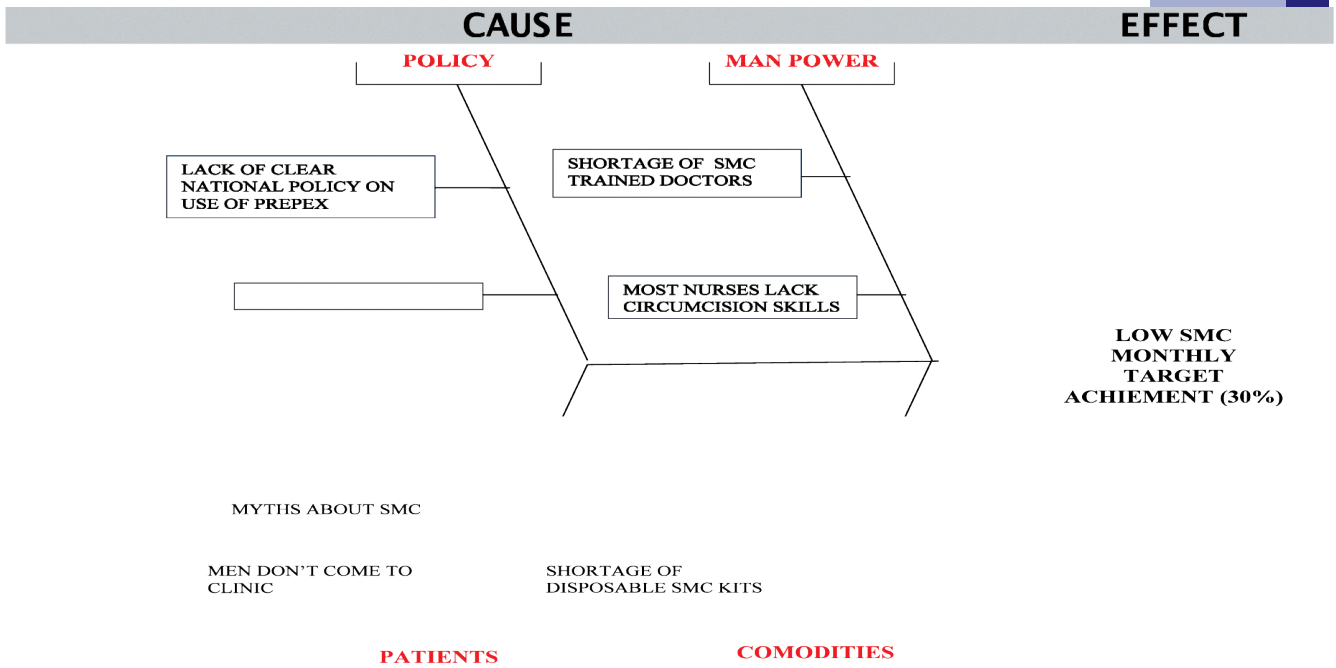
It helps you identify, explore, and graphically display in increasing detail all the possible causes related to a problem to discover its causes.

**Initial steps:**

- Take a piece of paper
- Brainstorm on and list all the possible causes of the problem at hand
- Categorize them as much as you can into the 5M3P as detailed in figure 19, grouping similar causes into their respective categories
- Proceed to develop the fishbone diagram

**Developing a Fishbone diagram:**

- Create a head for the fish, which lists the problem or issue to be studied.
- Create a backbone for the fish (straight line which leads to the head).
- Create primary spines from the backbone that will attach to a textbox related to primary causes – 5M3P
- Create secondary spines from the primary spine that will attach to a textbox related to secondary causes – the ones you listed down during brainstorming
- Continue breaking down each cause until the root causes have been identified.



**Figure 3.20: Fishbone diagram**



**Conduct a fishbone analysis of any of the problems you identified from the graphs and run charts you developed**

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**Driver diagram**

A strategic planning and analysis tool that breaks down an aim into the drivers that contribute to and the detailed actions that could be done to achieve the aim

Provides a pathway for change which identifies the types of interventions that can bring about the desired outcome

### Components of a driver diagram

- Aim Statement: What do you intend to achieve by addressing your problem?
- Primary Drivers: System factors that directly link to aim
- Secondary Drivers: Situation-specific factors that can form the basis for specific interventions
- Change Ideas

AIM	Primary Drivers	Secondary Drivers	Change Ideas
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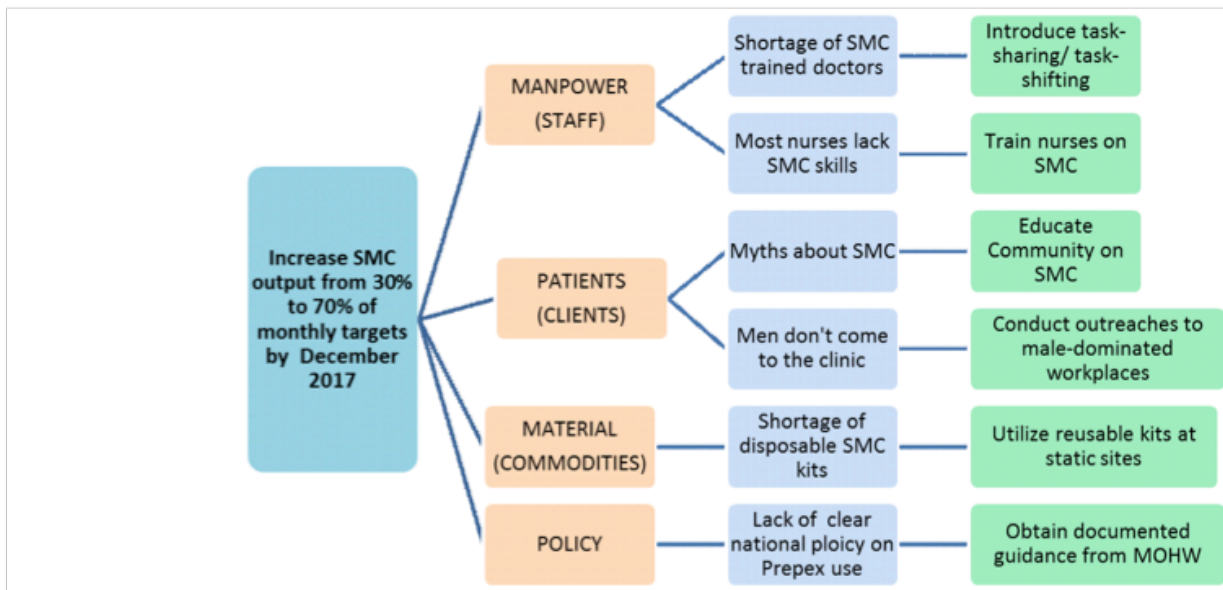


Figure 3.21: Driver diagram



Using the same problem for which you did a fishbone analysis for Getwell district, generate change ideas using a driver diagram



### Prioritization of change ideas.

Reflect back on the diagram at the beginning of this chapter. You have visualized your data and detected a problem/ problems; then you have done the root cause analysis of the problem and introduced change ideas; the next step is to prioritize your many change ideas in the order in which you want to test them.

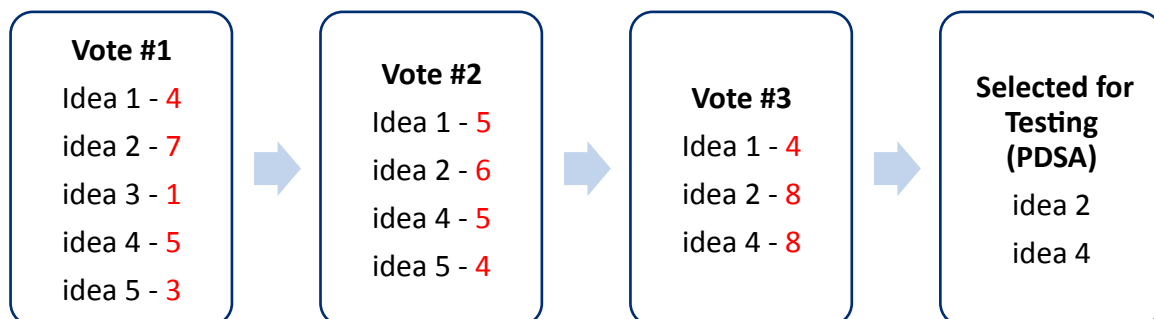
Prioritization is a process where you rank your change ideas in the order in which you intend to implement them based on specific criteria. There are many ways of undertaking this task, but we will confine ourselves to two straight forward methods:

### The tools that you are going to learn about are:

- Multivoting
- Prioritization matrix

### Multivoting

- A voting process that narrows a large list of possibilities through consensus to a smaller list of the top priorities or to a final selection
- Number all the change ideas you want to prioritize
- Let the content experts provide as much information to the multidisciplinary team on the change ideas prior to the voting process. This helps making the voting process objective rather than subjective
- Team members vote on the change ideas
- After the first round of voting, the change idea(s) with the fewest votes are eliminated
- Voting is repeated, each time eliminating change ideas with the fewest votes until the team reaches a manageable number of change ideas (see figure 22below)



**Figure 3.22: Multivoting process**

### Prioritization Matrix

Also known as Focus Matrix, it is a simple tool used for prioritization of change ideas. With this tool, you are to sort change ideas based on the following two criteria:

### Importance and Ease of implementation

#### How to use the matrix:

- Fill the matrix worksheet (figure 23)
- List your change ideas on column 2 so that each idea corresponds to an alphabet letter on column 1
- Score each idea for importance (1 – 5) on column 3, and for ease of implementation (1 – 5) on column 4. State any comments on column 5.
- Enter the alphabet letter representing change idea into the appropriate box of the

matrix diagram, that corresponds to the column of "importance" score and the row of the "ease of implementation" score (figure 24)

- Prioritize as guided by the matrix diagram from the bottom right (5,5) score moving backwards

**PRIORITIZATION MATRIX**

Note - Rank change ideas based on following criteria:

- **Importance Scale 1 – 5:** 1 (Least) – 5 (Most) important
- **Ease of Implementati on Scale 1– 5:** 1 (Hardest) – 5 (Easiest) to implement

SER	CHANGE IDEA	IMPORTANCE (1 – 5)	EASE OF IMPLEMENTATION (1 – 5)	COMMENT
A	Introduce task-shifting/ task-sharing	5	3	Buy-in from nurses required
B	Train nurses on SMC	5	2	Need to involve MOHW headquarters
C	Educate community on SMC	5	5	
D	Conduct outreaches to male-dominated workplaces	5	3	Need authorization from company management
E	Utilize reusable kits at static sites	4	4	Stop gap measure due to shortage. Daily autoclaving
F	Obtain documented guidance from MOHW	4	2	Policy documents might take long if not developed yet

Figure 3.23: Prioritization worksheet

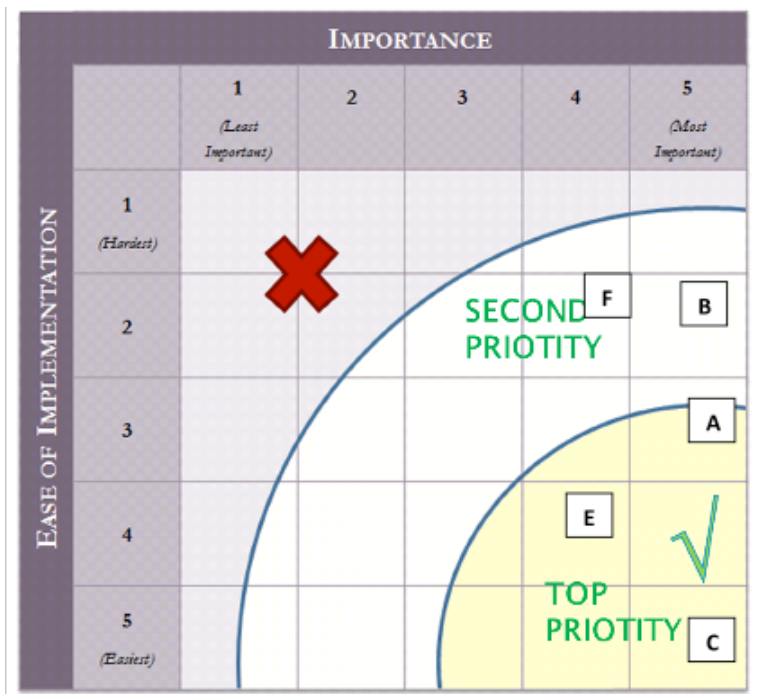


Figure 3.24: Prioritization matrix



Use a prioritization matrix to rank your change ideas based on the two criteria of "importance" and ease of "implementation". Explain the change ideas identified for testing using the PDSA cycle.

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### Quality Improvement Tools: Flow chart

A flow chart is a graphical representation of the sequence of workflow or processes. Flowcharts visualize the entire process from beginning to end. They show the sequence of events and highlight any duplicate steps or unnecessary tasks.

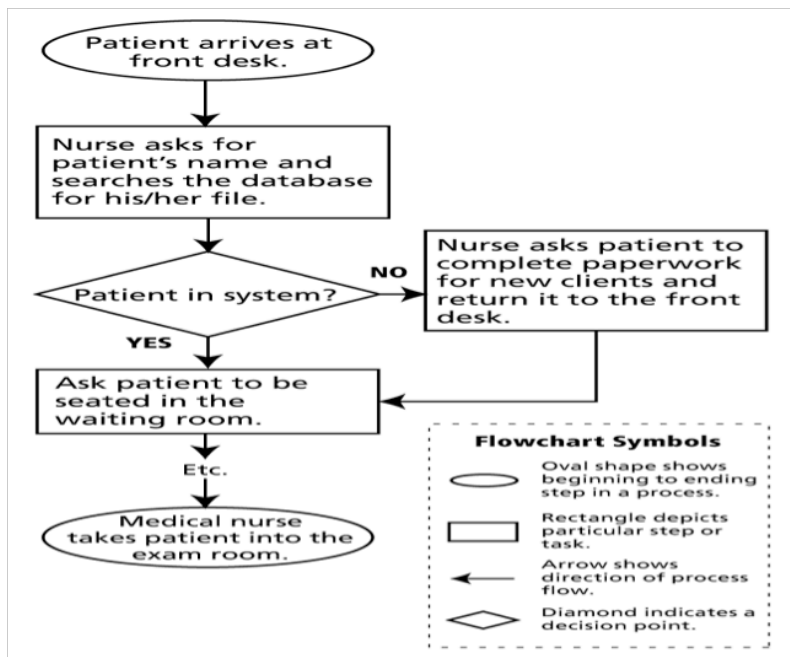
#### Uses of a flow chart

##### You will find a flow chart helpful in:

- Documenting processes occurring in your institution/facility
- Reviewing workflow for the purposes of removing duplication of efforts or bottlenecks and creating efficiencies in your organisation/facility
- Improving processes such as patient flow, patient care or data flow pathways
- Communicating your organisation workflow to other stakeholders

Flow charts vary in complexity from simple to complex depending on the process being evaluated.

The steps are represented by symbols containing a brief description of the process or activity. The steps are connected by arrows or other connectors which show relationships and direction of flow of the major components.



 **Figure 3.25: Flow (process) diagram**

This activity is designed to test your knowledge of the HIV care system in Botswana.

A client Modise comes to your clinic voluntarily for HIV testing. He is ultimately found to be HIV positive and a few days later is commenced on ARV medications.

- Draw a flow chart/process diagram illustrating Modise's journey from the time he arrives at your clinic to the time he is initiated on ARV medication.
  - o Remember to clearly show processes, decision points, and start/ end points. Use only the four symbols shown on the figure above (oval, rectangle, arrow, and diamond)



- Now select another work process from your facility and attempt to draw a process map for it.



## SUMMARY

### To summarize the topic, you have learnt:

- Brainstorming – benefits, rules, process and its use to input to other tools
- Use of graphs and charts to visualize data and detect problems
- How to perform root cause analysis using 5 Whys and Fishbone diagram
- How to generate change ideas using Driver diagram
- How to prioritize change ideas using multivoting and prioritization matrix
- How to do process or workflow mapping using a flow diagram



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Solve the Real Problem Using Root Cause Analysis. Grace Duffy, John Moran, and William Riley  
The Run Chart: a simple tool for learning from variation in healthcare processes. Perla J, Provost P and Murray K – BMJ Quality and Safety (2013)



## TOPIC 3

### 3.3.3 QUALITY IMPROVEMENT (QI) METHODS

#### INTRODUCTION

Quality Improvement methods are methods that systematically help you test change ideas prior to broader implementation.



#### OBJECTIVES

**After completing this topic, you will be able to:**

- Describe in detail QI Methods: Five (5) S, Lean and PDSA cycle
- Fill out the PDSA worksheet for implementing project using example data provided or data from your facility

There are many quality improvement methods currently in use in different settings. However, we will confine ourselves to the methods currently being used by the MOHW namely:

- Five (5) S method
- Lean method
- PDSA method

#### Five (5) S Method

A structured programme that systematically helps achieves organisation, cleanliness, and standardization within your workplace.

This is the Kaizen methodology that originated in manufacturing from Total Productive Maintenance (TPM) and Toyota Production System (TPS), and is currently widely used in healthcare

It consists of five steps that sequentially follow each other as illustrated in the diagram below (alongside their corresponding Japanese equivalents) namely:

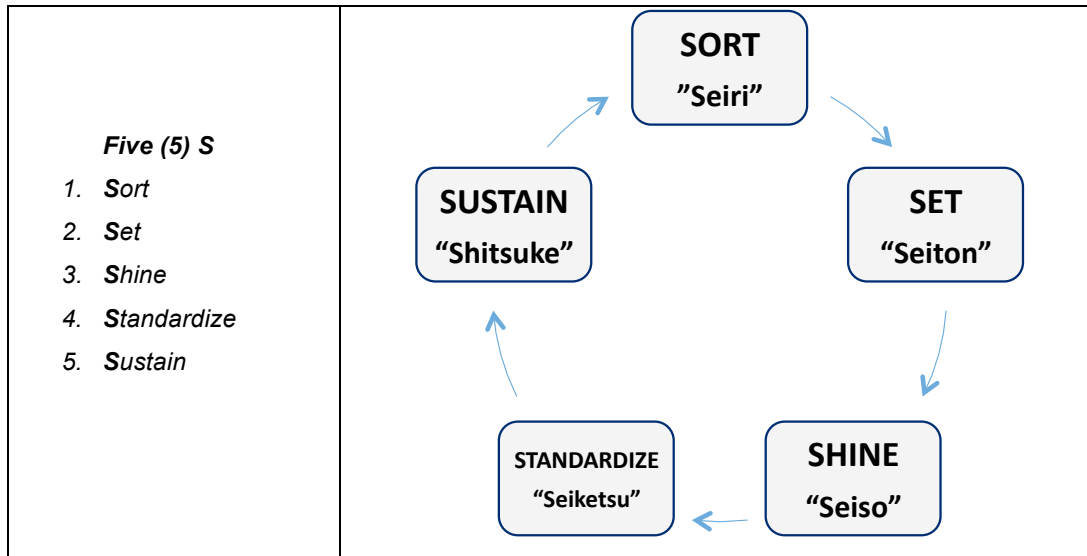
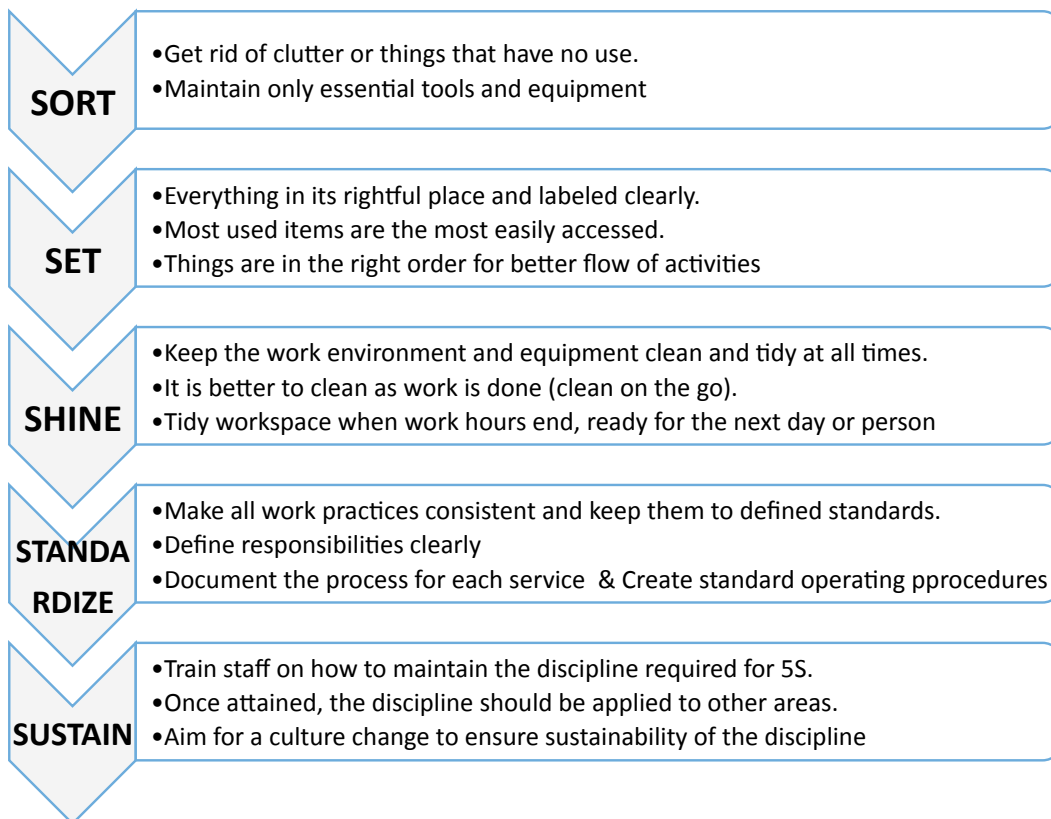


Figure 3.26: The F (5) S methodology

**Five (5) S steps described in detail:**



Five (5) S chart used at the MOHW

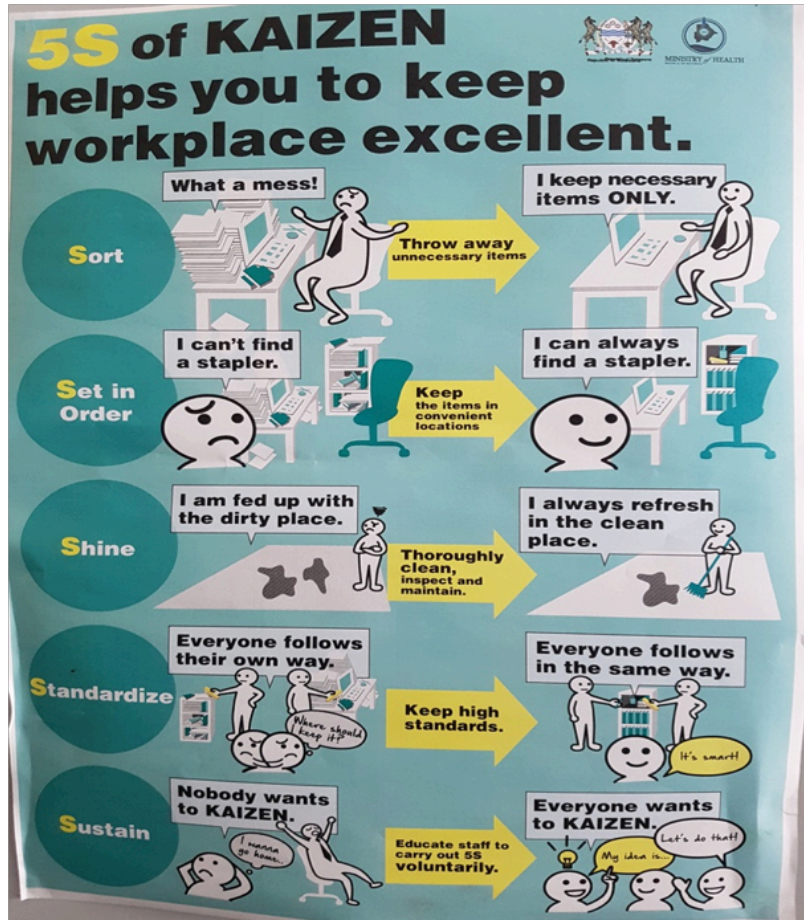


Figure 3.27: Five (5) S chart used at the MOHW



Take a moment to reflect on the 5S method. Where can you apply it within your organisation or facility?

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Some of the areas where 5S could be useful include:

- Personal working space: Imagine how it would be easy to access your day-to-day work items
- Documents storage: Imagine how it would be easy to retrieve documents/ records when required
- Procedure space: Imagine how efficiently you would handle emergencies in the operating theatre

**Lean Method**

A Quality Improvement method that focuses on reduction of waste in order to achieve value such as saved costs and other tangibles.

- It is about getting the right things to the right place, at the right time, in the right quantities, while minimizing waste and being flexible and open to change
- Has roots in manufacturing, principally from the Toyota auto group, and has also been applied to the healthcare industry.

The five principles are described below:

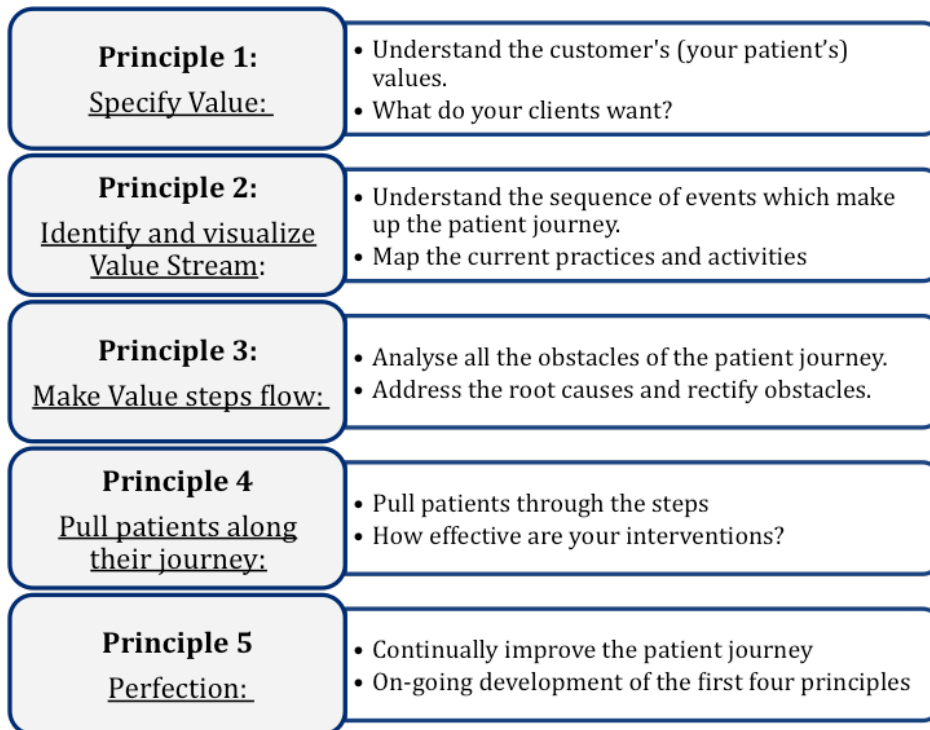


Figure 3.28: The Five Principles of the Lean Method

**Lean method**



Figure 3.29: The Lean Method



Take a moment to reflect on the Lean method. Where can you apply it within your organisation or facility?

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#### The Lean method can find utility in:

- Improving workflow processes:
- Patient flow between different service points
- Reducing service waiting times
- Eliminating duplicative processes

#### PDSA Method

The PDSA cycle is a widely used four-stage problem-solving model for testing change on a small scale as part of continuous quality improvement. It works in cycles that involve:

1. Planning (**P**)
2. Doing or trying (**D**)
3. Studying the results (**S**)
4. Acting on what is learned (**A**)



The change to be tested is one of the change ideas you generated using the Driver diagram. Can you recall the process of generating change ideas?

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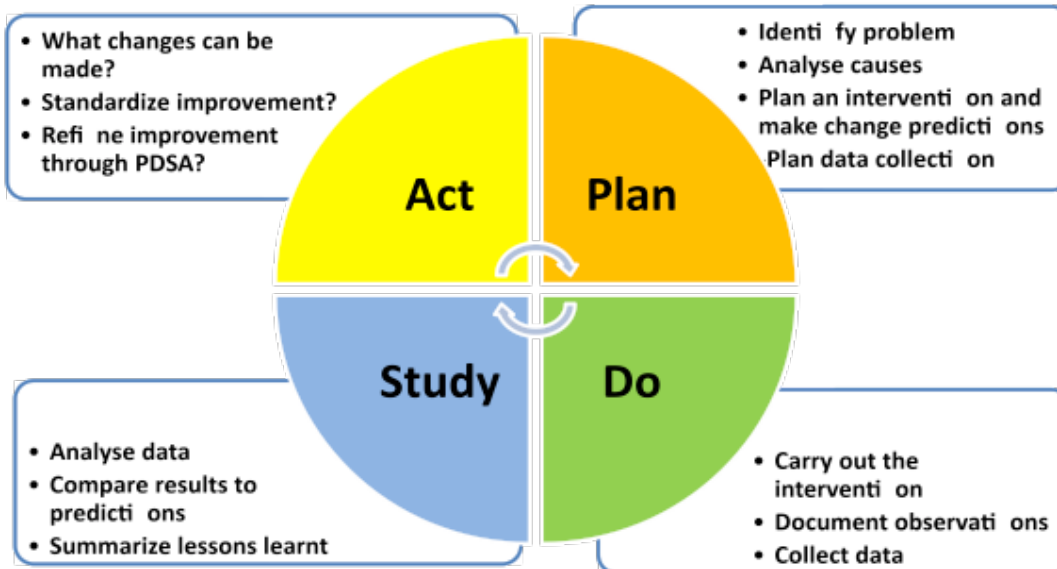
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- **Remember these processes from the QI tools section:**
  - Problem identification: Programme/survey data - Graphs, Run charts, flowcharts
  - Root cause analysis: Fishbone diagram
  - Change ideas: Driver diagram
  - Prioritization of change ideas: Prioritization Matrix

- **To effectively learn how to implement PDSA, you will need:**
  - PDSA worksheet (attached at the end)
  - Your documentation from the QI tools section for graphs/charts, Fishbone diagram, Driver diagram, and Prioritization matrix.



**Figure 3.30: PDSA Method Stages**

### Planning Stage:

#### Provide a background summary of the problem at hand

#### Develop an Aim Statement

- What do you want to do with your problem?
- Remember the problem for which you generated your change idea
  - If the problem was: Low initiation of HIV positive people on ARV
  - Then your Aim might be: Increase initiation of HIV +ve on ARV from XX (baseline – your low value) to YY (desired level) by defined time

#### Hypothesis/Prediction

- A hypothesis is a statement of prediction of the effect of your change idea without the benefit of data to back it up. It will be proven right or wrong after collecting and analysing the test data.
- Assuming your change idea is increasing the number of days that the ARV clinic operates in a week in order to address the increased number of HIV +ve people awaiting initiation on ARV, the hypothesis will thus be:
  - By increasing the ARV clinic days from 2 to 4 days (change idea) per week we expect an increase in HIV positive people initiated on ARV (Aim)
  - By "implementing the change idea" you expect to "achieve your Aim"



**Resource planning:****Plan for all resources required to implement such as:**

- Human resource
- Material resources
- Budgetary resources
- Time management

**Performance measurement****Plan how your test of change ideas will be measured:**

- Indicator selection
- Data collection/documentation
- Data analysis

**Do Phase**

- Implement the PDSA cycle
  - Perform tasks related to the activity (change idea)
- Collect data as per the schedule described in your PDSA worksheet
- Document progress and variable/indicator values using:
  - Paper
  - Excel spread sheet – Graphs/Charts

**Study Phase**

- Analyse data at set regular intervals
  - Visualize using graphs and run charts, etc.
  - Interpret your indicator values – what are they telling you?
- What is the progress towards achieving your objective (Aim)?
- How is your hypothesis/prediction turning out – based on data analysis?

**Act Phase****This is “Decision time” – use data from Study phase!!**

- Use data to explain whether objective/aim was achieved
- Use data to explain whether hypothesis/ prediction was answered

**What Next?? – The Decision!****One of the three decisions listed below will have to be made (based on data):****Adopt: Implement change idea on large scale**

- Data shows Aim was achieved with consistency  
**Adapt:** Refine change idea and test it again through the PDSA cycle
- Data shows progress towards achieving Aim but not at desired level  
**Abandon:** Discard the change idea
- Data shows no significant progress towards achieving Aim

**Summary:****To summarize the topic, you have learnt:**

- The Five (5) S method and its application in healthcare
- The Lean method and its application in healthcare
- The linkage between change ideas to be tested using the PDSA
- The PDSA cycle and its usage in testing change ideas
- Use of data to track PDSA implementation and make decisions

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## TOPIC 4

### 3.3.4 DEVELOPING AND IMPLEMENTING QUALITY IMPROVEMENT PLANS

#### INTRODUCTION

This topic will help you understand how to develop a quality improvement plan (QIP) including the need for individual organisations/facilities/districts to have a QIP. It details the elements necessary for the successful development and implementation of an organisational quality improvement plan.



**After completing this topic, you should be able to:**

- Explain the importance of a QI plan in quality management
- Describe the components of a quality improvement plan
- Develop a quality improvement plan for your organisation/facility or district



**Take a moment to attempt the following task before you read the next section.**

In your own words, explain what a quality improvement plan is. How would it help you in your QI work?

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Congratulations if your response included something like a work plan for quality improvement that includes among others QI team members, their tasks, responsibilities, training plan, communication plan, summary of activities and timelines. Now, read what follows and compare with the answer you gave.

## Quality Improvement Plan Definition

A QI plan is a detailed and overarching organisational work plan for a health care organisation's clinical and service quality improvement activities. It includes essential information on how your organisation will manage, deploy, and review quality throughout the organisation.

## Components of an effective Quality Improvement Plan

In order to develop an effective QI plan, you will need to include the following key components:

- Organisation's **Mission, Vision and Values**
- Describe the **Organisational Systems** needed to implement the programme
- Definition of **key quality terms/concepts (Definition of terms)**
- Organisation's **QI Programme Goals and Objectives**
- **Performance Measurements and Analysis:** and how it will help define future QI activities
- **Data Collection Plan:** describe how you will collect data, manage, and monitor your QI plan
- **QI methods** to be utilized.
- **QI tools** to be used
- **Training Plan:** Describe the training and support for staff involved in the QI processes
- **Communication plan** of planned QI activities and processes
- **Evaluation Plan:** Description of evaluation/quality assurance activities
- Summary of **QI Activity work** plan

## DEVELOPING A QUALITY IMPROVEMENT PLAN

To develop a quality improvement plan, you should:

- a. Organisation's **Mission, Vision and Values**
  - A **Mission** is a written declaration of an organisation's core purpose and focus that normally remains unchanged over time. Properly crafted mission statements:
    1. Serve as filters to separate what is important from what is not,
    2. Clearly state which markets will be served and how, and
    3. Communicate a sense of intended direction to the entire organisation.

**Example:** To promote and provide integrated, holistic and sustainable preventative, curative and rehabilitative quality service to the nation
  - A **Vision** is an aspirational description of what an organisation would like to achieve or accomplish in the mid-term or long-term future. It is intended to serve as a clear guide for choosing current and future courses of action

**Example:** A healthy nation by 2023

A Mission is different from a Vision in that the former is the cause and the latter is the effect; a mission is something to be accomplished whereas a vision is something to be pursued for that accomplishment.

- o **Values** are principles or standards that govern behaviour of an organisation; one's judgment of what is important in life. Some examples of values include
  - Botho
  - Timeliness
  - Customer focus
  - Equity
  - Teamwork
  - Accountability
  
- b. Describe the **Organisational Systems** needed to implement the programme; that is, the support structures of the organisational systems and these may include:
  - Facility/ DHMT QI team
  - Roles and responsibilities (not job description: but roles as the Chair, Secretary, member, etc., of the QI team)
  - Collaborating stakeholders and their scope of work
  - Partners
  - Community organisations
  - Other entities
  
- c. Definition of **key quality terms/concepts (Definition of terms)**- the QI team selects and defines key terms used in the QI plan
  
- d. Organisation's **QI Programme Goals and Objectives-**
  - **Goals are general intentions towards the attainment of something**  
**Example:**
    - i. To improve child survival and development through reduction of HIV-related morbidity and mortality
    - ii. To reduce HIV-related morbidity and mortality
    - iii. To achieve epidemic control by December 2020
  
  - **Objectives are usually precise targets set for a short term;**
    - i. Specific results that a person/system aims to achieve within a timeframe and with available resources
    - ii. Needed to successfully achieve the goal.
    - iii. The objective(s) need to be SMART (Specific, Measurable, Achievable, Relevant and Time-framed) or CREAM (Clear, Relevant, Economic, Adequate, Monitorable).**Example:**
    - To initiate 100% of HIV+ patients on ART during the reporting period
    - To increase initiation of HIV+ patients on ART from 22% to 95% by 30 September 2017
    - To retain all HIV+ patients on ART in care by 31 March 2017

- To maintain viral suppression of HIV+ patients on ART to less than 1% by 31 March 2017
- e. **Performance Measurements and Analysis:** - it is critical to develop relevant indicators that will determine how objectives will be measured. In addition there has to be a definition of indicators, how they are calculated, disaggregated (age, sex, etc.) as well as defining the measurement population including eligibility criteria. Lastly, Performance measurement and analysis requires a clear analysis plan that will further show or indicate the method of data analysis that will be used (for example, using excel, SPSS, STATA etc.).
- f. **Data Collection Plan:** the data collection plan describes how you will collect, manage and monitor your data. Duration/frequency of monitoring indicators (monthly, quarterly, annually etc.), will determine the frequency of data collection and this needs to be clearly captured/documentated. It is also important to state the data collection methods (for example; Client Exit surveys, Interviews, Observation, Questionnaires.
- g. **QI methods-** the QI plan should include a description and the purpose of the QI methods to be utilized. The table below gives an example of some of the methods and their purposes:

**Table 3.13. QI Methods and their purposes**

QI Method	Purpose
PDSA	For Small Test of Change (STOC) - Testing projects implementation and progress
5S	Organisational cleanliness and standardization within the work place
LEAN	Reduce waste

h. **QI tools – your QI plan should clearly describe the selected QI tools including their purpose. An example is given below:**

QI Tool	Purpose
Graphs, Charts (Bar, Histogram, Pie, Line)	Visualizing data
Driver, Fishbone diagrams	Root-Cause Analysis, Change-Idea Generation
Multi-voting, Decision Matrix tools	Prioritization

- i. **Training Plan:** describes the training and support for staff involved in the QI processes.

**The training plan should clear the following:**

- Type and name of Training- it is important to list the names and types of all the required relevant trainings; for example

- a. Didactic training: PMTCT Basic training
  - b. On-site mentoring: Review of SRH registers
  - c. Updates/refresher workshops: Treat All guidelines
- **Target Population**- each training should explain its target population; technical (nurses, doctors, pharmacy, laboratory etc.) or non-Technical (Health Care Assistants, Lay Counsellors, General Duty Assistants etc.)
  - **Duration**- duration of each training should be included
  - Resources needed -lastly it is important to specify the resources, whether financial, human, etc., that will be required as well as the possible institutions to provide the required resources. For example, a facility may not have facilitators and venue for a required and planned 3-day PMTCT training, hence it seek support from BUMMHI. This needed support should therefore be reflected under this section of the training plan.
- j. **Communication plan** – during implementation and monitoring of the QI plan through implementation and monitoring of QI projects, it is important to state how communication on Quality management will be happening within and beyond an organisation and should answer Who, What, How, When and How.

The table below provides further guidance on the information above:

**Table 3.15 Communication Plan information required**

Area of Communication	Comment
Target audience ( <b>Who</b> )	Internal: facility staff, QI team, Partners External: DHMT, Stakeholders
Content ( <b>What</b> )	Project Performance- SURGE, FEDISA projects Small Test of Change (STOC) - progress
Method of Communication ( <b>How</b> )	Face-to-face meetings Email Written reports Others
Frequency of Communication ( <b>When/ How Often</b> )	Daily Weekly Monthly Quarterly Annually
Purpose (Why)	Progress update Review of data Programme review Others

- k. **Evaluation Plan** - Programme evaluation involves carefully collecting information about a programme or some aspect of a programme in order to make necessary decisions about it. When conducting a programme evaluation it is critical to consider some of the key components that include needs assessment, effectiveness, efficiency, processes, outcome and cost-benefit of the evaluation.

### Importance of Programme Evaluation

- Helps you understand or verify the impact of products or services on customers or clients
- Identifies programme strengths and weaknesses for improvement purposes
- Verifies if the programme is really running as originally planned.
- Produces data or verifies results that can be used for public relations and promoting services in the community.
- Produces valid comparisons between programmes to decide which should be retained, e.g., in the face of pending budget cuts (Priorities).
- Fully examines and describes effective programmes for duplication elsewhere (Good/ Best practice documentation)

### Programme evaluation therefore should consider:

- **Who** – who does the evaluation. Evaluation can be done internally and externally  
**Internally:** it can be done to assess the overall upkeep of the programme or project prior to the external one. It may therefore be planned and led by the organisation manager or the QI chairperson or anybody appointed to lead it internally.  
**Externally:** programme evaluation may be done by an external person to assess different areas as discussed under the importance of programme evaluation. It may therefore be led by the DHMT, MoHW headquarters, funding partner etc.
  - **What** – specific area to evaluate
  - **How** – how evaluation should be conducted or processes required/involved
  - **When or how often**–frequency of evaluation
- l. Summary of **QI Activity work** plan gives a snapshot of all the activities planned under each objective. The activities therefore should be written under each objective with the name of the responsible officer (actual name not designation) as well as the timeline for completion of the activity.



This is a practical activity, which requires that you to apply the knowledge acquired from this session to develop a draft QI plan for your organisation. It is recommended that you go over the information before embarking on the activity. When done, compare your plan with that of a colleague.





**To summarize the topic, you have learnt about:**

- The importance of a quality improvement plan in the planning and implementation of quality improvement activities in an organisation
- The key components of an effective quality improvement plan
- How to develop a quality improvement plan

**UNIT**  **3.4**

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**DATA MANAGEMENT**

## INTRODUCTION

This unit introduces you to the practice of data management right from extracting data from their sources, transmitting, creating, housing, maintaining, archiving and preserving them. The unit will also introduce you to the concept of monitoring and evaluation of programmes, a process which is data dependent and whose outcome is dependent on the quality of data collected as determined by their attributes.



**Upon completion of this unit, you should be able to:**

- a. Apply the principles of monitoring and evaluation in tracking health programmes
- b. Describe in detail the process of data management
- c. Explain comprehensively the importance of data dissemination and usage

## UNIT READINGS

**To help you gain knowledge of the unit, the following reading resources are recommended:**

1. The National Health Monitoring and Evaluation Plan 2014 -2019
2. National Health Data Management Policy 2014



# TOPIC 1

## 3.4.1 MONITORING & EVALUATION FUNDAMENTALS

### INTRODUCTION

This topic will provide you with a basic background on monitoring and evaluation (M&E) concepts and processes. Regular assessment and monitoring of activities are essential components of any effective programme in order to enable you to establish its trends and measure changes brought about by interventions. In order to track implementation progress towards the programme goal, you will need to have a sound monitoring and evaluation system.



**After completing this topic, you should be able to:**

- a. Demonstrate knowledge on M&E in the context of project/programme management.
- b. Explain the rationale for carrying out M&E activities in projects/programmes.
- c. Track and monitor indicators that effectively identify progress toward project outcomes.

### CONTENT OUTLINE

- Overview of monitoring and evaluation.
- Rationale for Monitoring and Evaluation
- Performance Indicators.

### OVERVIEW OF MONITORING & EVALUATION

**Monitoring and Evaluation (M&E) of programmatic activities provides you with information for:**

- a. Learning from past experience
- b. Improved service delivery
- c. Planning and allocating resources
- d. Demonstrating results as part of accountability to key stakeholders

In executing the M&E functions, you will have to focus on the performance indicators. These indicators can be at the different levels of objectivity hierarchy i.e.

- Impact – Outcome - Output - Activity - Input

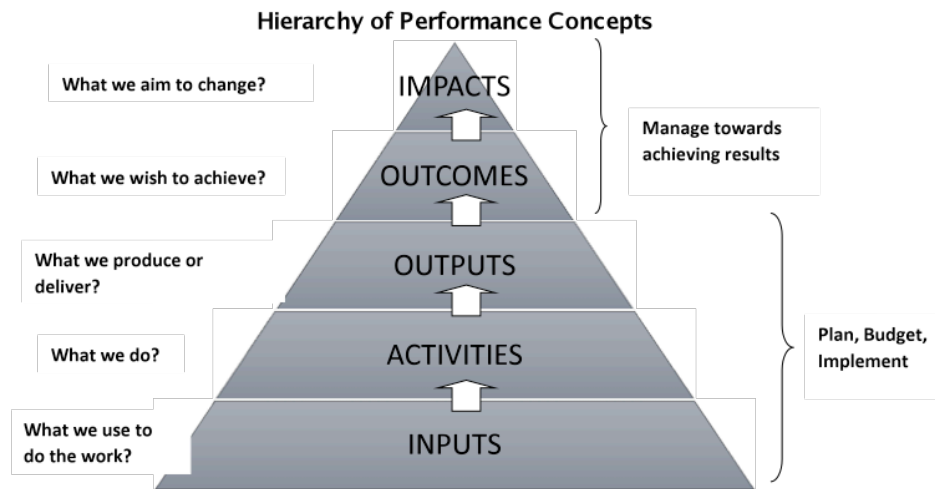


Figure 3.31 Hierarchy of Performance Concepts

### The Power of Monitoring and Evaluation

#### The Power of Measuring Results:

- If you do not measure results, you cannot tell success from failure
- If you cannot see success, you cannot reward it
- If you cannot reward success, you are probably rewarding failure
- If you cannot see success, you cannot learn from it
- If you cannot recognize failure, you cannot correct it
- If you can demonstrate results, you can win public support

#### Programmatic application of Monitoring and Evaluation

Monitoring and evaluation (M&E) is key to tracking service delivery performance. It helps in Identifying programme weaknesses and strengths, areas that need revision and areas that meet or exceed expectations.

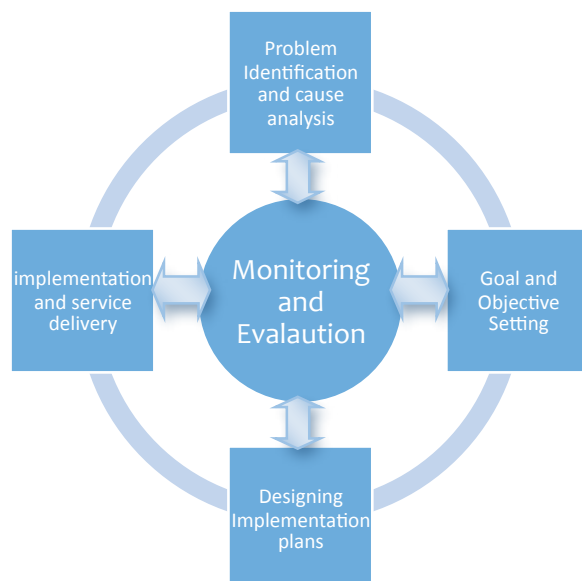


Figure 3.32 How M&E fits in a programme management cycle



**In your own words explain with examples the difference between monitoring and evaluation.**

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If you explain that monitoring involves tracking, an on-going activity, and enables you make decisions as you go; and that evaluation is a periodic process to assess the big picture gains or progress then you are on the right track. Now read on to get a better understanding.

**Table 3.16. Differences between monitoring and evaluation.**

Monitoring	Evaluation
<p>Monitoring is an integral part of day-to-day operational management to assess progress towards achieving the programme objectives.</p> <ul style="list-style-type: none"> <li>• It involves the tracking of inputs, processes, activities, outputs and outcomes against defined indicators, and helps identify areas for intervention.</li> <li>• It supports effective management through reports on actual performance against what was planned or expected.</li> <li>• Monitoring tools are used for early identification of problems and the solving of these problems as and when they occur.</li> </ul> <p><b>Example 1</b></p> <p>Within the SMC project, information on male circumcision is generated on a daily basis, hence the team uses this information to monitor if the project is performing according to the set targets and objectives. If the project intends to circumcise 20 men a week, and instead performs 15 circumcisions a week that simply indicates that the project is not reaching the weekly target. Such information is useful in informing, planning and improving SMC project delivery.</p>	<p>Evaluation is a systematic assessment of the strengths and weaknesses of the design, implementation and the results of completed or on-going interventions. It is a decision-making tool to be incorporated into the planning cycle and the performance management of government</p>

**Table 3.17 Monitoring Versus Evaluation**

Attributes	Monitoring	Evaluation
<b>Definition</b>	A planned, systematic process of observation that closely follows a course of activities, and compares what is happening with what is expected to happen (planned vs. actual) i.e. Looks at inputs, processes, activities and outputs.	A process that assesses an achievement against pre-set criteria. Has a variety of purposes and follows distinct methodologies (process, outcome and performance) i.e. Looks at relevance, effectiveness, cost effectiveness and impact.
<b>Main focus.</b>	Collecting data on progress	Assessing data, critical stages of the process.
<b>Sense of completion.</b>	Sense of progress	Sense of achievement
<b>Main Question.</b>	Present	Past - future
<b>Attention level</b>	Details	Bigger picture
<b>Inspires</b>	Motivation	Creativity
<b>Periodicity</b>	Continuous throughout the whole process.	Intermittent; at the beginning or end of significant milestone
<b>Supports</b>	Implementation of a plan	Designing the next planning cycle
<b>Skills required</b>	Management	Leadership
<b>Output processing</b>	Progress indicators needs to be closely monitored by a few people	Evaluation results need to be discussed, processed and interpreted by all stakeholders.

### Linking M&E to Overall Project/Programme

**This leads to managing results and managing results has four elements:**

- Guiding the project/programme strategy towards achieving impact,
- Ensuring effective operations,
- Creating a learning environment and
- Setting up and using the M&E system



This linkage can be illustrated as below:



Figure 3.33 The Project Strategy



#### Note that:

- The project strategy (the plan which will be achieved and how it will be achieved) is the starting point for project implementation and setting up the M&E system.
- The strategy is the basis for working out the project operations required to implement activities efficiently and effectively.
- The completion of project activities leads to a series of actual outputs, outcomes and inputs.
- Comparing the actual outputs, outcomes and impacts with what was planned in the project strategy and understanding the differences in order to identify changes in strategy and operations is a core function of the M&E system.

In this session, you learnt about monitoring and evaluation in terms of definitions, their differences and application in programme/project management.



#### Key uses of M&E information

Listed below are four broad categories of applying M&E within the public sector.

1. M&E can support budgeting and planning processes when there are often many competing demands on limited resources – in this way M&E assist in setting priorities. Terms that describe the use of M&E information in this manner include evidence-based policy making, results-based budgeting, and performance-informed budgeting.
2. Organisational policy development and policy analysis as well as in-programme development.

3. M&E aid programmes to manage activities better. This includes service delivery as well as the staff performance management.
4. Enhances transparency and supports accountability by revealing the extent to which programme/project attains its desired objectives.



**M&E is only valuable if the information is appropriately used!**

**Indicators**



1. Define an indicator and discuss the characteristics of a good indicator.
2. Once you have completed your individual assignments, share and discuss your answers as a group before we all discuss them.

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If you mentioned that it is something which shows you the direction that your programme is going, that it must be specific, reliable, timely and other related terms, than you are on the right track. Please read and discuss further.

**Indicator Definition**

**An indicator** is a variable that measures one aspect of a programme/project that is directly related to the programme/project's objective. It is a standardized measure of change that allows:

- A comparison among projects/programmes.
- A comparison among countries.
- A comparison between different time periods

Indicators help you measure progress toward achieving your programme goals. By helping you understand the performance of your programmes, they act as a basis for action plans.

**Performance Indicators**

**What are Performance Indicators?**

- Performance indicators are measures of inputs, processes, outputs, outcomes, and impacts for projects/ programmes.
- When supported with sound data collection and management system, they enable managers to track progress, demonstrate results, take corrective action to improve service delivery, and make programmatic decisions

### Characteristics of a good indicator

These can be summarized by the acronyms SMART (Peter Drucker, 1954) and CREAM (Schiavo-Campo and Tommasi, 1999)

SMART	Description	CREAM
<b>S</b> pecific	Precise and Unambiguous	<b>C</b> lear
<b>M</b> easurable	Appropriate to the subject	<b>R</b> elevant
<b>A</b> chievable	Of a reasonable cost	<b>E</b> conomic
<b>R</b> elevant	Serve to assess performance	<b>A</b> dequate
<b>T</b> rackable	Easy to validate or verify	<b>M</b> onitorable

### How to determine Indicators to track?

The guiding principle is the vision, mission, goal, objectives and the interventions that you are pursuing.

### The following questions can however help you to determine measurable indicators:

- What are we aiming to achieve?
- What strategies are we going to adopt?
- What interventions are we going to execute?
- What resources do we need?
- How will we know we have achieved it?
- What would be considered effective?
- What would be a success?
- What change is expected?



## TOPIC 2

### 3.4.2 DATA AND DATA MANAGEMENT

#### INTRODUCTION

The goal of this topic is to highlight the important role of effective data management in improving performance of health care systems. That is, to improve the capacity of health facility staff to collect relevant, quality data, analyse, manage and use them to improve the quality of health care in Botswana. The session also aims to harmonize approaches to data management and quality improvement. This topic illustrates the basic concepts of data management, it explores the nature of data as a resource, defines the data management terminology, and describes tools and techniques that are available for the management of data.

**After completing this topic, you should be able to:**

- a. Govern the collection, transfer and analysis of health data.
- b. Define roles and responsibilities in health data management
- c. Improve timely, complete, accurate reporting, dissemination and feedback
- d. Organize, secure and back up health data and other related documents

#### DEFINITION OF TERMS

**Before you read further, do attempt the activity below as instructed.**



**Step 1:** Take a piece of paper

**Step 2:** What comes to mind when you think of the following words:

1. Data
2. Information
3. Knowledge
4. Management

**Step 3:** Write what comes to mind on that piece of paper. Write as much as you can think.

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**Step 4:** Mark for yourself. If you have the following on your list for:

**Data Information Knowledge Management**

- Statistics                      Material                      Familiarity                      Administration
- Facts                              Evidence                      Awareness                      Supervision
- Figures    Understanding                      Managing
- Numbers    Controlling
- Records
- Documents
- Files

**Data** - is a collection of facts, such as numbers, words, measurements, observations or even just descriptions of things. Can also be described as a set of values of qualitative or quantities variables such as the number of people tested for HIV or the proportion of the population living a healthy lifestyle. Data can be referred to as the distinct pieces of information, usually formatted in a special way. Data can exist in a variety of forms –as numbers or text on pieces of paper, as bits and bytes stored in electronic memory, or as facts stored in a person's mind.

**Data Set** - a defined collection of data with common elements related to a specific function.

**Data Dictionary** – is a file that defines the basic organisation of a database, containing a list of all files in the database, the number of records in each file and the names and types of each field.

**Data Management Framework** - the organisational structure in place to manage the MoHw's data assets

**Data Governance** - is a set of processes that ensures that important data assets are formally managed throughout the enterprise. Data governance ensures that data can be trusted and that people can be made accountable for any adverse event that happens because of low data quality. It is about putting people in charge of fixing and preventing issues with data so that the health service delivery can become more efficient. Data governance also describes the implementation of MoHw health data management policy process and the way of thinking and setting up the processes to handle information so that it may be utilized by the entire

organisation. It's about using technology where necessary in many forms to help aid data management processes.

**Data Quality** – is the accuracy, completeness, validity and integrity of data

**Data Custodian** – an official charged with responsibility for all aspects of MoHw data assets.

**Data Steward** – is the leader of a service unit, or other Official, responsible on behalf of the MoHw for the collection, management and use of data. It is a person responsible for the management of data elements. Data stewards have the responsibility of implementing the organisation's data management policy.

**Data Originator** – is a person who creates data, either as a primary activity (e.g. a researcher conducting a survey), or as a by-product of a primary activity (e.g. a clinician or laboratory technician completing a tally sheet, register or medical record).

**Data Coordinator** – is a facility-based person (whether in a clinic, hospital, laboratory, research institute, etc.) who is responsible for the collation of data from various data originators and for the initial data quality checks and corrections, before the data is transmitted to the next level. Depending on the facility, there may be more than one Data Coordinator.

**Data Manager** – is the person responsible for the operational management and processing of the data in an information system who has detailed knowledge and experience in the operational management and use of specific data sets and their structures, capture, administration, processing and reporting.

**Data User** – is an individual authorized to access and use data

**Information Management System** - a computer system used to gather, store, structure, secure, process, combine and filter data into information and that makes that information available on time and in a useful form for users and MoHw requirements.

### **Data Management Processes**

**It is critical to manage the data for some of the reasons outlined below:**

- Increases the impact and visibility of programmes;
- Enhances programme improvement; and validation of programming methods
- Enhances collaboration between data users and creators;
- Maximizes transparency, integrity and accountability
- Enables scrutiny of programme findings and increases your programme efficiency
- Preserves your data and reduces cost of duplicating data collection
- Provides important resources for education, training, and research.
- Enhances compliance with programme and funder requirements

In quality improvement (QI), managing data is an essential part of performance improvement.

**Data management involves the four steps listed below:**

- a. Collecting data
- b. Tracking data
- c. Analysing and interpreting data
- d. Acting on data

**Collecting Data**

A programme must configure its systems so data elements are collected exactly the same way over time. This approach ensures accurate and credible data for quality improvement and avoids a team's wasted efforts on manual activities and reconfiguring its systems. A successful approach to reliable data collection includes proven tools, techniques, processes, and frameworks, and often involves automating parts of the data collection process, if feasible. At minimum, a programme team should develop a well-documented plan with detailed steps for collecting each data element. An effective data collection plan includes the following details for each measure:

- Name of the measure
- Denominator detail with inclusions and exclusions
- Data source for the denominator and includes any specific queries to be run or report parameters that must be entered
- Numerator detail with inclusions and exclusions
- Data source for the numerator and includes specific queries to be run, manual steps, or specific sampling parameters
- Identifies who collects each data element and calculates the measure
- Calendar of measure-performance reporting, e.g., weekly, monthly, etc.

**Tracking Data**

When the performance is calculated, the programme team then decides how often to monitor it. As a general rule, a programme team that is actively making changes to systems of care monitors performance frequently. The following guidelines are suggestions that a team may use for determining performance measurement frequency:

1. Weekly
2. Monthly
3. Annually

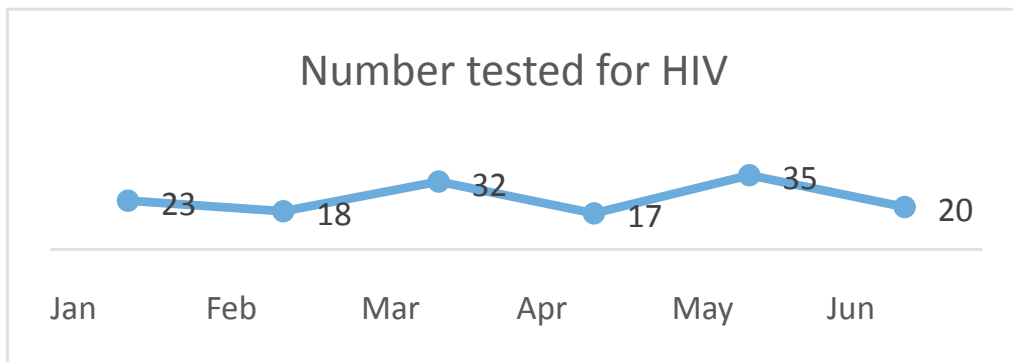
As a programme team makes changes in its systems of care, the performance measurement data reassures the team that changes are resulting in improvement. Because improvements are added periodically, measuring performance over time is important. Most programme team's schedule some time on the monthly team meeting agenda to review the data and share their findings.



As a programme team reviews the data, it should keep its findings in perspective. Unsatisfactory performance data for one measure does not necessarily reflect the quality of care provided by an organisation as a whole. Performance that appears deficient can be caused by exceptional factors, such as access to equipment. It is important that a programme team recognizes unsatisfactory performance as an opportunity to improve current systems and, ultimately, performance on the measure.

Data displays are effective tools for sharing information throughout the data management process. Data that is displayed graphically or summarized in a concise format provides a quick view of the team's progress—from baseline to aim. The following provide examples of commonly-used data display techniques:

**Run Charts:** Run charts show trends in data over time, are easy to interpret, and provide a picture of how a process is performing. See example below.



**Figure 3.34 Run Chart example**

**Dashboard:** Dashboard data displays, similar to the dashboard in an automobile, provide several performance indicators at a glance, and are more commonly used as organisations increase their number of measures. Dashboards are created to display various aspects of one quality improvement project or used to convey performance across the organisation.

In order to simplify data presentation, it can be summarized as:



**Tables:** are the simplest ways to summarize data. Data are presented as absolute numbers or percentages, Charts and graphs. Visual representations of data are presented as absolute numbers or percentages.

### Analysing and Interpreting Data

**The next phase of data management involves two distinct related processes:**

1. Analysing data is the review of performance data to determine if it meets the desired quality level; it is used to define a performance plan.

2. Interpreting data is the process of assigning meaning or determining the significance, implications, and conclusions of data collected; it is used to evaluate and improve activities, identify gaps, and plan for improvement.

Analysis and interpretation of data are used when a team reviews its performance. When a programme team has a process in place to collect and display performance data, it ensures sufficient time is reserved to review the data and learn from it. A team begins this phase by reviewing the current performance and comparing it to the baseline, the previous month's performance, and its aim or goal. This analysis gives a general sense of progress towards the aim, if it is reachable, and if performance is improving. The interpretation process provides knowledge of the changes applied to the systems, special events with a potential impact, and lessons learned from the prior month's work that forms the next steps.

### Acting on the Data

The Plan-Do-Study-Act (PDSA) cycle is integral to rapid-cycle change methodology with emphasis on the "S" or study part of the cycle. In data management, study is the analysis and interpretation phase, and when it is completed, an organisation can proceed to "A" or acting on the data. A team's analysis and interpretation of the data drives its subsequent actions on performance. That is, the action taken will depend on whether the progress is sufficient or insufficient. Refer back to the quality improvement unit in this module for further information.



The collection, tracking, analysing, and interpretation of data followed by action continue throughout the life of a project. At the end of the time period specified by the aim/objective statement, the programme team consults with the organisation's leadership and decides to either:

- 1) continue monitoring the measure;
- 2) Leverage more on programme improvement, or
- 3) Focus on other topics. Considerations regarding these and related issues are covered in the Quality Improvement module above.

The picture below illustrates the multiple interlinked steps of the data management process.



**Figure 3.35 Steps of the data management process.**

### **Roles and Responsibilities regarding Data Management**

A well-documented data collection plan is essential to a successful start of a project/programme, because it standardizes the various processes required to collect and measure data. It helps you establish a work plan with committed resources and target dates that promotes efficiency within the project. In order to meet data management goals and standards, all involved in a programme must understand their associated roles and responsibilities which should be clearly defined, rather than assumed.

#### **The objectives of delineating data management roles and responsibilities are to:**

- Clearly define roles associated with functions,
- Establish data ownership throughout all phases,
- Instil data accountability,
- Ensure that adequate, agreed-upon data quality and databases are maintained on a continuous basis.



How data are managed depends on the types of data involved, how data is collected and stored, and how it is used, as well as how it is backed up.

**Steps for assigning data management responsibilities:**

1. For each task identified in your data management plan, identify the skills needed to perform the task
2. Match skills needed to available staff and identify gaps
3. Develop training/hiring plan
4. Develop staffing/training budget and incorporate into project budget
5. Assign responsible parties and monitor results

Having the right data of appropriate quality enables the organisation to perform processes well and to determine which processes have the greatest impact.

**Implementation of the National Health Data Management Policy**

The Ministry of Health and Wellness (MoHw) operates in an increasingly complex, data-oriented environment, which requires the effective collection, management, analysis and dissemination of data. The data generated and held by the MoHw are key assets that must be managed correctly to underpin MoHw strategic execution, operational support, and Monitoring and Evaluation (M&E). There are well-documented historical barriers to achieving the availability of meaningful and trustworthy data.

**Data:**

Should only be collected if there is a proven need, not all data required at facility level can be considered necessary.

**Group exercise:**

- a. Ask the participants to break into groups of 5.
- b. Give each group raw data randomly.
- c. Ask each group to sort, enter and analyse data the way they normally perform in their respective facilities. Groups will be required to answer the following questions:
  - i. How many duplicates did you identify?
  - ii. How many patients are viral suppressed?
  - iii. What is the percentage of patients who were screened for TB?
  - iv. How patients are active on treatment?
- d. Each group should present during a plenary session.
- e. Identify all data discrepancies, data management issues emanating from the group presentations and provide feedback to each group.

Botshabelo Clinic	BRL000261	Female	47	875	12/17/2008	2/25/1901	539	10/11/2016	TRUE	<400	7/26/2016	3/16/2017	8/24/2019	No
Botshabelo Clinic	BRL000287	Female	24	158	5/15/2013	6/28/2015	462	9/7/2016	TRUE	<400	9/7/2016	12/20/2016	7/20/2017	No
Botshabelo Clinic	BRL000549	Female	25			2/8/2016	520	5/30/2012	FALSE			4/25/2017	9/19/2017	No
Botshabelo Clinic	BRL000590	Female	29	657	11/18/2015	2/23/2016	1372	7/5/2016	TRUE	<400	7/5/2016	2/23/2017	10/10/2017	No
Botshabelo Clinic	BRL001179	Female	45	135	3/22/2016	4/10/2016	1110	2/3/2016	TRUE	<400	2/17/2016	2/14/2017	9/19/2017	No
Botshabelo Clinic	BRL001443	Female	28	952	12/17/2014	4/4/2017	952	12/17/2014	TRUE	<400	12/17/2014	5/23/2017	8/22/2017	No
Botshabelo Clinic	BRL001529	Male	31	222	1/21/2015	3/5/2015	222	1/21/2015	FALSE			3/5/2015	4/2/2015	NA
Botshabelo Clinic	BRL001530	Male	32	325	1/21/2015	3/5/2015	481	2/3/2016	TRUE	<400	9/14/2016	4/20/2017	12/12/2017	NA
Botshabelo Clinic	BRL001534	Male	42	210	1/13/2015	3/17/2015	676	10/21/2015	TRUE	<400	6/24/2015	4/26/2016		NA
Botshabelo Clinic	BRL001537	Female	31	508	2/24/2015	3/19/2015	1026	12/14/2016	TRUE	<400	5/25/2016	1/17/2017	8/1/2017	No
Botshabelo Clinic	BRL001539	Female	51	301	12/8/2014	3/19/2015	630	1/20/2016	TRUE	<400	1/20/2016	1/31/2017	8/24/2017	No
Botshabelo Clinic	BRL001540	Male	71	320	2/17/2015	3/19/2015	605	8/3/2016	TRUE	<400	8/3/2016	3/16/2017	11/9/2017	Yes
Botshabelo Clinic	BRL001541	Female	34	260	2/10/2015	3/19/2015	848	11/22/2016	TRUE	<400	5/16/2017	6/13/2017	2/6/2018	No
Botshabelo Clinic	BRL001542	Female	27	339	3/17/2015	3/17/2015	339	3/17/2015	FALSE			4/14/2015	8/4/2015	No
Botshabelo Clinic	BRL001545	Female	22	114	3/24/2015	6/11/2015	408	2/10/2016	TRUE	<400	2/10/2016	1/24/2017	8/15/2017	No
Botshabelo Clinic	BRL001565	Female	64	82	3/10/2015	6/16/2015	179	3/1/2016	TRUE	<400	3/1/2016	2/14/2017	9/19/2017	NA
Botshabelo Clinic	BRL001580	Female	23	329	4/14/2015	6/4/2015	329	4/14/2015	FALSE			6/4/2015	8/6/2015	No

Botshabelo Clinic	BRL000261	Female	47	875	12/17/2008	2/25/2016	539	10/11/2016	TRUE	<400	7/26/2016	3/16/2017	8/24/2017	No	
Botshabelo Clinic	BRL001585	Female	25	661	10/28/2015	6/11/2015	734	3/22/2016	TRUE	<400	4/4/2016	3/2/2017	11/2/2017	No	Yes
Botshabelo Clinic	BRL001594	Male	57	401	10/14/2014	6/11/2015	484	10/27/2015	TRUE	<400	10/27/2015	4/28/2016	8/4/2016	Yes	
Botshabelo Clinic	BRL001851	Female	30	268	1/6/2016	2/23/2016	531	10/4/2016	TRUE	<400	10/4/2016	3/28/2017	11/21/2017	No	
Botshabelo Clinic	BRL001938	Female	200	225	1/5/2016	2/4/2016	579	10/18/2016	TRUE	<400	7/12/2016	3/16/2017	11/7/2017	NA	
Botshabelo Clinic	BRL002139	Female	25			6/23/2015			FALSE			6/23/2015	8/4/2015	No	
Botshabelo Clinic	BRL001443	Female	28	952	12/17/2014	4/4/2017	952	12/17/2014	TRUE	<400	12/17/2014	5/23/2017	8/22/2017	No	Yes
Botshabelo Clinic	BRL002895	Female	33	176	2/17/2016	4/7/2016	341	8/17/2016	TRUE	<400	8/17/2016	1/10/2017	7/27/2017	No	

## Data Management Standards and Procedures

The National Health Data Management policy was developed to provide guidance on the overall data management for all health care services providers. It outlines critical data management standards and procedures and these include:

1. Data access is categorised into three main components:
  - a. **Public access** – data made freely available without restriction.
  - b. **Limited access** – Patient level data which is not for public consumption
  - c. **MoHw Internal** – data accessible to all health sector data users
2. Data must be readily available to all data users with a legitimate MoHw ID, collected routinely, should not be duplicated and must be protected from unauthorised access and modification.
3. Individual data users will be held accountable for their specific uses of the data and all data extracted or reported from MoHw must include a record or display of the time and date of data.
4. The data user has the responsibility to help correct the problem by supplying detailed information as available and the responsibility for data integrity, responding to questions on accuracy and correcting inconsistencies if necessary.



### Exercise on Standards and Procedures

Share different scenarios on standards and procedures of health data management. Ask participants to identify standard and procedures described in each scenario in view of the following critical components:

- a. Access to health data
- b. Data Documentation
- c. Data manipulation, modification, extraction and reporting
- d. Data integrity, validation and correctness.

### Scenario 1

The M&E officer in Mahalapye DHMT receives the PMTCT monthly report from Xhosa 1 clinic. Upon the review of the report she realizes that there are 5 HIV positive pregnant women reported in that month. However, there are 7 HIV positive pregnant women on ARV.

### Scenario 2

A memory stick containing patient level data extracted thorough PIMS II was picked up from Mmopane clinic by a patient who was queuing for health services. The patient accessed data that was stored in the memory stick and was shocked to find her mother is HIV positive and on treatment for the past 7 years.

## Data Storage and Back Up

The choices made regarding the approach to data storage have implications on cost, security, and future access. It is an institutional responsibility to ensure that adequate and appropriate storage facilities are available. The goals of "reusing and sharing data more often" are met by storage solutions which make data discoverable and accessible over the long term, which means the tendency, should be towards more metadata rich, curated stores with a wide community scope.

Making your data shareable and reusable is in part met by storage solutions which make research data discoverable and accessible over the long term:

- This involves integration with metadata maintenance to continue to provide access and curation
- Different choices of data storage have implications for metadata management and data access

Storage solutions discussed here are not mutually exclusive, but complementary. Each solution is designed to address different needs. In designing a data management strategy, institutions need to harness all the available types of storage. Focusing on just one (such as institutional data stores or repositories) foregoes the advantages of the others, and is unlikely to satisfy all the requirements of programmes themselves.

### **The following questions should be asked to establish what kind of storage and back up is required**

- a. Where and on what media will you store the data?
- b. How, how often and where will the data from each source be backed up?
- c. What is your backup plan for the data?
- d. How will you manage data security?

Security involves the system, processes, and procedures that protect a database from unintended activity. Unintended activity can include misuse, malicious attacks, inadvertent mistakes, and access made by individuals or processes, either authorized or unauthorized. For example, a common threat for any web-enabled system is automated software designed to exploit system resources for other purposes via vulnerabilities in operating systems, server services, or application.

Physical equipment theft or sabotage is another consideration. Accidents and disasters (such as fires, hurricanes, earthquakes, or even spilled liquids) are another category of threat to data security.

Efforts should be made to stay current on new threats so that a database and its data are not put at risk. Appropriate measures and safeguards should be put in place for any feasible threats.



The consensus is that security should be implemented in layers and should never rely on a single method.

Several methods should be used, for example: uninterruptible power supply, mirrored servers (redundancy), backups, backup integrity testing, physical access controls, network administrative access controls, firewalls, sensitive data encryption, up-to-date-software security patches, incident response capabilities, and full recovery plans. Where possible, any implemented security features should be tested to determine their effectiveness.

Risk management is the process that allows Information Technology (IT) managers to balance the operational and economic costs of protective measures with gains in mission capability by protecting the IT systems and data that support their organisations' missions. Risk management encompasses three processes: risk assessment, risk mitigation, and evaluation and assessment.



In this topic, you have learnt about the important role of assigning clear roles and responsibilities of data management to team members; and the need to store data securely.



## TOPIC 3

### 3.4.3 DATA USAGE AND DISSEMINATION

This topic introduces you to the concepts of data usage and dissemination. Data and information should be readily accessible to those who need them or those who are given permission to access them.



**After completing this topic you should be able to:**

- a. Demonstrate the ability to turn data into meaningful information
- b. Use data to effect decision-making that will improve quality of health services
- c. provide feedback and dissemination of health reports to stakeholders

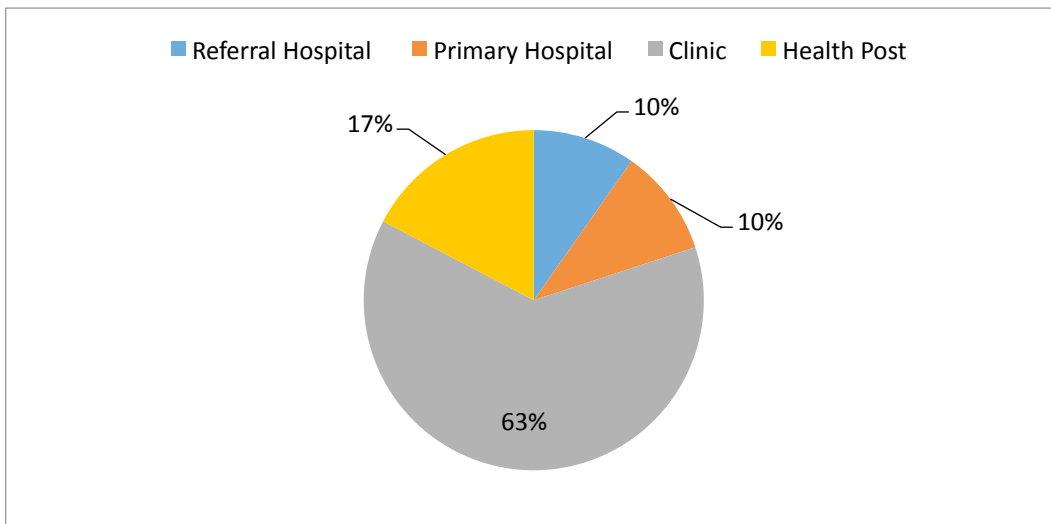
#### **Data Usage**

A well-functioning health information system is one that ensures the production, analysis, dissemination and use of reliable and timely health information by decision-makers at different levels of the health system, both on a regular basis and in emergencies. It involves three domains of health information: on health determinants; on health systems performance; and on health status. To achieve this, a health information system must:

- Generate population- and facility-based data: from censuses, household surveys, civil registration data, public health surveillance, medical records, data on health services and health system resources.
- Have the capacity to detect, investigate, communicate and contain events that threaten public health security at the place they occur, and as soon as they occur.
- Have the capacity to synthesize information and promote the availability and application of this knowledge.

One critical aspect that the healthcare provider has to have is the ability to interpret data and relate it to the health system. This health information may be related to service delivery, human resource for health, health financing, medicines, and vaccines.

### Example on Interpretation of Data



**Figure 3.36 Percentage of PCR test done by facility type, Botswana EID Programme 2007-2012**



**Study the above pie chart**

**Question:** What does the above Pie-chart communicate to us?

**Answer:** The above Pie-chart represents the percentage of PCR tests done by facility type, that is, 63% PCR-test are done at Clinics, 17% at Health posts, 10% primary hospital



**Note:** What we can also infer from the Pie-Chart is that it ensures supply chain reliability for DBS kits at Clinics as more clients easily access services from that level.

**Table 3.18 Number of ART patient charts reviewed, 2016**

Categories	Chadibe Clinic
Number of total charts reviewed	595
Number of Active Transfer Ins	92
# Defaulters	4
# LTFU	44
# Transfer Out	133
# Detectable VL	10
# Adolescents	40
# Defaulters	4
<b># Total Active Patients</b>	<b>394</b>

**Activity**

Review the above table and answer the following questions:

What does the LTFU = 44 represent?

Answer below

Answer: 44 patients on ART have been lost to follow - up. This simply means that the 44 patients have not showed up for ART services at Chadibe Clinic for more than 90 days, therefore the facility to track the patients back into care.

Note: The facility can also use this value to calculate the Facility's LTFU rate, that is,  $LTFU = 44/595 * 100$

Therefore Chadibe's LTFU rate is 7.4%

The above interpretation pushes healthcare providers towards decision-making concerning Chadibe's LTFU rate; this can be assigning roles and responsibility for facility staff for strategies on tracking the patients.

I hope your description of the pie-chart is the same as above

**Some general ways in which quality HIV data can therefore be used include the following:**

- i. Inform policies and plans
- ii. Raise additional resources
- iii. Strengthen programmes and improve results
- iv. Ensure accountability and reporting
- v. Improve quality of services provided
- vi. Contribute to global lessons learned

More importantly data should be used to support Clinical decision by using various components that allow clinicians to gain additional information to aid in the decision making process. Behavioural and lifestyle data can be used to formulate interventions and strategies aim at improving the quality of life.



Answer the following multiple choice questions and check your answers at the end of the exercise:

**Question 1:** A voluntary counselling and testing (VCT) clinic uses its monthly reports to determine whether they are meeting the goal of enrolling 10 new clients every month. True or False: The monthly reports in this case are being used to inform the clinic if their programme is succeeding meeting its objectives.

- a) True
- b) False

**Question 2:** Request for a review of past financial data in order to determine the amount of a new programme budget request is an example of:

- a) Data demand
- b) Data collection
- c) Data availability
- d) Data utilization

**Question 3:** The findings of a countrywide behavioural health survey were published and a special meeting was held with policy makers to inform them of the findings. In addition, the data set was made available online with specific features that allow users to automatically generate graphs and charts for their indicators of interest. These activities represent:

- a) Data demand
- b) Data collection
- c) Data availability
- d) Data utilization

**Question 4:** A lack of support for M&E within an organisation is a/an \_\_\_\_\_ barrier to data and information use.

- a) Individual or behavioural
- b) Technical
- c) Organisational
- d) None of the above

**Answers:**

1 – true ; 2 – A; 3 – C ; 4. C- System/organisational determinants represent the broader context that supports data collection, availability and use. This can include organisational factors such as the clarity of roles of those who not only produce but use information, support from organisational leadership for the need, use and funding of information systems, human and financial resources, and the flow of information throughout the organisation.

## Elements of Decision-making

The figure below shows the key elements of decision-making. In order to make a decision, three elements are critical:

- Data.
- Questions.
- The involvement of stakeholders.



The main emphasis of this figure is to show that **all three** elements are equally important. Without all of these components, you will fail to make an evidence-based decision. Decisions in the health sector can be grouped into four general types, and each area has programmatic questions which should be answered prior to decision-making.

### These decisions pertain to:

- i. Programme design and evaluation
- ii. Programme management and improvement
- iii. Strategic planning
- iv. Advocacy and policy development

### Decisions related to programme design and evaluation include:

- Selection of key messages for prevention campaigns
- Identifying and choosing new strategies to increase the impact of specific services
- Determining if new programme approaches are needed to ensure that health impact objectives are met

### Examples of decisions that are relevant to programme management include:

- Revising the programme if objectives are not met.
- Increase the programme services scope and coverage.

### Corresponding questions might include the following:

- Which district in the province has the highest incidence of HIV?
- In district x, what is the nurse to patient ratio?

- Which three sub-populations were responsible for the greatest number of new HIV cases last year?

### Data Dissemination: What, Why, Who and How?

Data dissemination is the distribution of statistical or other forms of raw or processed data to relevant stakeholders for the purposes of decision-making. It is imperative that your communication strategy be aligned to the appropriate target audience. Regardless of which communication methods and formats are employed, an effective strategy should aim to disseminate actionable findings using plain (non-academic) language, in a culturally appropriate, user-friendly format.

Some of the ways through which you can disseminate information to various stakeholders are summarized below.

**Table 3.19 Suggested Communication Methods for Each Stakeholder Group**

<b>Politicians and Government officials</b>	<ul style="list-style-type: none"> <li>• dissemination workshops</li> <li>• face-to-face meetings</li> <li>• policy forums</li> <li>• policy briefs, and executive summaries</li> <li>• public Web sites</li> </ul>
<b>Programme Managers</b>	<ul style="list-style-type: none"> <li>• monthly or quarterly reports</li> <li>• summary reports</li> <li>• executive summaries</li> <li>• audio-visual presentations</li> </ul>
<b>Civil society, NGOs and Professional Associations</b>	<ul style="list-style-type: none"> <li>• fact sheets</li> <li>• brochures and other handouts</li> <li>• audio-visual presentations</li> </ul>
<b>Private-sector</b>	<ul style="list-style-type: none"> <li>• fact sheets</li> <li>• audio-visual presentations</li> </ul>
<b>General public</b>	<ul style="list-style-type: none"> <li>• magazines and newspapers</li> <li>• press releases</li> <li>• radio and television</li> <li>• Web-based media</li> </ul>
<b>Donors/funders</b>	<ul style="list-style-type: none"> <li>• full research report</li> <li>• audio-visual presentation</li> </ul>
<b>Academic researchers and international Agencies/Organisations</b>	<ul style="list-style-type: none"> <li>• peer-reviewed articles research databases</li> <li>• oral and poster presentations</li> <li>• CD-ROM</li> <li>• Web sites</li> </ul>



## TOPIC 4

### 3.4.4 CONDUCTING DATA QUALITY AUDITS

#### INTRODUCTION



What, in your opinion, is meant by data quality audits? This may not be a new concept to you, but read on and learn some ideas related to it.

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#### OBJECTIVES

**At the end of the session participants will be able to:**

- Explain why DQA is important and how it can be applied at facility or programme level
- Describe the Botswana Routine Data Quality Assessment

#### OVERVIEW OF QUALITY AUDITS

**Good data management requires on-going data audit to monitor the use and continued effectiveness of existing data. A data or information audit is a process that involves:**

- identifying the information needs of an organisation/programme and assigning a level of strategic importance to those needs,
- identifying the resources and services currently provided to meet those needs,
- mapping information flows within an organisation (or programme) and between an organisation and its external environment, and
- Analysing gaps, duplications, inefficiencies, and areas of over-provision that enable the identification of where changes are necessary.

**Benefits of a data audit include:**

- Enhancing awareness of data holdings
- Promotion of capacity planning
- Facilitating data sharing and reuse
- Monitoring data holdings and avoiding data leaks
- Recognition of data management practices
- Promoting efficient use of resources and improved workflows
- Increasing ability to manage risks – data loss, inaccessibility, compliance
- Enabling the development/refinement of a data strategy

**Data Quality Audit Methodology:**

Two widely used global methodologies are: Data Quality Audit (DQA) and the Routine Data Quality Assessment (RDQA).

The DQA process and tool is used by an external audit team to assess a programme's ability to report quality data. The RDQA is a simplified version of the DQA and allows programmes and projects to rapidly assess the quality of their data and strengthen their data management and reporting systems (Ministry of Health Botswana, 2012a).

**The main distinctions between DQA and RDQA are listed below:****Table 3.20. Distinctions between DQA and RDQA**

DQA	RDQA
Assessment by funding agency	Self-assessment by programme
Standard approach to implementation	Flexible use by programme for monitoring and supervision or to prepare for an external audit
Conducted by external audit team	Programme makes and implements own action plan
Limited input into recommendations by programme	

**How to conduct Quality Audits****RDQA aims to:**

- Verify the quality of reported data for key indicators and the ability of data management systems to collect, manage and report quality data.
- Develop an action plan to implement corrective measures for strengthening the data management and reporting system and improving data quality
- Monitor capacity improvements and performance of the data management and reporting system to produce quality data over time

The Botswana Ministry of Health developed a Botswana Routine Data Quality (B-RDQA) tool in order to assess the quality of indicators implemented within programmes. The tool has been developed for use at three levels:

- a. Service delivery site level where source documents capture original data
- b. DHMT level where data is aggregated or summarized
- c. National level to obtain a complete picture of the data management and reporting system.

### **B-RDQA Outputs**

The B-RDQA tool has been designed to generate specific outputs when data from the various reporting levels have been filled completely (Ministry of Health Botswana, 2012a).

Specific outputs generated by the B-RDQA tool include the following:

1. Graphic display of assessment results- the worksheets in the B-RDQA tool can be printed and completed by hand or entered directly into the spread sheets on a computer. The summary graphs that are generated for the service delivery sites include the following:
  - a. Data Management Assessment- summarizing the review of the programme's M & E system at the service delivery sites.
  - b. Data Verifications- that calculate the accuracy of reported data
  - c. Documentation review- illustrates the percentage of reports that are available, complete and from the reporting period being assessed.
2. Action plans for system strengthening- The final output for the RDQA is an action plan for improving data quality. The action plan describes the strengthening measures identified by the RDQA team in consultation with site staff, staff responsible for each activity, the timeline for completion, resources required and follows up.



Discuss and distinguish between the two methodologies of data quality audit. When you are done review the text and then compare with your answer.

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### **Data Verification**

B-RDQA tool has 2 parts:

**Part1 Data Verification**

Data verification is aimed at assessing, on a limited scale, if the service delivery sites and DHMTs are collecting and reporting data to measure the indicators accurately and on time, and to cross-check the reported results with other data sources.

- a. At service delivery sites, data verifications have 3 sub-components:
  - i. Reviewing source documentation- review availability and completeness of all indicator source documents for the selected reporting period.
  - ii. Verifying reported results- recount the reported numbers from available source documents, compare the verified counts to the site reported number and identify reasons for differences.
  - iii. Cross-checking reported results with other data sources- perform cross-checks of the verified report totals with other data sources.
  
- b. At DHMT and national levels, data verifications have 2 sub-components:
  - i. Reviewing site reports- review availability, timeliness and completeness of the expected reports from the next level down for the selected reporting period.
  - ii. Verifying reported results- re-aggregate the numbers from the reports submitted by the level below, compare the verified counts to the numbers submitted to the next higher level and identify reasons for any differences.

**Part 2– Systems Assessment**

This part is aimed at identifying potential threats to data quality posed by the design and implementation of the data management and reporting system at the national M & E, DHMT and service delivery site levels. In general, reports from service delivery sites are aggregated by the DHMTs prior to being sent to the national M & E.



From the just concluded reading, describe the data verification activities conducted at the different health system levels. Check your answer against the body of the reading.

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In this session, you learnt about data quality audit at the internal programme level and by external stakeholders. You also learnt about the Botswana Routine Data Quality Audit (B-RDQA) tool



## TOPIC 5

### 3.4.5 DOCUMENTATION AND REPORTING

#### INTRODUCTION

In the previous topic, we discussed data audits at the workplace. Presently, our focus shifts to another critical area in your operations, namely: documentation and reporting. Communication is a dynamic, continuous, and multidimensional process for sharing information. Documentation, reporting and recording are the major communication techniques used by health care providers. The medical record serves as a legal document for recording all client activities by health care practitioners across programmes. In order to have quality data that can be used for decision-making, it is important to ensure that it is captured, compiled and reported correctly. In addition, proper storage of data sources/ registers is important in order to preserve them.



**After completing this topic, you should be able to:**

- Explain the importance of documentation.
- Develop reporting and information dissemination strategies.
- Write a standard programme report



The picture above shows a health worker writing something on a piece of paper, why do you think documentation and reporting is important in the health sector? Document your

response on a piece of paper. Keep it safe, at the end of the unit, go back to check if you answered correctly. Let's go into the definitions of documentation and reporting to better understand this topic.

### **Documentation:**

Anything written or printed that is relied on as a record of proof for authorized persons

Purpose of proper documentation in a health care system

1. Professional Responsibility and Accountability- documentation provides written evidence of what was done for the client, the client's response, and any revisions made in the care plan.
2. Communication- Documentation is a form of communication. It should be complete and timely.
3. Education- Health care students use the medical records as a tool to learn about disease processes, diagnoses, complications, and interventions
4. Research- Researchers rely heavily on medical records as a source of clinical data. Documentation can validate the need for research.
5. Legal and Practice Standards- Documentation provides a written legal record to protect the client, institution and practitioner. In 80% to 85% of malpractice lawsuits involving client care, the medical record is the determining factor in providing proof of significant events.



It is therefore imperative to ensure that all documents (patient's record, registers, forms, etc.) are legible, filled completely, accurately and timely without any gaps that will cause assumptions upon analysis of that data

### **Elements of Effective Documentation**

Documentation is very critical in the health care system and it should be done in all stages of service provision. The following are some of the elements which assist in effective documentation of services:

- Use of Common Vocabulary- This enhances the quality of documentation and improves communication and lessens the chance of misunderstanding between members of the team.
- Legibility- It is very important that whatever is documented is legible to the next health care provider. Documentation is only as valuable as the legibility of the note. The following points will assist in the legibility of the writing
  - Print if necessary. Do not erase or obliterate writing. Draw one line through an erroneous entry. State the reason for the error. Sign and date the correction
- Abbreviations and Symbols- Always refer to the facility's approved listing. Avoid abbreviations that can be misunderstood



- Organisation - Where applicable start every entry with the date and time. Chart in chronological order in a timely fashion to avoid omissions.
- Accuracy - Use factual, descriptive terms to chart exactly what was observed or done. Use correct spelling and grammar. Write complete sentences
- Completeness - The purpose of complete and accurate record documentation is to foster quality and continuity of care. It creates a means of communication between providers and members about health status, preventive health services, treatment, planning, and delivery of care.
- Confidentiality - The service provider is responsible for protecting the privacy and confidentiality of client interactions, assessments, and care. That is, other parties not directly involved in care provided by the health team may not have access to clients' records.



**Activity:**

Brainstorm with a colleague on some of the consequences of poor documentation in your typical situation. Come up with at least four consequences.

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**See if the discussion below is in agreement with the responses you gave.**

**Consequences of Poor Documentation**

"If it's not documented in the medical record then it didn't happen." How many times have plaintiff's counsel used this in the court room? It's an age old saying, but the reality is much happens that doesn't get documented. The real issue: is the documentation in the medical record complete, accurate, and concise (and yes, timed/dated).

Incomplete documentation in clinical records can cause the organisation legal and settlement fees, loss of jobs, contribute to inaccurate statistical databases, cause lost revenue/ reimbursement, and result in poor patient care by other healthcare team members. That's why every organisation should ensure accurate and complete clinical documentation (at any cost).

**Poor documentation therefore may result in:**

- Disruption of continuity of patient care since adequate information will not be available to the next clinical service provider

- Under-reporting- which will not be representative of the actual work been done at the health facility
- Failure to conduct reliable research and use for education purposes
- Financial and credibility loss to the organisation where there is inadequate information to validate court cases in cases of lawsuits.



**Tips for Proper Documentation**

- Documentation should be accurate, timely, thorough, factual, neat
- Use only approved abbreviations and terms
- Use blue or black ink
- Always get and give a report
- Focus on a team approach
- Document date and time of each entry
- Adhere to prescribed processes and procedures
- Use appropriate tools: forms/ records/ registers



What do you understand by reporting and why is it important to report as health care providers?

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**Reporting:**

The process whereby specific information is communicated to a person or group of people, whether oral or written. Reporting follows the organisations standards and guidelines and should be followed by all health workers at different levels. Some of the key components of reporting include accuracy and timeliness.

**The purpose of reporting**

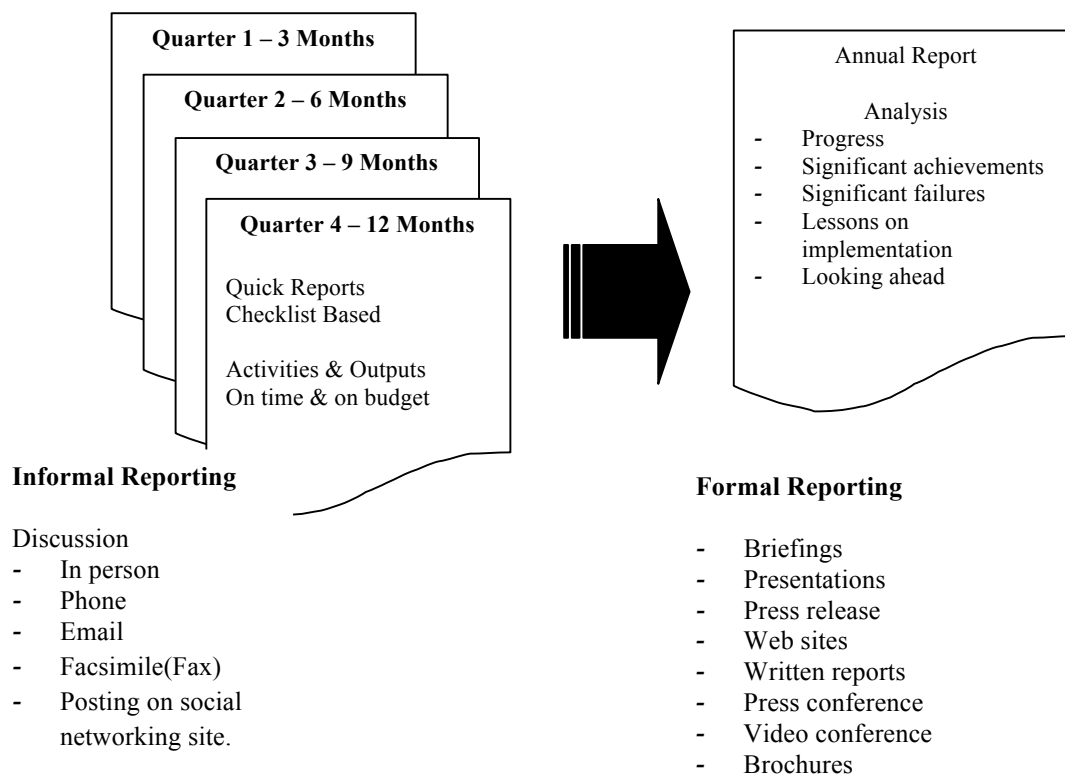
- To enable assessment of progress in the implementation process and achievement of results.
- To share progress of the project to senior management
- To focus activities and improve subsequent work plans

- To communicate to senior management any early warning signals about any potential implementation issues.
- To formally request support or assistance (technical, financial etc.) where needed.
- To communicate status of implementation and results to stakeholders
- To facilitate replenishment of funds

### Frequency of reporting in an organisation.

#### Frequency of reporting is determined by the organisation and should be followed by all employees at all levels.

- a. Periodic reporting: This refers to routine reporting at prescribed intervals, usually monthly. Typically all variables/indicators pertaining to the programmes are reported. Other periodic reports include quarterly, semi-annual, and annual. The submission of these reports can be via a paper-based or electronic platform. In Ministry of Health monthly reports are sent by the 10th of every month (monthly).
- b. Real-time Reporting: Is used in situations where there is urgent need for information at shorter time intervals than the periodic reporting. Typically, a select few key indicators are monitored to track progress or interventions. It can be used when monitoring rapid scale-up of programmes, infectious disease outbreaks such as Ebola, and rapid interventions such as vaccine campaigns. The real-time framework varies by the urgency of the situation; for example, HIV programmes towards achievement of epidemic control are monitored weekly, while an outbreak of cholera or Ebola will be monitored daily.



**Figure 3.38: Frequency of reporting in an organisation**



### Why is the storage of documents in the health setting important?

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#### Storage of Documents

Patient records and information are strictly confidential. You have a professional, legal and ethical duty to maintain and respect patient confidentiality and autonomy. You should not disclose records and information to anyone except those directly involved in the case or as required by facility, district and national levels.

All print documents/records/registers should therefore be kept in a secured location accessible only to authorized personnel, while personalized usernames and passwords should be used to secure electronic medical records

#### Consequences of Poor Storage of Documents

- Documents/ records and registers that are not stored according to the organisation's standards can be accessed by unauthorized people resulting in: Disclosure of patients conditions including his/her HIV status
- In addition, poor storage will lead to dilapidation of registers/documents



Documentation should always be complete and accurate in order to give precise and meaningful reports to the managers. All medical records should be kept safe in a lockable cabinet to prevent unauthorized disclosure of patients' conditions and damage to the records. Electronic records should be secured with usernames and passwords.



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