Training Manual for Implementation of National Quality Assurance Standards

Part-1

National Health Systems Resource Centre,
New Delhi

ISBN: 978-93-82655-24-4

National Health Systems Resource Centre
Technical Support Institution for National Health Mission
Ministry of Health & Family Welfare, Government of India
NIHFW Campus, Baba Gangnath Marg, Munirka,
New Delhi - 110067, India

Disclaimer

The training manual is designed solely for the use of participants of Internal Assessor cum service provider trainings. The content of the training manual is generic, and it does not endeavour to meet any specific requirement. The information in this manual has been compiled from evidence-based reliable sources. The manual is used as a supportive tool for implementation of quality improvement activities. While taking patient and clinical care-related decisions, the manual may not be used. Art and science of health quality implementation is dynamic in nature. Training content may change as per requirement.

Table of Contents

DAY-1

DAY-2

BACKGROUND

Quality in Healthcare' is in focus in India from the last two decades, and it has very well reflected in our policies viz. National Health Policy (2002), National Health Mission implementation framework (2005) and National health policy (2017). The evidence showed, with relentless efforts in terms of access to equitable, affordable, and quality healthcare services India has achieved remarkable improvement and reduced preventable mortalities & morbidities. Although accessibility to healthcare has grown substantially in the country, still Quality of care varies from best to insufficient, which affects its overall outcomes. The poor-Quality define in the form of unsafe treatment, missed diagnosis, little time for consultation and disrespectful delivery of services. It leads to unexpected, ill-timed preventable deaths, poor health, prolonged stays in hospitals, financial burden, and loss of trust of the community in healthcare services. It creates a vicious circle which effect mostly to poor, marginalised, and vulnerable sections of society.

Quality of care is defined as "Degree to which healthcare services provided to individuals and patient populations to improve the desired health outcomes". Desired outcome for a healthcare provider is usually related to successful prevention or treatment of morbid conditions and averting deaths. While, for a patient, it is about a clean and inviting atmosphere, speedy, low cost, and lasting treatment without any harm or complication. Therefore, quality services need to take into account the perspective of both the healthcare providers and the patients.

Quality of care (QoC) in health services has identified as one of the critical elements to Universal Health Coverage (UHC), and fundamental towards achieving the health-related goals and targets outlined under the Sustainable Development Goals (SDGs). As per the *Lancet Global Health Commission* report, nearly 5 million of the deaths that occur from conditions amenable to healthcare are because of poor-quality care. It leads to an additional burden on the health system by diminishing the effectiveness of its interventions and increases the cost of care. To improve the QoC in public health facilities, the Ministry of Health & Family Welfare (MoHFW), Government of India had defined National Quality Assurance Standards (NQAS) in 2013. Subsequently, to further strengthen and improve the quality of care in public healthcare facilities under the umbrella of NQAS, more quality and patient safety-related interventions viz. Kayakalp, LaQshya. Mera asptaal etc. were taken up.

[1]Kruk ME, Gage AD, Joseph NT, Danaei G, García-Saisó S, Salomon JA. Mortality due to low-quality health systems in the universal health coverage era: a systematic analysis of amenable deaths in 137 countries. The Lancet. 2018 Sep 5.

PURPOSE OF TRAINING MANUAL

Quality is an essential part of Universal health coverage (UHC), and there is a dire need to strengthen the health system to provide quality health services. It can be done by various ways viz. setting Quality standards, use of evidence-based interventions, promote practices that reduce harm to the patient, and ensure healthcare staff participate in quality measurement and improvement to provide effective and safe care.

Ensuring adherence to standard or evidence-based practices, measure & improve the quality of care provided, changing behaviour and attitude of the staff is not an easy task. It requires skilled, motivated, and adequately supported health professionals with the right skills, knowledge, attitude as well as enabling environment for continually building their capacities (preservice and in service) for delivering quality Health services.

To address the needs of services provider in term of Quality as per National Quality Assurance Standards and its related interventions, a concise training manual is designed. The manual will develop the capacity of the service providers in identifying the gaps in service delivery and unearthing the root causes and linking them to organizational processes.

The training content and methodology of manual will enable service providers to render quality health services, which are effective, safe, people-centred care, timely, equitable, integrated, and efficient. It will respond to the frequently asked questions of service provider, such as: road-map for implementing quality assurance standards at the health facility, minimum standards and regulatory compliances which they need to comply, use of quality tools in data collection, analysis and improvement.

This training manual will also provide participants with the tools, techniques and support to health professionals to enable them to implement NQAS at healthcare facility and thereby, take ownership of improving ,sustaining and creating a culture of the quality of care.

The training manual will be used by NHSRC, SQAU and DQAU who want to conduct Quality training workshops for doctors, nurses and allied health professionals working in public healthcare facilities.

OBJECTIVES

- To acquaint service providers with the Key concepts of quality and its related domains and how to implement them in public healthcare facilities.
- To accustom participants with the structure and measurement system employed in National Quality Assurance Standards.
- To familiarize the facility staff with minimum stipulated standards that a public facility needs to attain for providing safe, quality, and comprehensive care.
- To help the service providers in measuring and improving the care processes by applying quality improvement tools & methods.

EXPECTED OUTCOME

At the end of this course, it is expected that participants will have had a thorough insight about:

1. Understanding basic terms, approaches and underlying principles of quality and related terminology.
2. In-depth understanding of different components of Quality Measurement system, assessment methodology and certification criteria.
3. Understanding of Area of Concern wise standards and measurable elements for different levels of healthcare facilities.
4. Understanding of department-specific requirements (like Labour Room, Operation Theatre, Laboratories, General Administration, etc.) under NQAS.
5. Learned how to proficiently use as Quality methods and tools for gathering evidences, measuring and analysis quality of care.
6. Learned how to proficiently conduct internal assessment, identify gaps & prepare action plan after prioritization for continuous quality improvement.
7. Learned how to proficiently use outcome indicators to track progress of improvement.
8. How to build enthusiasm, motivate the team, and recognition through reward mechanism.

TRAININGS UNDER NATIONAL QUALITY ASSURANCE PROGRAM

Under the National Quality Assurance Programme (NQAP), standards had been laid down for all levels of public health facilities, i.e., for District Hospital/Sub-District Hospital, Community Health Centre, Urban and Rural Primary Health Centre. NQAP has been successfully implemented in all the States/UTs. MoHFW has constituted an *organizational framework*[2] for all levels - National, State, District and Facility level - to strengthen the system. National Health Systems Resource Centre (NHSRC), as the apex technical institution with the MoHFW, has been entrusted to develop, update, and implement these standards across the country.

Training and capacity building are important steps to obtain, improve, retain skill and knowledge required to improve the quality of health services. NHSRC with support of State and District Quality Assurance units conducts trainings for improving of Quality for public healthcare facilities under NQAS umbrella. The following three types of trainings are envisaged for this training manual.

Sl. No.	Name of the Training	No. of Days	Objective of the Training
1	Internal Assessors Training	2	To provide an overview of National Quality Assurance Standards, measurable elements, departmental checklists and scoring system, and how to use them.
2	Service Providers Training (SPT)	3	Main aim of training is to understand basic concepts of quality assurance, standards and how to implement them in their facilities.
3	Internal assessor cum Service provider Training	3	The training is combined package of IA cum to provide an overview of National Quality Assurance Standards, measurement system as well as how to implement National Quality Assurance standards in public healthcare facilities

How to use the Training Manual:

The training manual is constituted of two modules, viz., Part 1 and Part 2. Each manual will give a brief about sessions. Each session chapter includes the session title, objectives, expected outcome, brief about exercise related to session (if applicable) followed by set of PowerPoint slides and references for further reading.

The training manual can be used for 2 days- Internal Assessors, 3 days - Service Providers Training or 3 Days- Internal Assessor-cum-Service Provider Training. To impart Service Providers Training or Internal Assessor-cum-Service Provider Training, both the manuals (Part 1 & Part 2) will be provided to the participants. However, for 2 Days Internal Assessors Training Only Part 1 of the manual will be used.

Note: A tentative agenda for 3 days training is given as **Annexure 'II'.** Since priorities of each State may vary, the States may add more topics as per their requirements. The call for adding or replacing the sessions, will be taken mutually by State / Training co ordinator of NHSRC and SQAU/DQAU. After mutual consensus, the final agenda can be prepared by State/ Training co ordinator of NHSRC and shared with states/District at least 1 week prior to the scheduled workshop. To cater the additional requirement States, NHSRC co ordinator will arrange the resource person for session as well as ensure that session brief and presentations are disseminated to all participants

Target Audience

The target audience for the training will be the health professionals, such as:

- Hospital Superintendents, Quality Managers, Matrons and Nursing Superintendents, Hospital Managers, Nodal Officers for Quality Assurance in State health departments/NHM, Members of Quality Assurance Teams, Committees and Units, Quality Assessors, Health Programme Managers, Doctors, Staff Nurses, allied Healthcare Providers and any other desired candidate nominated by state & districts as per their suitability and goal.

Batch Size

The suggested batch size - 40 to 50 participants.

Methodology

Constructivists, like Vygotsky (1997), consider that learning is the process of constructing new knowledge on the foundation of what you already know. Here, we will be using an evidence-based methodology and forms a theoretical basis to help curriculum development, learning and teaching strategies with real time knowledge sharing platform, followed by trainee's assessment and programme evaluation in toto. It is also important to remember that "learning" includes the acquisition of three domains: knowledge, skills and attitudes; here, the prime focus would account for learning in each of these three domains. Participants are encouraged and engaged in the training process in order to provide them an opportunity to take part in different aspects of the workshop delivery.

Some of these include:

- Different methods of demonstrating are used
  - Presentations
  - Group activities
  - Discussions
- Carrying out recaps
- Sharing field experiences both by participants and trainers
- Preparing flip charts and assisting in other aspects of the training
- Conducting various exercises relevant to the module session

Materials required

- Flip charts and markers
- Overhead projector, slide changer and PowerPoint presentations
- Audio system with mike
- Training agenda
- Training resource material/books
- Index cards (group name/display of time duration)
- Adequate number of the photocopies of the exercise

Proceedings during training

A short note on instructions **(Annexure-I)** for the participants and final training agenda is provided at the beginning of the training. All the participants are given an opportunity to introduce themselves, and the facilitators also introduce the faculty to the participants. Clear procedural instructions are provided for each of the activities to help structure the work with the participants.

Criteria for Attendance Record

Attendance is recorded at the registration counter before the beginning of the training workshop, and on all days randomly by the state training coordinator both during morning and evening hours.

Training Sessions

Training sessions will be planned as per Agenda given in Annexure II or final agenda shared by training co ordinator of NHSRC. Each day there will be 2 tea breaks (15 minute each) and 1 Lunch Break (45 min). Tea breaks may be working

breaks in case of any spill in the sessions due to participatory interaction between trainee and faculty.

Post-Training Evaluation*

The purpose of conducting post-training evaluation is to understand the effectiveness of the training programme, and to understand whether the objectives of the training are achieved or not.

During Internal assessor or internal cum service provider training a post training evaluation will be mandatory as it supports to create pool of internal assessors in State. State may use certified internal assessors for NQAS, LaQshya, Kayakalp and other quality related assessment of their healthcare facilities. While, for Service Provider training a pre and post training evaluation should be conducted by training co ordinator of NHSRC.

** Post-training evaluation will be compulsory for Internal Assessors or Internal-Assessor-cum-Service Provider Trainings*

1. Post training evaluation for IA trainings consist of Multiple-choice questions. Exam will be an open book. Responses will be filled in OMR sheet distributed along with the question paper to participants. All the instructions are written on the examination sheet and will explained by the NHSRC-State/training co ordinator at the beginning of the exam.
2. The minimum passing marks for the examination are 60%.
3. All the examination sheets, training feedback along with Day wise attendance sheet will be submitted to NHSRC (State/ Training) coordinator.

Result Declaration and Certificate issue

The training result will be declared within 30 days of the training. NHSRC or its branch office RRC-NE will be the authenticated bodies for result declaration. NHSRC maintains a strict confidence level in revealing the results and does not publish the list of unsuccessful trainees or marks obtained on its official website. These lists are kept in confidential records with the state coordinator of NHSRC.

All the candidates who have successfully cleared the post-training examination are awarded with certificates; these certificates are dispatched to MD NHM office within one month of result declaration.

Report Preparation

State / training co ordinator of NHSRC prepare the report of training and submit NHSRC repository. Its copy may be share with state if requested. The report contains complete information about the training, viz., list of participants, brief about all the sessions conducted, complied feedback of the training, etc. The report is prepared within 1-2 weeks of declaration of the result and submitted to the designated consultant for central storage.

Records and Repository of the Training

Training records play an increasingly important part in accomplishment of the entire training process. These records require a high degree of confidentiality and good maintenance of data. The question paper along with OMR sheets are collected by the training coordinator and stored in safe custody.

PROCESS FLOW CHART

Activity	Requirements	Responsibility	Timeline
	• The State Nodal Officer sends a request to the concerned State consultant/ Advisor NHSRC	State	30-40 days prior
	• Advisor, QI confirm the date (dates are decided bilaterally) for conducting the training	NHSRC	20-30 days prior
BEFORE TRAINING	• Books and other resource material (soft/hard copy) are mailed/dispatched to the Quality Nodal Officer	NHSRC	20 days prior
	• Pre-requisite requirement of training (agenda, course training manual, exercises, and feedback form)	NHSRC	07-10 days prior
	• Arrangement of the logistic material (projector, audio aid, laptop, print out of exercises and feedback form)	State	At least 1 day prior
DURING TRAINING	• Training is imparted as per the schedule and feedback will be collected at the end of each day	NHSRC/State	Day 1/2/3
	• Post training assessment questionnaires are served	NHSRC	Day 3
	• Evaluation of exam papers and feedback form	NHSRC	Within 10-15 days
AFTER TRAINING	• Empanelment of successful candidates as per criteria	NHSRC	Within 25-30 days
	• Preparation of training report by training coordinator	NHSRC	After 30 days

DAY-I

Session 1: Overview of National Quality Assurance Standards

Quality is an essential component of any healthcare facility, but it is perceived differently by its stakeholders. As per clinical staff, Quality is rendering the services to its user as per their best clinical knowledge while for the patient, it is not limited to the cure & speedy recovery. Along with treatment, the patient needs less waiting time, free drugs, cleanliness, courteous and respectful behaviour. Very few healthcare facility's take the perspective of users into account while delivering the services, which lead to high dissatisfaction rates among its clients. Clients who can afford usually go to private healthcare institutions while others especially weak and vulnerable, suffer their agony in terms of either catastrophic out of pocket expenditure or poor health outcomes.

These facts are further evidenced by the National Sample Survey Organisation (NSSO) in its 71st round survey report on key health indicators in social consumption in India for the period Jan-June 2014. It brings out that more than 70% (72 per cent in the rural areas and 79 per cent in the urban areas) of spells of ailments are treated in the private sector. Average medical expenditure for hospitalised treatment at a private hospital is almost four times higher than at private hospitals. Around 75% of the patient did not take treatment at the public hospital and preferred private hospitals over public hospital because of the perception of poor quality of services or long waiting time.

To provide the quality services to vulnerable, sick, and ailing, at par with those who can afford, Ministry of Health and Family Welfare, Govt. of India, has taken various steps. It includes making the Quality the foremost agenda in its National policies as well as defining minimum standards from service provider and services seekers aspects. The defined standards framework is a rational mix of infrastructure, technical and client perspectives where continual improvement and sustenance is in focus.

The session provides an overview of basic concepts of Quality, Journey of healthcare quality in India. It will also include a detailed discussion on National Quality Assurance Standards, background about standard's evolution and how each standard is pertinent to public healthcare facilities.

Learning objectives

a. Key concepts of Quality
b. Need of quality assurance framework in public health facilities
c. Donabedian model of Structure, Process and Outcome
d. To provide an overview of National Quality Assurance Standards
e. To acquaint participants with Key terminology of National Quality Assurance standards
f. To become well-versed with vitals of each Standard.

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with:

a. The definitions of quality, basics of quality terminologies viz. Quality control, Quality assurance, Quality, improvement, Quality management system and certification/ accreditation and various quality Models
b. National Quality Assurance Standards (NQAS) and its key vocabulary (Area of concern, Measurable elements, Checkpoints)
c. Scope of 8 areas of concern ('A' to 'H') and standards under each areas of concern
d. The intent of 74 quality standards

Exercise

The session is followed by an exercise, wherein trainees pick a paper slip with a gap statement written on it. Trainees identify the respective area of concern and standard covered by the gap statement. The aim of this exercise is to build capacity of the trainees in understanding the importance of each area of concern and its respective standard. It explains the rationale of standard and area of concern.

Suggested Reading Material:

1 An Introduction to Quality Assurance in Health Care, Avedis Donabedian

2 Juran's Quality Handbook, Joseph. M. Juran, Fifth Edition, McGraw-Hill

3 National Quality Assurance Standards for Public Health Facilities 2020

4 Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

5 Accreditation of Public Health Facilities, Evaluating the impact of the initiatives taken on improving service delivery, documenting the challenges and successful practices, 2012 Deloitte India.

NQAS

An Overview of National Quality Assurance Standards

Quality Defined as

- Meeting and Surpassing the Customer Expectation
- The degree of adherence to predetermined standards
- Doing things right way first time and every time - specially when no body is observing you
- Conformance to the requirements
- Fitness for use.
- Measuring its attributes
- Minimizing the variations

Perspective of Quality

What Patients want ?	What Service Providers Want?
➢ Availability of Services	➢ Infrastructure & Equipment
➢ Accessibility of Services	➢ Work Environment
➢ Affordable Care	➢ Enabling Policies & recognition
➢ Prompt Services	➢ Clinical Protocols
➢ Courteous Behavior	➢ Outcome of care
➢ Privacy & Dignity	➢ Personal Protection
➢ Informed Treatment & Cure	➢ Skill & Career Development

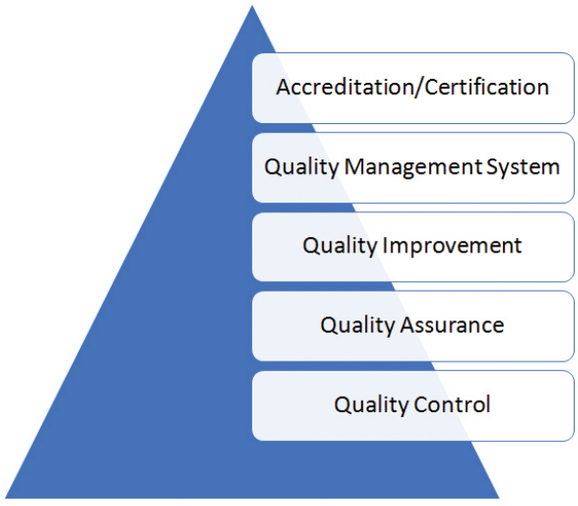
Need for Quality Standards in Public Health Facilities

- To define acceptable level of Quality of Care
- Assurance & Improvement
- Measuring Quality Objectively
- Comparison and ranking of facilities
- To Build confidence in Users /community

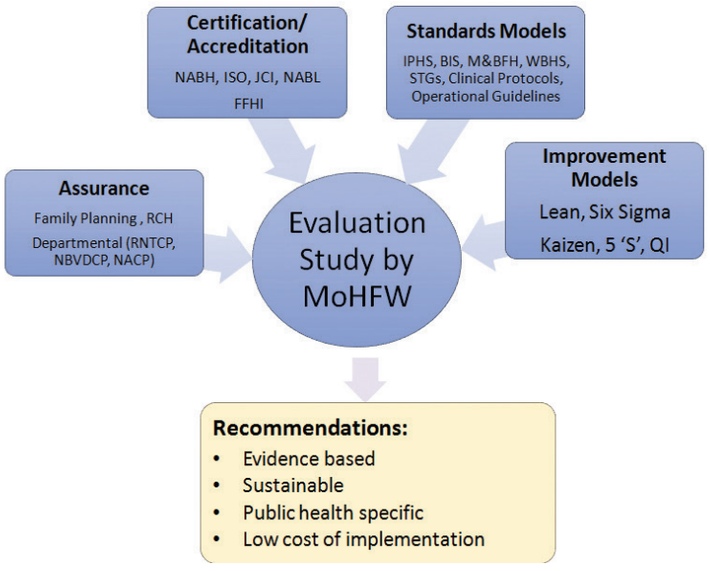
Requirements for Pro Public Health Quality Model

Internal Quality Culture	**Evidence Based**
Structure Processes & Outcome	**Flexibility for States to Customize**
Explicit , Measurable & Transparent	**Sustainalble & Scalable**
Inbuilt Accreditation/ Certification	**Low Cost of Implementation**

Approaches to Quality

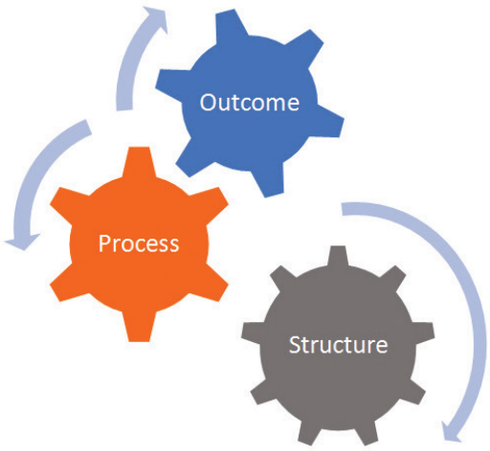


Evolution of Quality of Care Framework-NQAS

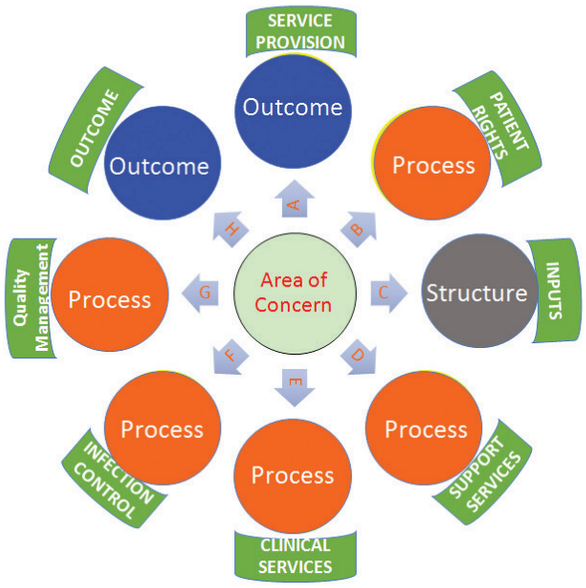


Area of Concern

Donabedian's Model of Quality of Care



Predominately Process Driven Standards



Area of Concern
A

Service Provision- Overview

ISQua Accreditation SURVEYOR TRAINING PROGRAMME

About	Availability of Services to end users
Rationale	Provision Minimum Assured Services are Mandatory
Reference	IPHS & Operational Guidelines of NHPs
Measures	Outcome

Standards	6	**M E**	48

Service Provision- Standards

ISQua Accreditation SURVEYOR TRAINING PROGRAMME

- **A1** Curative Services
- **A2** RMNCH+ A Services
- **A3** Diagnostic Services
- **A4** National Health Programs
- **A5** Support Services
- **A6** Services as per Local Needs

Area of Concern
B

Patient Rights- Overview

ISQua Accreditation SURVEYOR TRAINING PROGRAMME

About	Ensuring Access and Dignity to Users
Rationale	Essential for ensuring patient friendly services
Reference	Patient Rights Declaration & Medical Ethics
Measures	Process
Standards	6
M E	39

Patient Rights- Standards

ISQua Accreditation SURVEYOR TRAINING PROGRAMME

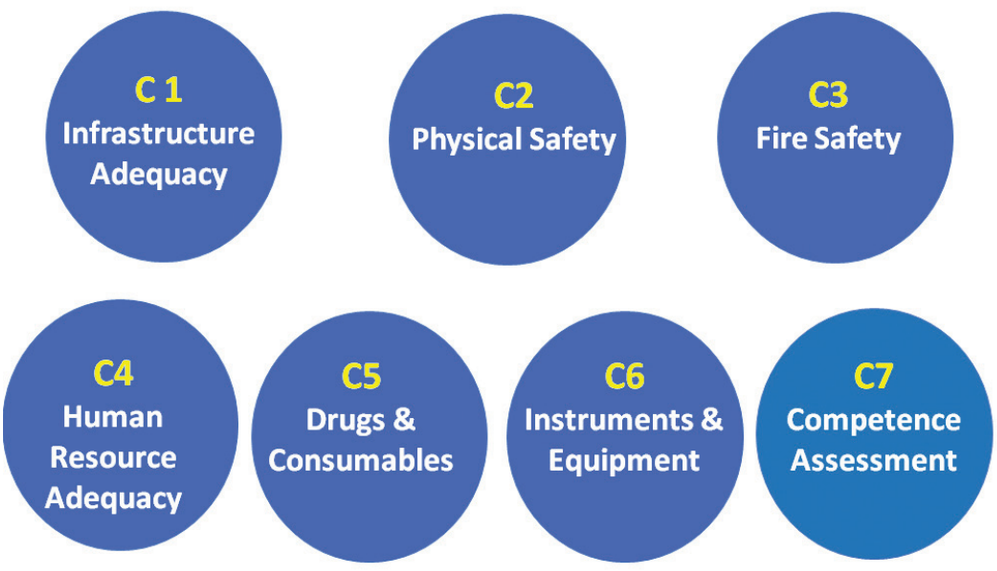
- B1 Patient Information
- B2 Access & Non-Discrimination
- B3 Privacy & Confidentiality
- B4 Patient Participation
- B5 Free Services & Entitlements
- B6 Ethical Issues in Healthcare

Area of Concern
C

Input- Overview

About	Availability of Infrastructure, HR, Drugs & Equipment
Rationale	Optimum Inputs are required for Quality Services
Reference	IPHS, BIS and Hospital Planning Textbooks
Measures	Structure
Standards	7
M E	40

Input - Standards



Area of Concern
D

Support Services- Overview

About	Quality of Maintenance, Auxiliary and Administrative Services
Rationale	Simply Hospital can't work with out these, Most Neglected area in Public Hospitals
Reference	GoI & WHO Guidelines, Hospital Administration Textbooks
Measures	Process

Standards	12	M E	43

Support Services - Standards

- **D1** Equipment Maintenance
- **D2** Drug Storage & Inventory Management
- **D3** Safety & Security
- **D4** Upkeep and Cleanliness
- **D5** Water & Power Supply
- **D6** Dietary Services

Support Services - Standards

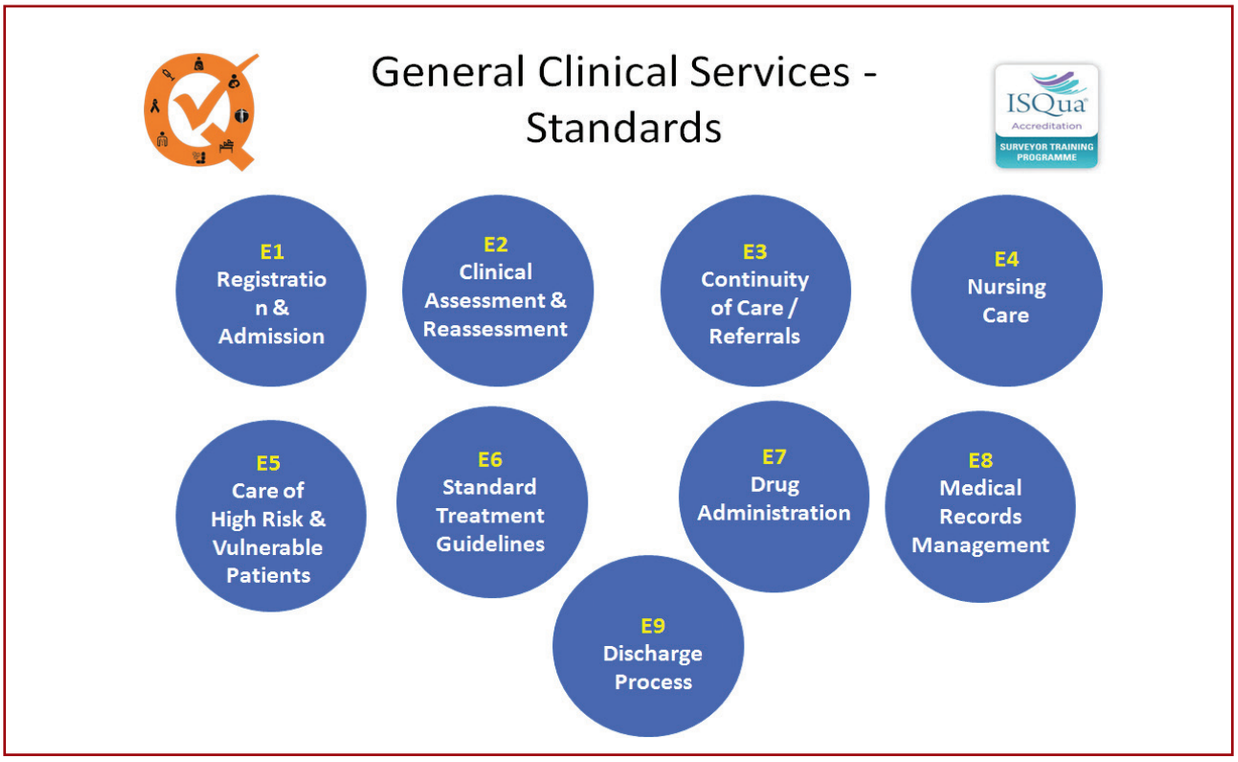
- **D7** Laundry Services
- **D8** Rogi Kalyan Samities & Community Participation
- **D9** Financial Management
- **D10** Statutory Requirements
- **D11** HR Management
- **D12** Management of Outsourced Services

Clinical Services- Overview

Area of Concern **E**

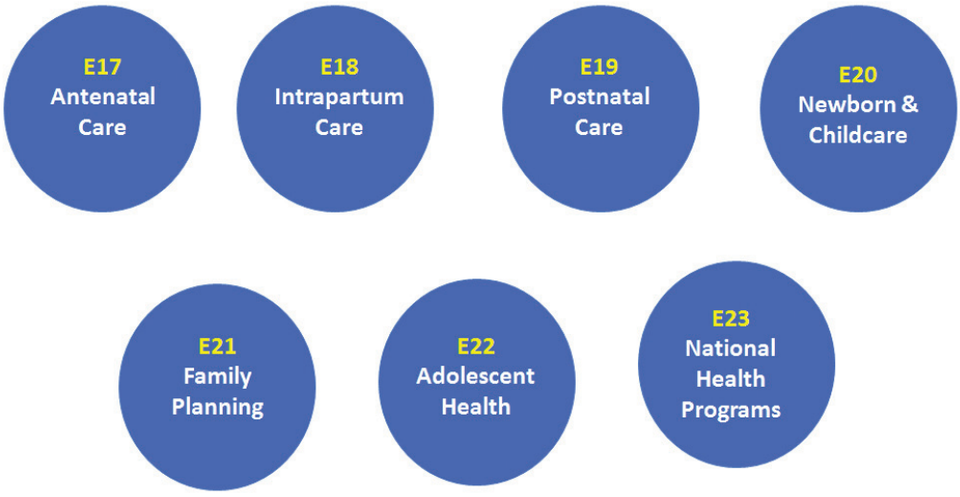
About	Quality of Clinical Care and Adherence to Protocols
Rationale	Core Processes of Hospital
Reference	GoI. Technical Guidelines, STGs and Clinical Standards
Measures	Process

Standards	23	**M E**	118


General Clinical Services - Standards
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
E1 Registration & Admission
E2 Clinical Assessment & Reassessment
E3 Continuity of Care / Referrals
E4 Nursing Care
E5 Care of High Risk & Vulnerable Patients
E6 Standard Treatment Guidelines
E7 Drug Administration
E8 Medical Records Management
E9 Discharge Process


Specific Clinical Services - Standards
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
E10 Intensive Care
E11 Emergency & Disaster Management
E12 Diagnostic Services
E13 Blood Bank Services
E14 Anesthesia Services
E15 Surgical Services
E16 End of Life care

RMNCH+A Clinical Services - Standards



Infection Control- Overview

Area of Concern **F**

About	Adherence to Infection control Protocols
Rationale	Because first aim is to do no harm
Reference	IMEP Guidelines, BMW Rules and International Publications
Measures	Process

Standards	6	**M E**	21

Infection Control- Standards

- **F1** Infection Control Program
- **F2** Hand Hygiene
- **F3** Personal Protection
- **F4** Instrument Processing & Autoclaving
- **F5** Environmental Control
- **F6** Biomedical Waste Management

Quality Management- Overview

Area of Concern **G**

About	Implementation of Quality Assurance System in Facility
Rationale	To standardize the processes and sustain the improvement
Reference	ISO 9001, CQI, TQM & Lean
Measures	Process
Standards	10
M E	45


Quality Management Standards
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
G1 Quality Team
G2 Patient Satisfaction survey
G3 Quality Assurance Program
G5 Process Mapping & Improvement
G4 Standard Operating Procedures


Quality Management Standards
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
G6 Quality Medical & Death Audits
G7 Mission, Quality Policy & Objectives
G8 Quality Tools & Methods
G9 Risk Management Framework
G10 Risk Management Process

Area of Concern
H

Outcome- Overview

About	Measurement and Bench Marking Performance
Rationale	Implementing practice of measuring quality & performance
Reference	Various Indictors , Dash boards and Guidelines
Measures	Outcome

Standards	4	**M E**	8

Outcome - Standards

- **H1** Productivity
- **H2** Efficiency
- **H3** Clinical Care/ Safety
- **H4** Service Quality

Measurement System for Levels for Facilities

Component	District Hospital	CHC	PHC	UPHC
Area of Concern	8	8	8	8
Standards	74	65	50	35
Checklists	19	12	6	12

Session 2: Measurement System under NQAS

Quality defines essential features of product or services that ensure it is performing as per their specifications. Quality is also defined as measuring its attributes. So, in simple terms, quality is about defining its product or services attributes and developing a scientific approach to measure its characteristics to evaluate the performance of the system. These attributes can be defined in terms of pre-determined specifications or standards. Important is to have a measurement system in place to quantify the control and improvement defined under pre-determined specification or standards.

National Quality Assurance Standards have explicit robust measurement system in place which ensures that the service provider gets an insight about quality scores of healthcare. It supports them to develop its quality targets and encourage to implement the actions required to achieve set objectives.

A table depicting the comparison of few existing Quality System and its arrangement:

Name of the programme	A Comparison of Quality Standards			
National Quality Assurance Standard (NQAS)	Area of Concern (8)	Standard (74)	Measurable Elements (362)	Checkpoints (593)
National Accreditation Board for Hospitals and Healthcare Providers (NABH)	Chapter (10)	Standards (100)	Objective Elements (651)	
Joint Commission International (JCI)	Accreditation Participation Requirements (12)	Patient-Centred Standards (7)	Healthcare Organization Management Standards (6)	Medical Profession Education (1)
National Accreditation Board for Testing & Calibration Laboratories (NABL)	Management Requirement (15)		Technical Requirements (10)	

Learning objectives

a. To understand the importance of measurement in Quality
b. To understand the anatomy of NQAS checklist
c. To get understanding of scoring system.
d. To identify and understand different methods of assessment
e. To get acquainted with assessment methodology
f. To acquaint with the checklists applicable at District Hospital level

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with:

a. Area of concern, Standards, Measurable elements, checkpoints, and checklist.

b. General Scoring rules and specific exemptions.

c. Use of assessment methods

d. Development of score cards viz. Overall facility wise, Standard wise, Area of concern wise and department wise, using NQAS checklists.

e. Core standards under NQAS and minimum eligibility scores required for State or National certification.

Exercise

The session is followed by an exercise, wherein trainees depict a hypothetical case study narrating some clinical situation. The participants will be divided into 5-6 groups (as per the number of participants, not over 10 in a group). A printout of the NQAS departmental checklist will be provided to them, following which they have to mark a compliance score against checkpoints given in the case study. Facilitator will discuss the case study with participants and clear the concerns in scoring system.

Suggested Reading Material:

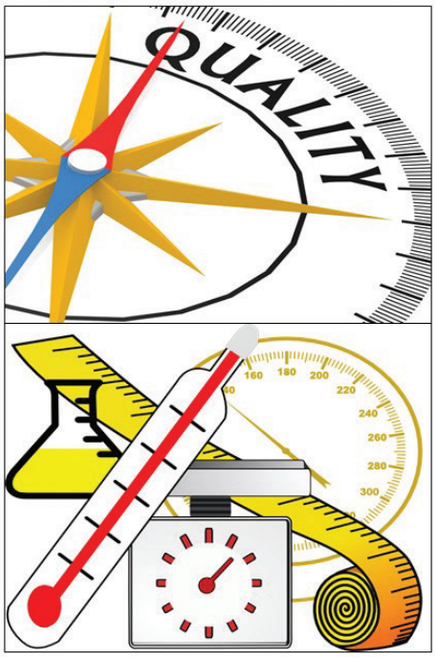
1. Joint Commission International Accreditation Standard for Hospital, 4th Edition

2. National Accreditation Board for Hospital and Healthcare Provider, 5th Edition

3. ISO 9001, Quality Management System requirement, Fourth Edition

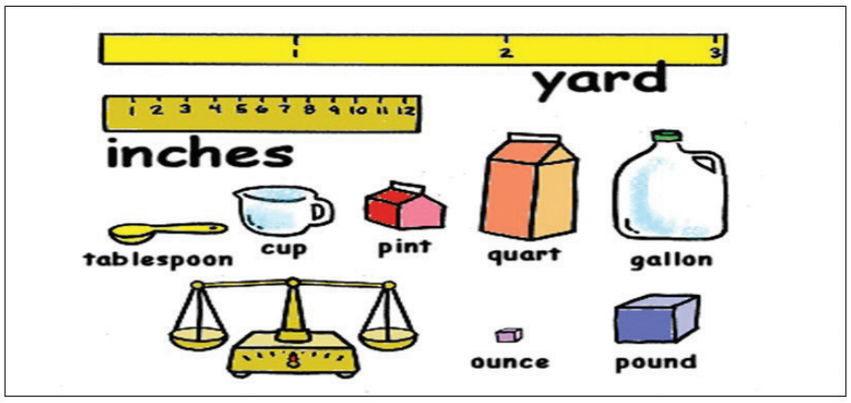
4. National Quality Assurance Standards for Public Health Facilities 2020

5. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II



Measurement System under NQAS

What is measurement?

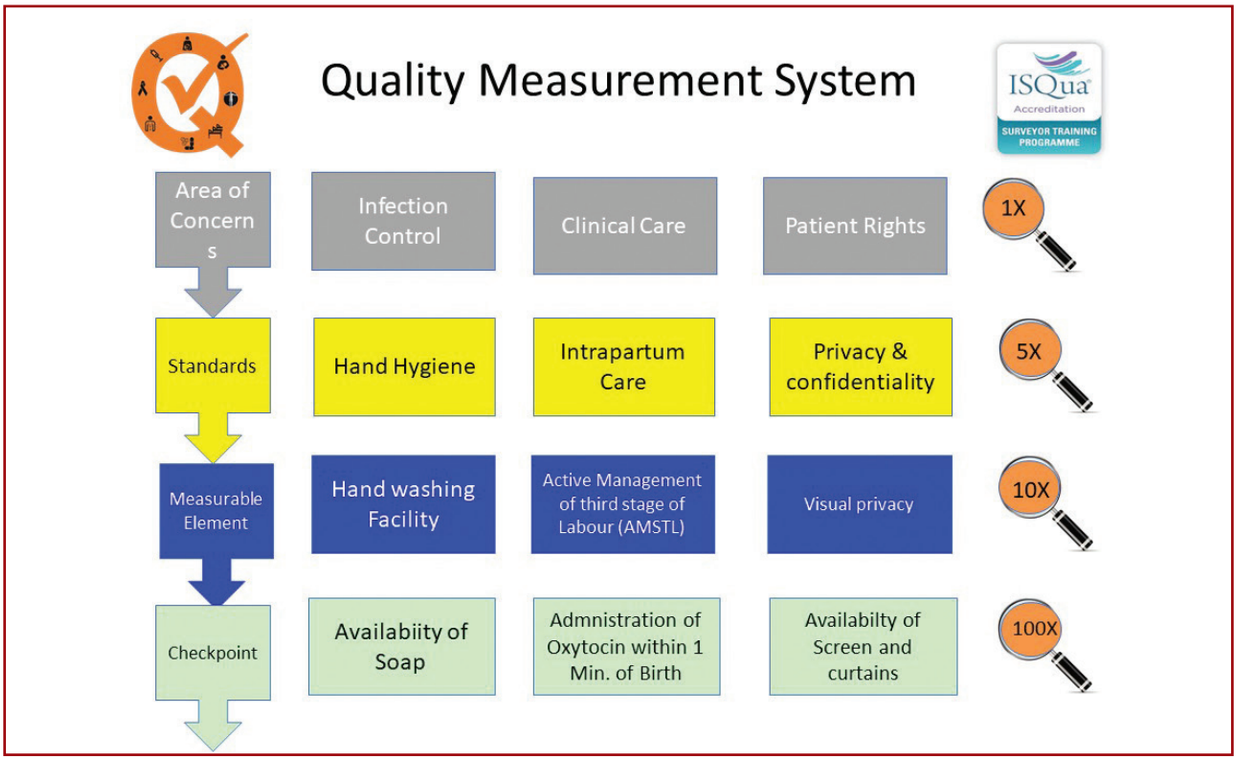


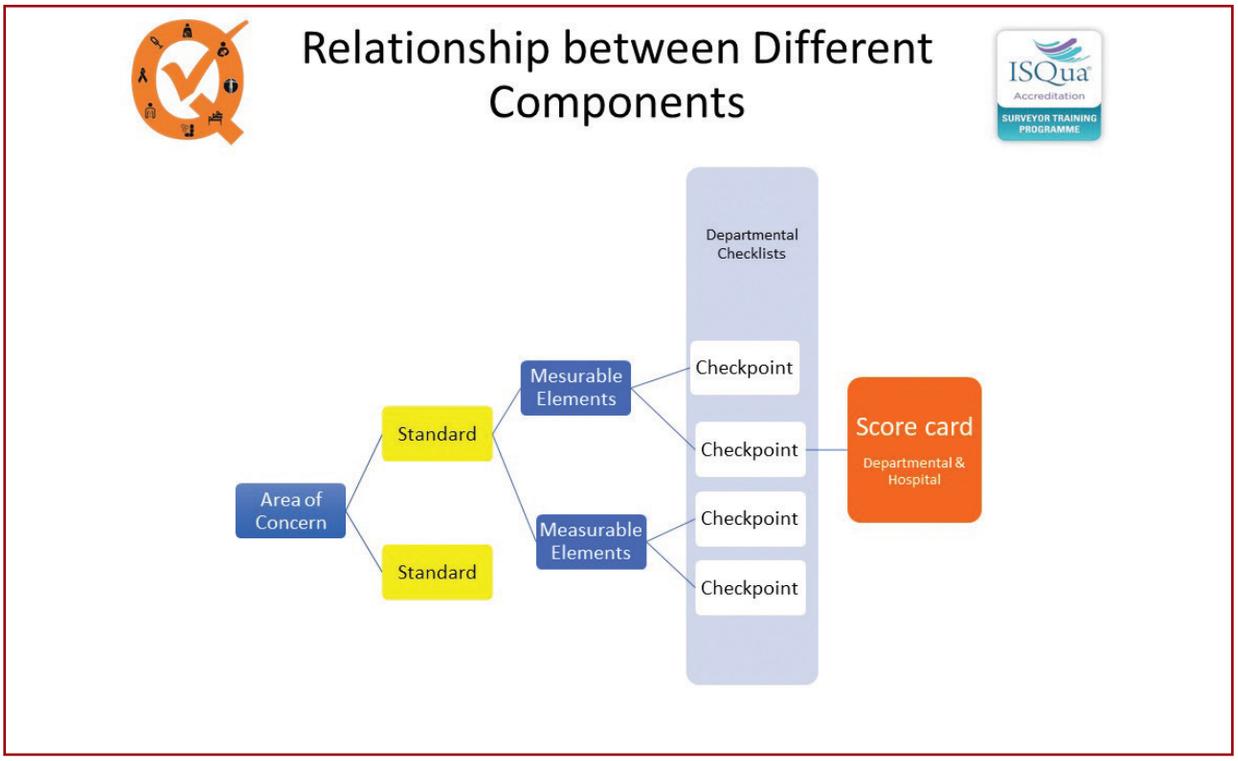
Process of applying Numbers to objects or Process, according to a set of Rules.

Synthesis of NQAS

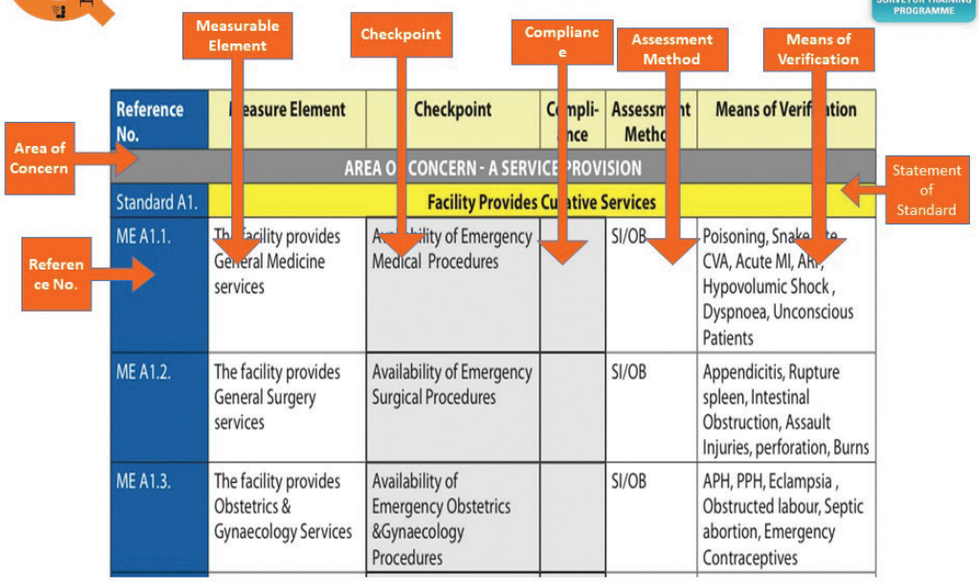
Quality Measurement System

Area of Concerns	Broad area/ themes for assessing different aspects for quality like Service provision, Patient Rights, Infection Control	8
Standards	Statement of requirement for particular aspect of quality	74
Measurable Element	Specific attributes of a standards which should be looked into for assessing the degree of compliance to a particular standard	362
Checkpoint	Tangible measurable checkpoints are those, which can be objectively observed and scored.	400


Quality Measurement System
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
Area of Concern s
Infection Control
Clinical Care
Patient Rights
1X
Standards
Hand Hygiene
Intrapartum Care
Privacy & confidentiality
5X
Measurable Element
Hand washing Facility
Active Management of third stage of Labour (AMSTL)
Visual privacy
10X
Checkpoint
Availabiity of Soap
Admnistration of Oxytocin within 1 Min. of Birth
Availabilty of Screen and curtains
100X


Relationship between Different Components
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
Departmental Checklists
Area of Concern
Standard
Standard
Mesurable Elements
Measurable Elements
Checkpoint
Checkpoint
Checkpoint
Checkpoint
Score card
Departmental & Hospital

Anatomy of Checklist



Assessment Method

OBSERVATION (**OB**)

STAFF INTERVIEW (**SI**)

RECORD REVIEW (**RR**)

PATIENT INTERVIEW (**PI**)

Observation (OB)

Compliance to many of the measurable elements can be assessed by directly observing the articles, processes and surrounding environment. Few examples are given below

a) Enumeration of articles like equipment, drugs, etc.

b) Displays of signages, work instructions, important information

c) Facilities - patient amenities, ramps, complaint-box, etc.

d) Environment – cleanliness, loose-wires, seepage, overcrowding, temperature control, drains, etc

e) Procedures like measuring BP, counseling, segregation of biomedical waste,

Staff interview (SI)

- Interaction with the staff helps in assessing the knowledge and skill level, required for performing job functions.
- Examples -
- a) Competency testing – Quizzing the staff on knowledge related to their job
- b) Demonstration – Asking staff to demonstrate certain activities like hand-washing technique, newborn resuscitation , etc.
- c) Awareness - Asking staff about awareness off patients' right, quality policy, handling of high alerts drugs etc.
- d) Attitude about patient's dignity and gender issues.
- e) Feedback about adequacy of supplies, problems in performing work, safety issues, etc.

Record Review (RR)

Records also generate objective evidences, which need to be triangulated with finding of the observation. Examples of the record review are given below -

- a) Review of clinical records - delivery note, anaesthesia note, maintenance of treatment chart, operation notes, etc.
- b) Review of department registers like admission registers, handover registers, expenditure registers, etc.
- c) Review of licenses, formats for legal compliances like Blood bank license and Form 'F' for PNDT
- d) Review of SOPs for adequacy and process
- e) Review of monitoring records – TPR chart, Input/output chart, culture surveillance report, calibration records, etc
- f) Review of department data and indicators

Patient Interview (PI)

Interaction with patients/clients may be useful in getting information about quality of services and their experience in the hospital. It gives us users' perspective. It should include -

- a) Feedback on quality of services, staff behavior, food quality, waiting times, etc.
- b) Out of pocket expenditure incurred during the hospitalization
- c) Effective of communication like counseling services and self drug administration

Compliance and scoring the three golden rules

- **RULE NO: 1 (checkpoints without MOV or MOV are explanatory in nature)**

CRITERIA TO BE USED	FULL COMPLIANCE (2)	PARTIAL COMPLIANCE (1)	NON COMPLIANCE (0)
CHECK POINT	ALL REQUIREMENTS OF CHECK POINTS ARE MET	HALF OF THE REQUIREMENTS OF CHECKPOINT ARE MET	NONE OF THE REQUIREMENTS MET

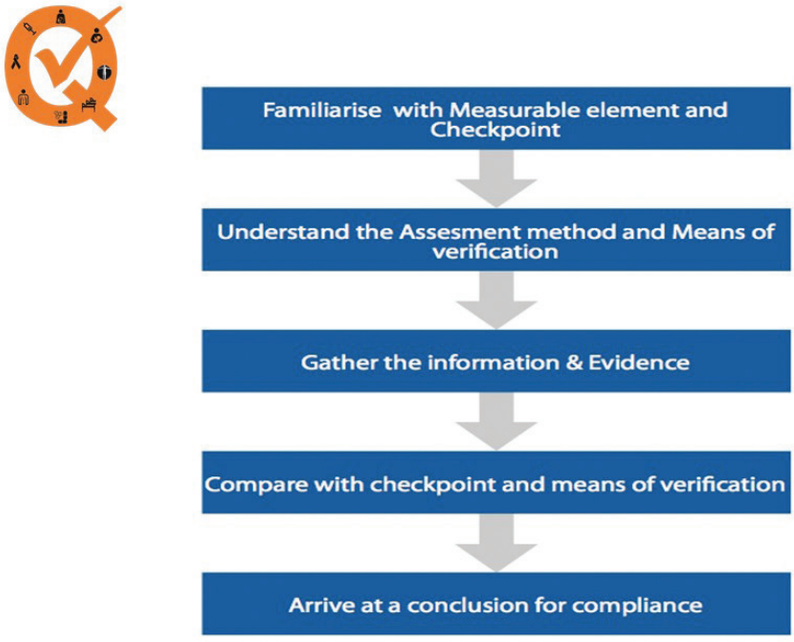
- **RULE NO:2 (Checkpoints with enumerated MOV)**

CRITERIA TO BE USED	FULL COMPLIANCE (2)	PARTIAL COMPLIANCE (1)	NON COMPLIANCE (0)
MEANS OF VERIFICATION	100%	50% TO 99%	LESS THAN 50%

Compliance and scoring the three golden rules

- RULE NO:3 (Not as routine) Only when you are
  - not able to score using Rule 1 and Rule 2.
  - Going beyond obvious.
  - Always look for INTENT in relation with the ME and Standard.

CRITERIA TO BE USED	FULL COMPLIANCE (2)	PARTIAL COMPLIANCE (1)	NON COMPLIANCE (0)
INTENT	FULLY MET	PARTIALY MET	NOT MET



List of DH Level Checklists 19

Name of Checklists		
Accident & Emergency	NRC	Laboratory
OPD	IPD	Radiology
Labour Room	ICU	Pharmacy
Maternity Ward	OT	Auxiliary Services
SNCU	PP Unit	Mortuary
Pediatric Ward	Blood Bank	General/Admin
Maternity OT		

Departmental Checklists

Accident & Emergency –

Checklist is applicable to Accident& Emergency department of a Hospital. The checklist has been designed to assess all aspect of dedicated emergency department. If emergency department is shared with OPD infrastructure than two checklists should be used independently.

Labour Room-

This checklist is applicable to the labour room(s) and its auxiliary area like nursing station, waiting area and recovery area. It also includes septic labour room and eclampsia room. The checklist assess all aspect of Intranatal care, postnatal care along with the components of respectful maternity care.

Departmental Checklists

Outdoor department

This checklist is applicable to outdoor department of a hospital. It includes **all clinics** and support areas like **immunization room**, **dressing room**, waiting area and laboratory's **sample collection** centre, located there

except for Family planning Clinic (if co-located in OPD), which has been included in the post partum unit. Similarly dispensary has been included in the Pharmacy check list.

This checklist also includes **ICTC and ANC** clinics. It may be possible that OPD services are dispersed geographically, for example ANC Clinic may not be located in the main OPD complex. Therefore, all such facilities should be visited.

Departmental Checklists

Maternity ward –

This checklist is meant for assessment of indoor obstetric department including wards for Antenatal care, and Post-partum wards (including C-Section). The auxiliary area for these wards like nursing station, toilets and department sub stores are also included in this check-list. However, general female wards or family planning ward are not covered within the purview of maternity ward.

Indoor Department –

This is a common checklist for other indoors wards including Medical, Surgical, Orthopedics, etc. In subsequent years, separate checklist for each ward may be included. However, as of now, this checklist should be used for all such departments.

Departmental Checklists

Nutritional Rehabilitation Centre

This checklist is applicable to NRC functioning within the health facility. However, it may not be relevant, if management of malnourished patients is done in the pediatric wards.

Pediatric ward

This checklist meant for a dedicated paediatric ward. If, there is no such ward in the hospital and paediatric patients are treated in other wards, then this checklist is not applicable at such health facilities.

Departmental Checklists

Sick Newborn Care Unit

This checklist is applicable to a functional Level II SNCU, located in the Hospital. It includes auxiliary area like waiting area for relatives, side laboratory and duty rooms for the staff. This checklist is not meant for lower level of facilities like Newborn Stabilization units and Newborn corner.

Intensive Care Unit –

This checklist is meant for assessing level II ICUs, which are recommended for District Hospitals. The ICU should have ventilators.

Departmental Checklists

Operation Theatre

This checklist is applicable for OT complex including General OT, Obstetrics & Gynecology OT, Orthopedics OT, Ophthalmic OT and any other facility for undertaking the surgeries**(if** available).

Family planning/ Postpartum OT is excluded from this checklist, which will be assessed through postpartum checklist.

This checklist also includes CSSD /TSSU, either co-located within the OT complex or located separately.

Postpartum Unit

This checklist is applicable to Family Planning clinic, separate OT used for Family planning surgeries & abortion cases and separate indoor ward available to admit any such cases. Assessment of Post partum unit would be undertaken through this checklist.

Departmental Checklists

Maternity Operation Theatre

This checklist is applicable to M –OT for improving quality of care provided during the management of obstetric emergency and performing C-section. It gives emphasis on safe anaesthetic and surgical procedures. If the hospital is providing services of general surgeries and obstetric surgeries in same OT, the Maternity OT & general OT checklists will be used separately for the assessment. The checklist promotes use of safe birth checklist and respectful maternal care while delivering the services

Departmental Checklists

Blood Bank

This checklist is applicable to Blood bank available within the premises of the hospital. This checklist also use covers the blood component services. This checklist is not meant for blood storage unit.

Laboratory

Thischecklistismeantformainclinicallaboratoryofthehospitalandalsoincludesthelaboratoryfor testing TB and malaria cases under respective National Health programme. This does not include ICTC lab for HIV testing which is part of OPD checklist.

Departmental Checklists

Radiology

This checklist is applicable on X-ray and Ultrasound departments. This checklist does not cover technical checkpoints for CT Scan and MRI

Pharmacy

This checklist is applicable on Drug store, Cold Chain storage and Drug dispensing counter. General store and Drug warehouse are not covered within ambit of this checklist.

Departmental Checklists

Auxiliary Services –

This checklist covers Laundry ,Dietary and medical record department. If these departments are outsourced and even located outside the premises, then also this checklist can be used. Washing hospital linen in public water body like river or pond or food supplied by charitable/religious institutions does not constitute having Hospital laundry / kitchen *per se*

Mortuary

This checklist is applicable to Mortuary and post-mortem room located at the hospital

Departmental Checklists

General Hospital Administration

This checklist covers medical superintendent (equivalent) and hospital manager offices and processes related to their functioning. This also covers hospital policy level issues and hospital wide cross cutting processes. This checklist is complimentary to all other checklist. So if a hospital wants to choose only of some of the department for quality assurance initially, then this check list should always be included in the assessment programme

Session 3: Area of concern - A (Service Provision)

National Health Policy 2017 envisages an attainment of the highest possible level of health and wellbeing for all at all ages, through a preventive and promotive health care, and universal access to good quality health care services. To achieve the NHP goals and provide quality health care services accountable and responsive to people's needs, various strategic plans have been developed, which includes efforts towards ensuring the availability of services offered by public healthcare facilities. Under NHM Indian Public healthcare standards (IPHS) established in 2007, and revised in 2012, define the service provision and infrastructure requirements for Primary and secondary level public healthcare facilities. To strengthen the availability of services as per IPHS, under NQAS first Area of concern -Service Provision has been carved out.

Area of concern not only ensures mere availability of mandated services but also ensures services are functional and available to its users as per time mandate. So, area of concern -A, Service provision, defines and measure 360-degree availability of services which means availability of structure (Infrastructure, staff, equipment, drugs etc.), process (clinical, support, administrative processes) and outcome (adequacy, functionality, utilization) for the services.

In this session -Six Standards will be covered along with their measurable elements, checkpoints, and applicable checklist. As RMNCAH+N is the **priority Standard A2; the facility provides RMNCH+A services, is the core standard to get National level Certification.**

Learning objectives

1. Understanding of the standards under the Area of Concern' A' inclusive of
   - Curative Services
   - RMNCH+A
   - Diagnostic Services
   - National Health Programmes
   - Support Services
   - Local Community needs
2. How these standards are arranged in different checklists
3. Things to be kept in mind while conducting assessment for Area of concern A

Expected outcome

By the end of the session, it is expected that trainees will be well-acquainted with the idea that the mere availability of infrastructure or human resource does not always ensure the availability of services. The use of assessment methods in various permutations is very much essential to assess the functionality of services.

Suggested Reading Material:

1. Implementation guide on RCH-II, Adolescent and Reproductive Sexual Health Strategy for State and District Program Manager, Ministry of Health and Family Welfare, Govt. of India
2. Rashtriya Bal Swasthya Karyakaram (RBSK), Operational Guidelines, MoHFW 2013
3. National Quality Assurance Standards for Public Health Facilities 2020
4. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

Service Provision
Area of Concern A

Service Provision

AVAILABILITY of services to USERS

Structure		Processes		Outcome
Infrastructure	+	Clinical	=	Functional
Human Resource		Support		Adequate
Supplies		Administration		Being Utilized

Check for

- Infrastructure and Equipment are functional

  e.g.. Departments is not locked /Deserted, Critical equipment are working

- Service Providers available

  e.g.. Doctor, Nurse, Counselor etc. available at time of assessment

- Services being provided for time mandated

  e.g. Emergency is operational 24X7, or OPD for 6hrs

- Subcomponent of services are being delivered

  e.g. Management of APH, PPH, Eclampsia, obstructed labor for emergency obstetric care

- Service Being Utilized

  e.g. there must have been some users if service is available. If 24X7 CEmONC services are available there must have some C-Section conducted in night

Standards and MEs under Service Provision

Checklists	District Hospitals	CHCs	PHCs	UPHCs
Standards	6	6	4	5
ME	48	43	32	29

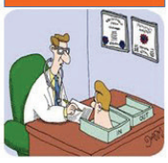
Services Provision for District Hospitals

A1 Curative Services	**A2** RMNCH+A Services	**A3** Diagnostic Services
A4 National Health Programs	**A5** Support Services	**A6** Services as per Local Needs

Standard A1	**The Facility Provides Curative Services**

Standard A1 — The Facility Provides Curative Services

- Medicine
- Surgery
- Obs & Gynae
- Pediatric
- Ophthalmology
- ENT
- Orthopedics
- Skin & VD
- Psychiatry
- Dental
- AYUSH
- Physiotherapy
- Super Specialty
- Emergency
- Intensive Care
- Blood Bank

EMERGENCY	OPD	INDOOR	OT
			
Availability of Emergency Procedures for different specialties	Availability of Functional OPD Consultation Services for different specialties	Availability of Indoor Services (Wards) For different specialties	Availability of Surgical Procedures For different Specialties

Standard A1 — The Facility Provides Curative Services

- **Ask Emergency Doctor/ Nursing Staff** if they can manage patients of Different Medical Emergencies/ Perform Procedures as given in means of verification as **tracers.**

Review emergency register to see

- what kind of case they usually manage
- Patients are not referred for cases can be managed easily at facility.
- check for some patients have been treated in Night

Observe in emergency department

- case load and type of patients
- Doctors and paramedic staff is available on duty
- patients are not refused emergency treatment

Standard A2 **The Facility Provides RMNCH+A Services**

Reproductive → Maternal → Newborn → Childhood → Adolescent

"Continuum of care across life cycle"

Standard A2 The Facility Provides RMNCH+A Services

	EMR	OPD	Labour Room	Maternity Ward	NRC Paed. Ward	SNCU	OT	PP Unit
ME A2.1 Reproductive			PPIUD				Tubal Ligation	Limiting Spacing Counsel Abortion
ME A2.2 Maternal	EOC	ANC	Delivery, Complications	Postpartum care			C-Section Complication	Post-Partum Counsel.
ME A2.3 Newborn		Immunization	Resuscitation	Newborn Care		Treatment of Sick Newborn	Resuscitation	
ME A2.4 Child	Emergency Management	IYCF RBSK			SAM, Pneumonia Diarrhea			
ME A2.5 Adolescent		ARSH Clinic						Abortion

Standard A2 — The Facility Provides RMNCH+A Services

Observe

- Dedicated functional clinics for different services like ARSH , Immunization, Family Counseling , ANC are available .
- Service providers Doctor, Nurse, counselors etc. are available in operational hours.

Review registers / records

- For procedures like delivery, C-sections, family planning surgeries, abortion and management of complications like eclampsia has been done.
- Patients are being treated for different illnesses as given in scope of services

Ask staff

- If they can manage different cases and services are being provided as written in MoV.

Standard A3 — Facility Provides Diagnostic Services

Standard A3 — The Facility Provides Diagnostic Services

	Laboratory	Radiology	IPD, Labour Room, OT, Emergency	SNCU, NRC, ICU
ME A3.1 Radiology		X-Ray USG CT-Scan		Portable X-Ray
ME A3.2 Laboratory	Hematology Bio-chemistry Microbiology Serology		Point of Care tests	Side Lab
ME A3.3 Other			ECG, TMT	

Standard A3 — The Facility Provides Diagnostic Services

Observe

- Dedicated department and services eg. X- Ray, Lab etc are available in house
- Service providers Doctor, Technician etc. are available

Review registers / records

- For diagnostic tests/ procedures are being done for different categories
- Emergency lab test , & X-ray specially in Night are done

Ask staff

- If they tests/ procedures are done in the facility eg. Emergency HIV testing in labor room

Standard A4	Facility provides services as mandated in National Health Programs/ state scheme

Standard A4	Facility provides services as mandated in National Health Programs/ state scheme

	OPD	INDOOR	OT	Lab
NVBDCP RNTCP NLEP NACP Blindness Control Mental Health Geriatric Care NPCDCS IDSP Deafness Control State Specific RBSK	OPD Consultation, Treatment Regime, Counseling & Follow up services	Indoor treatment in diseases	Surgical procedures like Cataract	Lab Tests like AFB & Malaria

Standard A4

Facility provides services as mandated in National Health Programs/ state scheme

Observe

- Dedicated functional clinics for different services DOT Center, ICTC, Geriatric Clinic , Microscopy center etc. are available.
- Service providers Doctor, Nurse, counselors etc. are available in operational hours.

Review registers / records

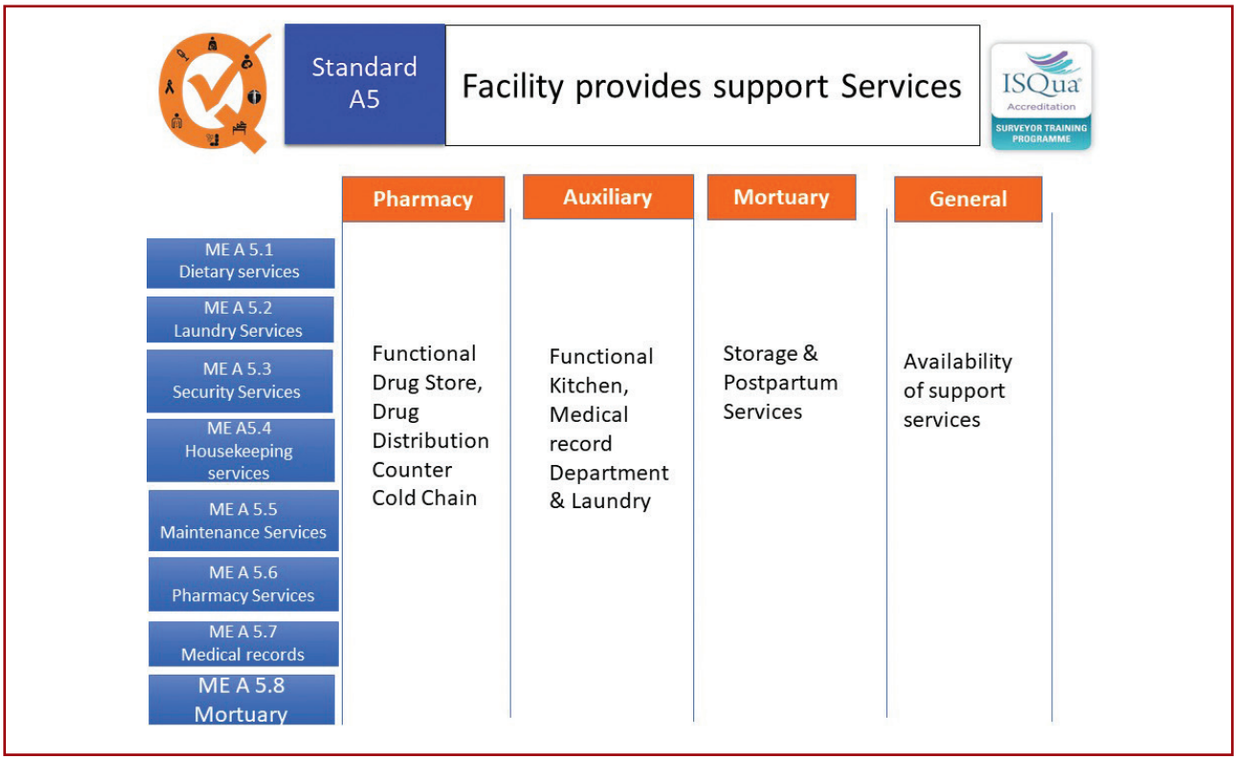
- Patients are being treated for different illnesses as given in scope of services

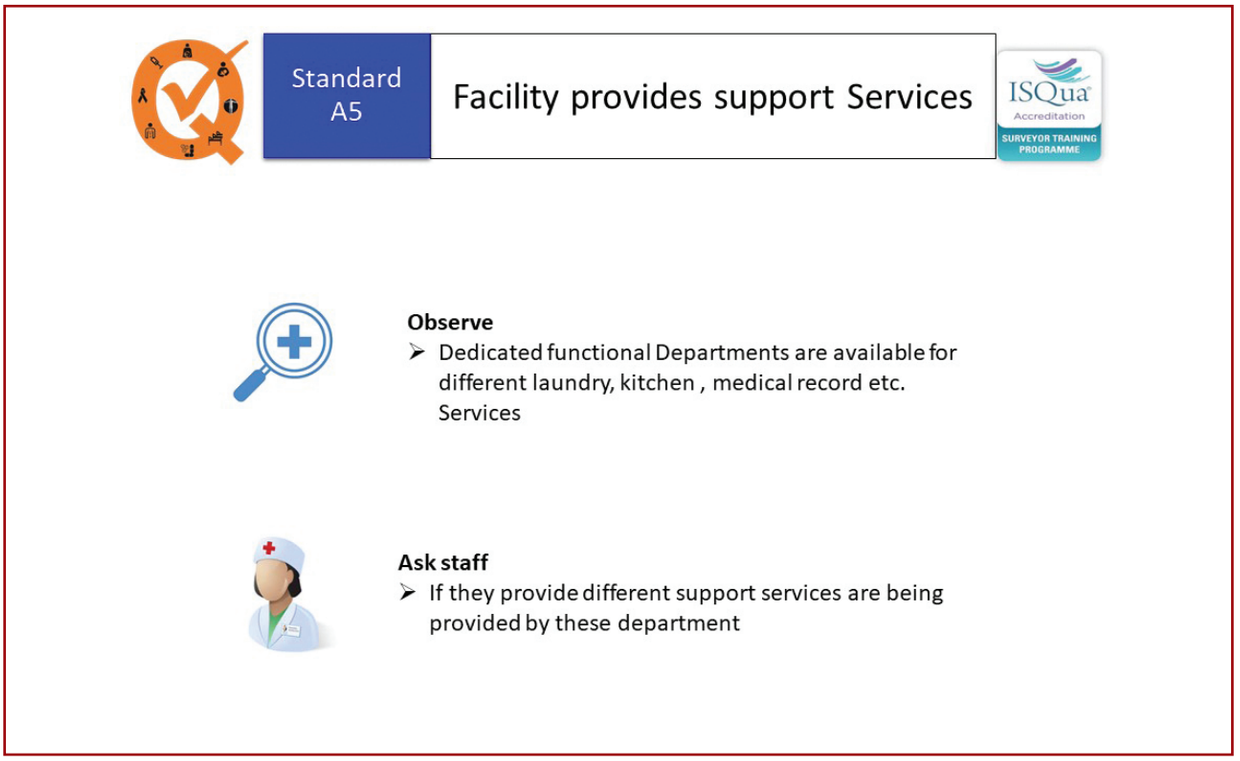
Ask staff

- If they provide different services as under national health programs.

Standard A5

Facility provides support Services


Standard A5
Facility provides support Services
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
Pharmacy
Auxiliary
Mortuary
General
ME A 5.1 Dietary services
ME A 5.2 Laundry Services
ME A 5.3 Security Services
ME A5.4 Housekeeping services
ME A 5.5 Maintenance Services
ME A 5.6 Pharmacy Services
ME A 5.7 Medical records
ME A 5.8 Mortuary
Functional Drug Store, Drug Distribution Counter Cold Chain
Functional Kitchen, Medical record Department & Laundry
Storage & Postpartum Services
Availability of support services


Standard A5
Facility provides support Services
ISQua Accreditation
SURVEYOR TRAINING PROGRAMME
Observe
Dedicated functional Departments are available for different laundry, kitchen , medical record etc. Services
Ask staff
If they provide different support services are being provided by these department

Standard A6	Health services provided at the facility are appropriate to community needs.

Standard A6	Health services provided at the facility are appropriate to community needs

Observe

- Collect information independent about local health needs & Prevalent Health problems and see if scope of services of facility match with it or not.

Ask staff

- Ask staff if there are some local health problems that are not addressed by the facility
- As hospital leadership (Superintendent/ Civil Surgeon) how they decide scope of services and is there any mechanism to involve community in that.

- **Interact with some patients** Visitors to know about the services that are needed but not provided by the facility

Session 4: Area of concern - B (Patients' Right)

Area of concern – B, Patient's rights, ensure that public health facilities address the healthcare issues of the poor and vulnerable population, and services are provided in a manner that is sensitive to gender. It advocates the services are accessible as well as provided with respect, dignity, and confidentiality. It also ensures that religious and cultural preferences of patients and attendants are taken into consideration while delivering services. Besides, healthcare facilities provide services irrespective of social and economic status of the patients, which includes special cases like transgender groups, domestic violence, and assault etc. as per prevalent norms and government directions.

Session broadly covers six standards focused on accessibility of services which includes physical as well as financial accessibility of services in public healthcare facilities. So, it ensures services mandated under Govt schemes are available cashless to targeted groups. As to reduce out of pocket expenditure, Govt is providing free of cost drugs, diagnostic etc. Standard B5, which states -there is no financial barrier to access, and that financial protection is given from the cost of hospital services is core standards of NQAS National Certification.

Learning objectives

a. Understanding of the standards under the Area of Concern 'B' inclusive of
   - Information
   - Accessibility
   - Privacy and Confidentiality
   - Patient Participation
   - Free Services
   - Ethical Dilemmas

b. How these standards are distributed in different checklists

c. Things to be kept in mind while conducting an assessment of these standards

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the concept of quality healthcare services which are accessible, acceptable, and affordable to all without any financial barriers. The trainees have the requisite knowledge about the information to be inquired from the patient/their attendants about service accessibility. They will also be well-versed with the measurable elements which ensure that:

1. Mechanism to maintain privacy, confidentiality, and dignity of patients, and has a system for guarding patient-related information.
2. Importance of informing patients about the medical condition, involving them in treatment planning, and facilitates informed decision-making.
3. System for complaint management & grievance re- addressal.
4. The mechanism for defining and implementing ethical dilemmas confronted during the delivery of services at public health facilities.

Suggested Reading Material:

1. Guideline for implementing Sevottam, Department of Administration reform and public grievance, Ministry of Health and Family Welfare
2. International Covenant on Social, Economic and Cultural Rights (ICESCR)
3. National Quality Assurance Standards for Public Health Facilities 2020
4. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

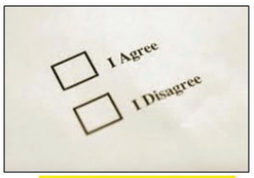
Patient's Rights
Area of Concern B

Area of Concern B- Patients' Rights

B1
INFORMATION

B2
ACCESSIBILITY

B3
PRIVACY & CONFIDENTIALITY



B4
PARTICIPATION

JANANI SHISHU SURAKSHA KARYAKRAM (JSSK)

B5
FREE SERVICES

B6
ETHICAL ISSUES

Standards and MEs under Patient Rights

Checklists	District Hospitals	CHCs	PHCs	UPHCs
Standards	6	5	4	3
ME	39	28	21	17

Standard B1	The facility provides the information to care seekers, attendants & community about the available services and their modalities

Standard B1	The facility provides the information to care seekers, attendants & community about the available services and their modalities	
ME B1.1 Signage	Look for ➢ Name of the Department Displayed ➢ Direction to different department is given ➢ Restriction Notice (Labour Room, OT, SNCU ➢ Signage in Uniform color & user friendly	All Departments
ME B1.2 Service Availability Information	Display of ➢ Services , Drugs , Available ➢ Timings, Contact No.. ➢ Entitlements (JSY, JSSK, Other Schemes) ➢ Staff on Duty	All Patient Care Departments
ME B1.3 Citizen Charter	Displayed Prominently ➢ Scope services ➢ Beds Available in Different Department ➢ Time taken for different services ➢ Whom to Contact in case of complaint	General/ Admin

Standard B1	The facility provides the information to care seekers, attendants & community about the available services and their modalities	
ME B1.4 User Charges	Look for ➢ User Charges, if Any, Displayed	OPD, IPD, Pharmacy
ME B1.5 IEC Material	Look for Display of IEC material ➢ National Health Programs ➢ Health Education' ➢ Counseling Aid, Brochure	All Patient Care Departments
ME B1.6 Local Language	➢ Look for that all information is at least available in local language	All Departments

Standard B1	The facility provides the information to care seekers, attendants & community about the available services and their modalities

ME B1.7 Help Desk	Look for ➢ Dedicated "May I Help You Desk" ➢ A dedicated person is available to for answering enquiry	OPD, IPD, Pharmacy
ME B1.8 Access to clinical Records	Check for clinical records/ Information is shared with the patients e.g. OPD Prescription, Lab Reports, Discharge Summary etc.	All Patient Care Departments

Standard B2	**Services are delivered in a manner that is sensitive to gender, religious and cultural needs, and there are no barriers on account of physical economic, cultural or social reasons**

Standard B2	Services are delivered in a manner that is sensitive to gender, religious and cultural needs, and there are no barriers on account of physical economic, cultural or social reasons

ME B2.1 Gender Sensitivity	➢ Separate Queue & Clinic for Females in OPD ➢ Separate Male & female & toilets ➢ Female attendant at time of female examination ➢ Male Patients not Admitted in Female wards	All Patient Care Departments
ME B2.2 Religious & Cultural Preferences	➢ Food Preferences ➢ Environment	All Patient Care Departments
ME B2.3 Physical Access	➢ Ramps ➢ Disable Friendly Toilets ➢ Wheelchair/ Stretcher ➢ Maintained Internal Paths/ Circulation Area	All Patient Care Departments

Standard B2	Services are delivered in a manner that is sensitive to gender, religious and cultural needs, and there are no barriers on account of physical economic, cultural or social reasons

ME B2.4 Social Indiscrimination	➢ No social Discrimination	General /Admin
ME B2.5 Affirmative Services	Arrangements for- ➢ Terminally Ill Patients ➢ Lawaris Patients ➢ Domestic Violence	General/Admin

Standard B3	The facility maintains privacy, confidentiality & dignity of patient, and has a system for guarding patient related information

Standard B3	The facility maintains privacy, confidentiality & dignity of patient, and has a system for guarding patient related information	
ME B3.1 Privacy	➢ Availability of screens, Curtains ➢ Dedicated examination area ➢ Separate Clinics ➢ Breastfeeding Area	All Patient Care Departments
ME B3.2 Confidentiality	➢ Confidentiality of Patients Records- Secure Storage	All Clinical Departments
ME B3.3 Staff Behaviors	➢ Ask patients about behavior of staff	All Patient care Departments
ME B3.4 Vulnerable Groups	➢ Privacy & Confidentiality of HIV Patients	All Clinical Departments

Standard B4	**The facility has defined and established procedures for informing patients about the medical condition, and involving them in treatment planning, and facilitates informed decision making.**

Standard B4	The facility has defined and established procedures for informing patients about the medical condition, and involving them in treatment planning, and facilitates informed decision making	
ME B4.1 Consent	There is established procedures for taking informed consent before treatment and procedures.	All Patient Care Departments
ME B4.2 Patient Rights Information	Patient is informed about his/her rights and responsibilities	All Clinical Departments
ME B4.3 Staff Awareness	Staff are aware of Patients rights responsibilities	All Patient care Departments

Standard B4	The facility has defined and established procedures for informing patients about the medical condition, and involving them in treatment planning, and facilitates informed decision making

ME B4.4 Treatment Information	Information about the treatment is shared with patients or attendants, regularly	All Patient Care Departments
ME B4.5 Grievance Redressal	The facility has defined and established grievance redressal system in place	All Patient Care Departments

Standard B5	**The facility ensures that there is no financial barrier to access, and that there is financial protection given from the cost of hospital services**

Standard B5	The facility ensures that there is no financial barrier to access, and that there is financial protection given from the cost of hospital services

ME B5.1 JSY/JSSK	The facility provides cashless services to pregnant women, mothers and neonates as per prevalent government schemes	All Maternal & Newborn Departments
ME B5.3 Free Drugs	The facility ensures that drugs prescribed are available at Pharmacy and wards	All Patients care Departments
ME B5.3 Free Diagnostics	It is ensured that facilities for the prescribed investigations are available at the facility	All Patient care Departments

Standard B5	The facility ensures that there is no financial barrier to access, and that there is financial protection given from the cost of hospital services

ME B5.4 BPL	The facility provide free of cost treatment to Below poverty line patients without administrative hassles.	All Patient Care Departments
ME B5.5 Incentives	The facility ensures timely reimbursement of financial entitlements and reimbursement to the patients	All Clinical Departments
ME B5.6 Health Insurance	The facility ensure implementation of health insurance schemes as per National / state scheme	All Patient care Departments

Standard B6	The Facility has defined framework for ethical management including dilemmas confronted during delivery of services at public health facilities

Standard B6	The Facility has defined framework for ethical management including dilemmas confronted during delivery of services at public health facilities	
ME B6.1 Code of Conduct	Ethical norms and code of conduct for medical and paramedical staff have been established	General Admin
ME B6.2 Awareness	The Facility staff is aware of code of conduct established	General Admin
ME B6.3 Medical Representatives	The Facility has an established procedure for entertaining representatives of drug companies and suppliers	General Admin

Standard B6	The Facility has defined framework for ethical management including dilemmas confronted during delivery of services at public health facilities

ME B6.4 Medical Examination	The Facility has an established procedure for medical examination and treatment of individual under judicial or police detention as per prevalent law and government directions	General Admin
ME B6.5 Data Sharing	There is an established procedure for sharing of hospital/patient data with individuals and external agencies including non-governmental organization	General Admin
ME B6.6 End of Life Care	There is an established procedure for 'end-of-life' care	Emergency, SNCU, ICU, General Admin

Standard B6	The Facility has defined framework for ethical management including dilemmas confronted during delivery of services at public health facilities

ME B6.7 LAMA	There is an established procedure for patients who wish to leave hospital against medical advice or refuse to receive specific treatment	Emergency, Maternity ward, Pediatrics ward, SNCU, NRC, PP unit, ICU, IPD & General Admin
ME B6.8 Incentives	There is an established procedure for obtaining informed consent from the patients in case facility is participating in any clinical or public health research	General Admin
ME B6.9 Medical Certificates	There is an established procedure to issue of medical certificates and other certificates	General Admin

Standard B6	The Facility has defined framework for ethical management including dilemmas confronted during delivery of services at public health facilities

ME B6.10 Strikes	There is an established procedure to ensure medical services during strikes or any other mass protest leading to dysfunctional medical services	General Admin
ME B6.11 Copy of Code of Ethics	An updated copy of code of ethics under Indian Medical council act is available with the facility.	General Admin

Session 5: Area of concern - C (Inputs)

National Health Mission (NHM) was launched in 2005 to strengthen the Public Health System. The Mission seeks to provide effective healthcare to the populace throughout the country with special focus on the States with weak health indicators. Studies reveals that one of the reasons for non-availability of services is inadequate infrastructure in term of HR, equipment, medicines etc. To address the structural issues in public health care institutions Indian Public Health Standards (IPHS) for Sub-Centres (SC), Primary Health Centres (PHCs), Community Health Centres (CHCs), Sub-District and District Hospitals (SDH and DH) were published in 2007, and subsequently revised in 2012.

IPHS are a set of uniform standards envisaged to improve service provisioning and structural norms in country. It defines infrastructure, human resources, medicines, and equipment requirements for the different levels of health facilities. Quality standards given in this area of concern take cognizance of the IPHS requirement.

Area of concern- C, Inputs, address Seven standards which predominantly covers the structural part of the facility and focus on ensuring compliance to a minimum level of inputs, which are required for ensuring delivery of committed services. Area of concern not only cover adequacy of HR but also ensure HR is skilled, competent to perform their stipulated functions.

Learning objectives

a. Understanding of the standards under the Area of Concern 'C' inclusive of
   - Infrastructure and Space
   - Physical Safety
   - Fire Safety
   - Human Resources
   - Drugs and Consumables
   - Instruments and Equipment
   - Staff Competence

b. How these standards are distributed in different checklists

c. Things to be kept in mind while conducting assessment of these standards

Expected outcome

By the end of the session, it is expected that trainees will be acquainted with the structural requirements to ensure that available services are safe and effective. At the end of the session, following outcomes are expected:

1. Learned about infrastructure requirement for delivery of health services as per the patient load or prevalent norms.
2. Learned about the requirements to ensure physical safety, fire safety and prevention from any disaster.
3. Learned about defined inputs (e.g., skilled staff, drugs and consumables, equipment, and instruments) required for providing committed health services as per service provision and patient load.
4. Learned about parameters used to assess competence and performance of clinical and paraclinical staff.

Additional Reading Material:

1. Indian Public Health Standards (IPHS), Guidelines for District Hospitals, Community Health Centre, Primary Health Centre, Revised 2012
2. Compendium of norms for designing of hospitals and medical institutions
3. National Quality Assurance Standards for Public Health Facilities 2020
4. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

Inputs
Area of Concern C

Standards and MEs under Inputs

Checklists	District Hospitals	CHCs	PHCs	UPHCs
Standards	7	5	5	4
ME	40	30	25	20

Arrangement of standards in Checklists

	Standards	DHs	CHCs	PHCs	UPHCs
C-1	Available infrastructure and Space to meet prevalent norms	Yes	Yes (C1)	Yes (C1)	MERGED (C1,C2 &C3)
C-2	Physical safety	Yes	MERGED (C2 with C3)	MERGED (C2 with C3)	
C-3	Fire safety and other disaster	Yes			
C-4	Qualified and trained staff	Yes	Yes (C-3)	Yes (C-3)	Yes C2
C-5	Drugs and consumables	Yes	Yes (C-4)	Yes (C-4)	Yes C-3
C-6	Equipment and instruments	Yes	Yes (C-5)	Yes (C-5)	Yes C-4
C-7	Competency and performance of Staff	Yes	Not available	Not available	Not available

Standard C1	**The facility has infrastructure for delivery of assured services, and available infrastructure meets the prevalent norms.**

Standard C1	The facility has infrastructure for delivery of assured services, and available infrastructure meets the prevalent norms	
ME C1.1 Space	Departments have adequate space as per patient or workload	All Departments
ME C1.2 Patient Amenities	Patient amenities are provide as per patient load	All Patient Care Areas
ME C1.3 Layout	Departments have layout and demarcated areas as per functions	All Departments
ME C1.4 Circulation Area	The facility has adequate circulation area and open spaces according to need and local law.	All Departments

Standard C1	The facility has infrastructure for delivery of assured services, and available infrastructure meets the prevalent norms	
ME C1.5 Communication	The facility has infrastructure for intramural and extramural communication.	All Departments
ME C1.6 Service Counters	Service counters are available as per patient load.	All Departments
ME C1.7 Functional Relationship	The facility and departments are planned to ensure structure follows the function/processes	All Departments

Standard C2	The facility ensures the physical safety of the infrastructure.

Standard C2	The facility ensures the physical safety of the infrastructure	
ME C2.1 Seismic safety	The facility ensures the seismic safety of the infrastructure.	All Departments
ME C2.2 Lifts Safety	The facility ensures safety of lifts and lifts have required certificate from the designated bodies/ board.	General/Administration
ME C2.3 Electrical Safety	The facility ensures safety of electrical establishment.	All Departments
ME C2.4 Building Safety	Physical condition of buildings are safe for providing patient care.	All Departments

Standard C3	**The facility has established Program for fire safety and other disaster**

Standard C3	The facility has established Program for fire safety and other disaster

ME C3.1 Fire Safety Plan	The facility has plan for prevention of fire	All Departments
ME C3.2 Fire Fighting Equipment	The facility has adequate fire fighting Equipment.	All Departments
ME C3.3 Fire Safety Training	The facility has a system of periodic training of staff and conducts mock drills regularly for fire and other disaster situation	All Departments

Standard C4	The facility has adequate qualified and trained staff, required for providing the assured services to the current case load.

Standard C4	The facility has adequate qualified and trained staff, required for providing the assured services to the current case load	
ME C4.1 Specialist Doctors	The facility has adequate specialist doctors as per service provision.	All Clinical Departments
ME C4.2 General Duty Doctors	The facility has adequate general duty doctors as per service provision and work load.	All Clinical Departments
ME C4.3 Nursing Staff	The facility has adequate nursing staff as per service provision and work load.	All Clinical Departments
ME C4.4 Paramedic/ Technician	The facility has adequate technicians/paramedics as per requirement.	All Clinical Departments except labour room & NRC

Standard C4	The facility has adequate qualified and trained staff, required for providing the assured services to the current case load

ME C4.5 Support Staff	The facility has adequate support/general staff.	All Departments

Standard C5	**The facility provides drugs and consumables required for assured services**

Standard C5	The facility provides drugs and consumables required for assured services

ME C 5.1 Drug Availability	The departments have availability of adequate drugs at point of use	All Clinical Departments
ME C5.2 Consumables Availability	The departments have adequate consumables at point of use	All Clinical Departments
ME C5.3 Emergency Drug Tray	Emergency drug trays are maintained at every point of care, wherever it may be needed.	All Clinical Departments

Standard C6	**The facility has equipment & instruments required for assured list of services**

Standard C6	The facility has equipment & instruments required for assured list of services	
ME C6.1 Examination & monitoring Equipment	Availability of Equipment & instruments for examination & monitoring of patients	All Departments
ME C6.2 Treatment procedures Equipment	Availability of equipment and instruments for treatment procedures, being undertaken in the facility	All Departments
ME C6.3 Diagnostic equipment	Availability of equipment and instruments for diagnostic procedures, being undertaken in the facility	All Departments
ME C6.4 Resuscitation equipment	Availability of equipment and instruments for resuscitation of patients and for providing intensive and critical care to patients	All Departments

Standard C6	The facility has equipment & instruments required for assured list of services	
ME C6.5 Storage Equipment	Availability of Equipment for Storage	All Departments
ME C6.6 Support Services Equipment	Availability of functional equipment and instruments for support services	All Departments
ME C6.7 Furniture & Fixtures	Departments have patient furniture and fixtures as per load and service provision	All Departments

Standard C7	**Facility has a defined and established procedure for effective utilization, evaluation and augmentation of competence and performance of staff**

Standard C7	Facility has a defined and established procedure for effective utilization, evaluation and augmentation of competence and performance of staff	
ME C7.1	Criteria for Competence assessment are defined for clinical and Para clinical staff.	All Clinical Departments
ME C7.2	Competence assessment of Clinical and Para clinical staff is done on predefined criteria at least once in a year	All Clinical Departments
ME C7.3	Criteria for performance evaluation clinical and para clinical staff are defined	General Admin

Standard C7	Facility has a defined and established procedure for effective utilization, evaluation and augmentation of competence and performance of staff

ME C7.4	Performance evaluation of clinical and para clinical staff is done on predefined criteria at least once in a year	General Admin
ME C7.5	Criteria for performance evaluation of support and administrative staff are defined.	General Admin
ME C7.6	Performance evaluation of support and administration staff is done on predefined criteria at least once in a year	General Admin

Standard C7	Facility has a defined and established procedure for effective utilization, evaluation and augmentation of competence and performance of staff

ME C7.7	Competence assessment and performance assessment includes contractual, empaneled, and outsourced staff	General Admin
ME C7.8	Training needs are identified based on competence assessment and performance evaluation and facility prepares the training plan	General Admin
ME C7.9	The Staff is provided training as per defined core competencies and training plan	All Departments

Standard C7	Facility has a defined and established procedure for effective utilization, evaluation and augmentation of competence and performance of staff

ME C7.10	There is established procedure for utilization of skills gained thought trainings by on -job supportive supervision	All Departments
ME C7.11	Feedback is provided to the staff on their competence assessment and performance evaluation	General Dept

Session 6: Area of concern - D (Support Services)

Support services are an essential component of every healthcare facility as it helps immensely to define patient's or visitor perception about the quality of services provided. Neat and clean patient care area, well-maintained building and corridors, hygienic & good quality food, clean linen and well-maintained workstations inculcate trust and comfort. It also ensures services are provided efficiently in a safer and secure environment and

finally influence the overall satisfaction rate of the healthcare institutions.

Area of concern -D Support Services is 2nd largest area of concern following clinical services under the NQAS quality system. Area of Concern has 12 Standards to ensure the quality of support services provided by the hospital. It includes services like maintenance of equipment, inventory management of medicines, storage of gases and inflammable, safety and security of staff, patients, and visitors etc. It also ensures compliance of the hospital to all applicable regulatory requirements.

It is important to note that the availability of support services like dietary, laundry services will be assessed in the Area of Concern- 'Services Provision. However, quality of food, linen that is a nutritional requirement, cleanliness and freshness of linen provided etc. will be assessed under the area of concern support services.

Standard D10: which ensures compliance of healthcare facility with all applicable statutory/legal requirements is one of the core standards for NQAS Certification.

Learning objectives

1. Understanding of the standards under the Area of Concern 'D.'
2. How these standards are distributed in different checklists
3. Things to be kept in mind while conducting an assessment of these standards

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the following:

1. Importance and assessment methodology of evaluating support services, specially outsource services.
2. Trainee is aware that washing of linen (inhouse or outsourced) are not allowed in the nearby pond, river, etc. and food provided by free by community meals should not be considered as dietary services.
3. Aware of all statutory and legal requirements imposed by local, state and central government.
4. Aware about roles of Rogi Kalyan Samiti/ Hospital Management Committee for promoting public participation and ensure transparency and accountability.

Suggested Reading Material:

1. IS 10905, Part-1, Recommendations for basic requirements of general hospital buildings: Part 1, Administrative and Hospital Services, 1984
2. BIS standards- Medical Gases
3. National Quality Assurance Standards for Public Health Facilities 2020
4. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

Support Services
Area of Concern D

Why Support Services are important

- Backbone of Hospital Operations
- Usually most neglected area in public hospitals
- Directly & Indirectly leads to poor quality of services – Poor Upkeep of facility , long down time of equipment
- Little efforts in process improvement may give high & visible results as much more tangible to Clinical Care

What it covers

Standards and MEs under Support Services

Checklists	District Hospitals	CHCs	PHCs	UPHCs
Standards	12	10	8	5
ME	43	42	51	43

Standard D1	The facility has established Program for inspection, testing and maintenance and calibration of Equipment

Standard D1	The facility has established Program for inspection, testing and maintenance and calibration of Equipment	
ME D1.1 Equipment Maintenance	The facility has established system for maintenance of critical Equipment.	Applicable to all Departments
ME D1.2 Calibration	The facility has established procedure for internal an external calibration of measuring Equipment	Applicable to all Departments
ME D1.3 Operating Instructions	Operating and maintenance instructions are available with the users of equipment	Applicable to Departments

Standard D2	The facility has defined procedures for storage, inventory management and dispensing of drugs in pharmacy and patient care areas	
ME D2.4 Expiry Drugs	The facility ensures management of expiry and near expiry drugs	Applicable to all clinical department
ME D2.5 Inventory Management	The facility has established procedure for inventory management techniques.	Applicable to all clinical departments & Special focus on Pharmacy
ME D2.6 Replenishment	There is a procedure for periodically replenishing the drugs in patient care areas	Applicable to all Clinical departments

Standard D2	The facility has defined procedures for storage, inventory management and dispensing of drugs in pharmacy and patient care areas	
ME D2.7 Cold Chain	There is process for storage of vaccines and other drugs, requiring controlled temperature.	Applicable to all clinical department
ME D2.8 Psychotropic Drugs	There is a procedure for secure storage of narcotic and psychotropic drugs. .	Applicable to all patient care areas

Standard D3	**The facility provides safe, secure and comfortable environment to staff, patients and visitors.**

Standard D3	The facility provides safe, secure and comfortable environment to staff, patients and visitors	
ME D3.1 Illumination	The facility provides adequate illumination level at patient care areas.	Applicable to all department
ME D3.2 Restriction of Visitors	The facility has provision of restriction of visitors in patient areas.	Applicable to all Departments
ME D3.3 Work Environment	The facility ensures safe and comfortable environment for patients and service providers	Applicable to all departments

Standard D3	The facility provides safe, secure and comfortable environment to staff, patients and visitors.

ME D3.4 Security System	The facility has security system in place at patient care areas	Applicable to all department
ME D3.5 Women Safety	The facility has established measure for safety and security of female staff	Applicable to all departments & Policy Level Issues in General/ Admin

Standard D4	**The facility has established Program for maintenance and upkeep of the facility.**

Standard D4	The facility has established Program for maintenance and upkeep of the facility	
ME D4.1 Hospital Appearance	Exterior of the facility building is maintained appropriately	Applicable to all department
ME D4.2 Cleanliness	Patient care areas are clean and hygienic	Applicable to all Departments
ME D4.3 Infrastructure Maintenance	Hospital infrastructure is adequately maintained	Applicable to all departments

Standard D4	The facility has established Programme for maintenance and upkeep of the facility	
ME D4.4 Landscaping	Hospital maintains the open area and landscaping of them.	Applicable to General/Admin
ME D4.5 Condemnation	The facility has policy of removal of condemned junk material	Applicable to all Departments
ME D4.6 Pest Control	The facility has established procedures for pest, rodent and animal control	Applicable to all departments

Standard D5	**The facility ensures 24 × 7 water and power backup as per requirement of service delivery, and support services norms.**

Standard D5	The facility ensures 24 × 7 water and power backup as per requirement of service delivery, and support services norms	
ME D5.1 Water Supply	The facility has adequate arrangement storage and supply for portable water in all functional areas.	Supply applicable to all department Storage and Maintenance in General/Admin
ME D5.2 Power Supply	The facility ensures adequate power backup in all patient care areas as per load	Power backup in all departments, Alternate Backup in critical area like OT, SNCU, ICU , Emergency & labor room
ME D5.3 Medical Gas Supply	Critical areas of the facility ensures availability of oxygen, medical gases and vacuum supply.	Supply in critical areas- OT, Labor room, SNCU, ICU, Manifold room in general/ admin

Standard D6	**Dietary services are available as per service provision and nutritional requirement of the patients.**

Standard D6	The facility ensures 24 × 7 water and power backup as per requirement of service delivery, and support services norms	
ME D6.1 Nutritional assessment	The facility has provision of nutritional assessment of the patients.	All department admitting patients- Maternity ward, SNCU,ICU,NRC etc. & OPD
ME D6.2 Dietary Provision	The facility provides diets according to nutritional requirements of the patients.	All department admitting patients- Maternity ward, SNCU,ICU,NRC etc.
ME D6.3 Kitchen Management	Hospital has standard procedures for preparation, handling, storage and distribution of diets, as per requirement of patients.	Hospital Kitchen & NRC Kitchen

Standard D7	**The facility ensures clean linen to the patients.**

Standard D7	The facility ensures clean linen to the patients	
ME D7.1 Linen Stock	The facility has adequate sets of linen	All patient care departments
ME D7.2 Linen Change	The facility has established procedures for changing of linen in patient care areas	All patient care departments .
ME D7.3 Linen Processing	The facility has standard procedures for handling, collection, transportation and washing of linen.	Quality Check at Departments , washing at laundry (Auxiliary)

Standard D8	**The facility has defined and established procedures for promoting public participation in management of hospital transparency and accountability**

Standard D8	The facility has defined and established procedures for promoting public participation in management of hospital transparency and accountability	
ME D8.1 Rogi Kalyan Samiti	The facility has established procures for management of activities of Rogi Kalyan Samiti.	For assessment of RKS Office (General/Admin)
ME D8.2 Community Monitoring	The facility has established procedures for community-based monitoring of its services.	Applicable on General/Admin.

Standard D9	**Hospital has defined and established procedures for Financial Management**

Standard D9	Hospital has defined and established procedures for Financial Management	
ME D9.1 Fund Utilization	The facility ensures the proper utilization of fund provided to it	Applicable on General/Admin.
ME D9.2 Financial Planning	The facility ensures proper planning and requisition of resources based on its need.	Applicable on General/Admin.

Standard D10	**Facility is compliant with all statutory and regulatory requirement imposed by local, state or central government**

Standard D10	Facility is compliant with all statutory and regulatory requirement imposed by local, state or central government	
ME D10.1 Licenses	The facility has requisite licenses and certificates for operation of hospital and different activities	Applicable on department requires lances like radiology , Blood Bank & General Admin for licensees like BMW & Fire NOC
ME D10.2 Copies of Act	Updated copies of relevant laws, regulations and government orders are available at the facility	Applicable on General/Admin.
ME D10.3 Regulatory Practices	The facility ensure relevant processes are in compliance with statutory requirement .	Radiology for PNDT, Emergency for Medico legal PP Unit for abortion

Standard D11	**Roles & Responsibilities of administrative and clinical staff are determined as per govt. regulations and standards operating procedures**

Standard D11	Roles & Responsibilities of administrative and clinical staff are determined as per govt. regulations and standards operating procedures.	
ME D11.1 Job Description	The facility has established job description as per govt. guidelines	Practice applicable to all departments & Policy to General/Admin
ME D11.2 Deputation	The facility has an established procedure for duty roster and deputation to different departments	Applicable to all the departments
ME D11.3 Dress Code	The facility ensures the adherence to dress code as mandated by its administration / the health department	Applicable to all department

Standard D12	The facility has established procedure for monitoring the quality of outsourced services and adheres to contractual obligations

Standard D12	The facility has defined and established procedures for promoting public participation in management of hospital transparency and accountability

ME D12.1 Contract Management	There is established system for contract management for out-sourced services.	Monitoring at all Departmental, Contract management at General/Admni
ME D12.2 Review of Outsourced Services	There is a system of periodic review of quality of outsourced services.	General/Admin

Session 7: Inventory Management

Medicines are the most important component to both outpatient and inpatients for the treatment of diseases. Non-availability of medicines, inefficiency in terms of redundancy, expiry, pilferage, stock-outs, inconsistency in storage, irrational purchases can cause serious (avoidable) financial loss as well as it become the cause of dissatisfaction among patients. On the other hand, an efficiently managed medicine services in healthcare facilities not only promote satisfaction but also reduce out of pocket expenditure. An efficient system for medicines includes scientific methods for controlling and managing the medicine inventories. Scientific ways of managing stocks confirm that drugs are available, safe, and affordable.

Few of the inventory management techniques are enumerated below-

a. **ABC analysis :–** ABC analysis was used to categorize the drugs according to their relative importance. Three categories are formed in which category A contained high value drugs whereas category B contained intermediate and category C contained lower value drugs.

b. **VED analysis :–** VED analysis was performed to categorize the drugs by their critical value. Drugs that are more critical and act as lifesaving comes under category V whereas essential drugs whose importance is lower than V comes under category E and drugs which are used for minor or limited illness comes under category D.

c. **FIFO method :–** FIFO abbreviates for First-In-First-Out. It is a method that maintains the medicine inventory based on the date (received and issued). The first batch of the received medicines is the one that have to issued first. This method ensures that oldest stock with limited shelf life is flushed out and new one remains in hand.

d. **FEFO method :–** FEFO abbreviates for First-Expired-First-Out. It has almost the same characteristic to FIFO method. The difference is, this method is considered by the expired date, not the received date that used in FIFO method.

Nowadays, inventory management is assisted with computerized logistics management information systems. Ministry of Health and Family welfare is also supporting states and UTs with Drugs and Vaccine Distribution Management System (DVDMS). DVDMS is a web-based supply chain management application which deals with Purchase, Inventory Management & Distribution of a variety of medicines and surgical items. The main aim of DVDMS is to ascertain the needs of various district drug warehouses such that all the required drugs are constantly available & to be supplied to the user district drug warehouses without delay. It includes classification, the codification and quality check of these items, etc., and finally issuing drugs to the patients. Please note at present DVDMS is functional only in 22 states.

Learning objectives

1. To understand inventory and underlying principles of inventory management.
2. To understand inventory management techniques to minimize the ineffective stock (stock-out and overstocking).
3. To understand the critical checks for forecasting, receiving, inspecting, storing, issuing, maintaining buffer, retrieval and disposal of medicines in hospital drug store.
4. Role of Drugs and Vaccine Distribution Management System (DVDMS) in inventory management.

Expected Outcome

By the end of the session, it is expected that trainees will be well acquainted with the process of forecasting, maintenance of buffer stock, and indenting drugs based on consumption pattern in the last three months and disease burden in the local context. Trainees know the process of placing requisitions on the district drug store via DVDMS/ state-specific IT application or manually in case IT system is not available.

Suggestive Reading Material:

1. Essential of Inventory Management by Max Muller
2. Warehouse Management: A complete guide to improve efficiency and minimizing cost in the warehouse by Gwynne Richards
3. National Quality Assurance Standards for Public Health Facilities 2020
4. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

Inventory Management

What is inventory?

- Stock of items kept to meet future demand
- An idle resource of any kind having an economic value.
- List or stock of items in store, which one can count, measure or weight.

High inventory level leads to:

- Blocking of finances
- Large storage space.
- Obsolescence
- Spoilage and pilferage.
- More chances of getting drugs expired

Low inventory level leads to:

- Frequent stock outs
- Out of Pocket Expenditure
- Local Purchase
- Reduced Utilization of Services
- Reduced Patient Satisfaction
- Non-compliance to Government Schemes like JSSK.

Inventory Management helps in

- Maintain availability of materials whenever and wherever required in optimal quantity.
- Minimize the ineffective stock.
- Optimize the various costs associated with inventories.
- Avoid Stock Out
- Avoid overstocking
- To optimize the scarce resources

Cost associated with inventory

- Purchase cost
- Carrying cost
- Ordering cost
- Shortage cost
- Aim of inventory management is to reduce these costs.

Purchase cost

- It is the actual cost of materials inclusive of taxes and freight.
- It can be reduced by:
- Bulk buying (buying under generic name)
- Rate contract.
- Combined buying.
- Negotiation by assuring long-term business.

Carrying cost

- It is the hidden cost and not amenable to easy calculation. It may be 25% to 35% of inventory cost. It comprises:
- Cost of money.
- Cost of storage space.
- Cost of additional manpower.
- Cost of obsolescence.
- Cost of deterioration.
- Cost of pilferage, breakage.

Ordering cost

- It is the cost of placing order like cost involved in
- Stationery, postage, telephone, fax , manpower etc.

How to reduce Inventory

- Fixing of maximum limit of inventory in terms of value.
- Meticulous materials planning and forecast.
- Fixing up realistic inventory level. Maximum, minimum, recorder level and safety stock-item wise/location wise.
- By reducing lead-time
- Strict control on obsolete, slow and non-moving items.

How to reduce Inventory

- Standardization and variety reduction.
- Reducing the number of stock points to reduce the inventory-INVENTORIES ARE CASH
- Creating awareness & positive attitude
- Computerization of inventory control system.

Methods for Quantification

1. Consumption Method
2. Morbidity Method
3. Adjusted Morbidity Method

- Service Level Projection of budget requirement – Per bed/ per patient requirement

Quantification

- Shift from push (supply needs are determined centrally) to Pull (where supply needs are determined locally)
- Quantify preferably by morbidity method clubbed with STGs
- If Morbidity Data not available consumption method is used
- If enough budget is not available then ABC VEN analysis to prioritize the demands

Step 1 Calculate the Consumption

Step 1 - Calculate the Annual/Monthly Consumption – (from the Bin Card/ Stock Register)

Recorded Consumption =

Opening Stock Balance + Stock Received – Closing Stock Balance

Step 2 Adjust for Wastages or Stock outs

- **Wastages -**

Real Consumption (RC) =
Recorded Consumption – Wastages (Avoidable)
And / OR Stock outs –

$$\text{Adjusted RC} = \text{Real consumption} \times \frac{\text{Period in calculation (months, weeks, days)}}{\text{Period in stock (months, weeks, days)}}$$

Factors influence order Quantity

Constant Factors

- Average Monthly Consumption
- Lead Time
- Stock Balance
- Order Frequency
- Storage Capacity

Factors influence order Quantity

Variable Factors

- Health Campaigns
- Disease Outbreak
- Seasonal Factors
- New Prescribers
- Budget allocation

Step 3 Average Monthly Consumption

$$\text{Average monthly consumption} = \frac{\text{Total quantities issued in the time period}}{\text{Number of months in the time period}}$$

Moving Average
Method- Forecasting

Step 4 Lead Time

- The Length of time that elapses between the time the order is placed and the time order is received at your store or facility

- Stock Used during Lead Time =
  Lead Time X Average Monthly Consumption

Step 5 Buffer Stock

- Extra Supplies to ensure that there are no stock out if there is unexpected increase in demand or delay in receiving supplies

Lead time	1 month	2 months	3 months	6 months	12 months
Reserve stock	2 weeks usage	1 month usage	1.5 months usage	2 months usage	3 months usage

Step 6 Minimum Stock Level

- Minimum Stock Level or re-order level is the stock level that indicates you need to place an order to avoid running out of supplies

Minimum Stock Level =

Reserve Stock + Stock Used during lead time

Step 7 Order Quantity

- Quantity if Items that is ordered to be used in one supple period

Order Quantity =

Time between periods X Average Monthly Consumption (Adjusted for Stock out)

+

(Buffer Stock + Lead time Usage) – Stock in Hand

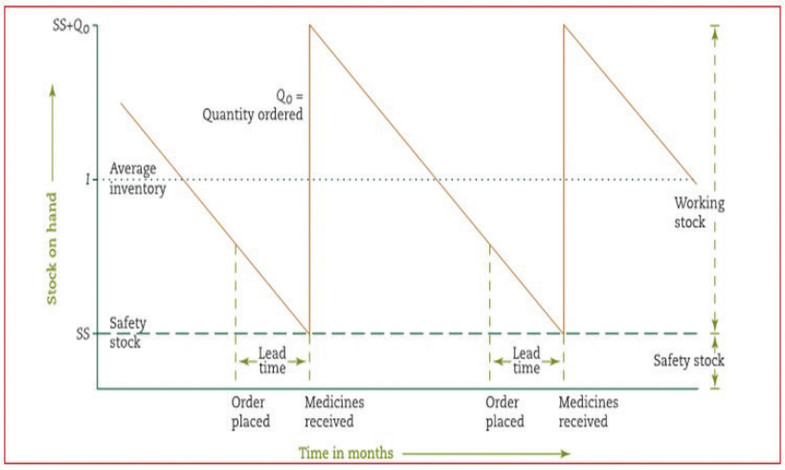
Step 8 Maximum Stock Level

Maximum amount of any item you should have in stock any time.

- Maximum stock Level =

Reserve Stock Level + Order Quantity of one supply Period

Ideal Inventory Control Model



VED Analysis

- Based on critical values and shortage costs of the item.
- **VITAL**: The items critically needed for the survival of the patients and those that must be available at all times.
- which could make difference between life and death. Should be stocked in sufficient quantity(top management)
- **ESSENTIAL:** items with a lower criticality need and those that may be available in the hospital.
- shortage can be tolerated for a short period. (Middle management)
- **DESIRABLE:** does not effect the patient care even if shortage is prolonged. (lower management)

VED analysis

- Categorization based on Criticality
- when we have limited resources and have to prioritize the drugs
- **Vital** -potential life saving, have significant withdrawal effect and needed for functioning of health system
- **Essential-** effective against or required for diagnosis of less severe but nevertheless significant form of illness, where an alternative might already existing in vital list , without them health system can still function
- **Desirable** for minor or self limiting illness, items with questionable efficacy, low priority items with marginal therapeutic or diagnostic advantage.

Storage

- Stock is arranged neatly in alphabetic order with name facing the front.
- Products of similar name and different strength are stored separately.
- Heavy items are stored in lower shelves.
- Fragile items are not stored at the edges of the shelves.
- Near expiry drugs are segregated and stored separately.
- Items requiring refrigeration are stored appropriately.
- Temperature book is maintained for monitoring of the temperature of refrigerator.
- Look alike and sound alike drugs are stored separately.
- Medications that are considered light-sensitive, as labeled by their respective manufacturers, will be stored in closed drawers.

Storage

- Arrange drugs in First Expiry First Out (FEFO) . For Medicine having same expiry first in first out
- Using pallets
- At least 10 cm off floor
- At least 30 cm from Wall
- No more than 2.5 meter (8 feet) in Height

For storage

- Follow the manufacturer directions if any
- Place liquid products on lower shelves or on bottom of stacks
- Store high security high value in lock and key
- Separate damaged/ expired without delay
- Always keep cartoons point up
- Identification level, expiry date as and manufacturing dates visible

Session 8: Area of Concern-E (Clinical Services)

The Clinical care is the most important aspects of any hospital. Management of clinical cases is a collective effort that includes assessment, planning, coordination among services and staff to meet the patient's medical care needs. It also includes developing a discharge plan, arranging rehabilitation and community based medical services (wherever applicable). Policies, procedures, standard treatment guidelines and Government directives etc. followed to provide clinical care help to fulfil the requirements of cases management, safety, and regulatory compliance. So, to achieve the effective high clinical outcomes, it is required that due attention be given to improve the quality of all collaborative processes.

Area of Concern 'E' – Clinical care is the largest area of concern under NQAS and contains 23 standards and it is. They could be grouped into three parts.

- First set of standards (E1-E9) - General Clinical Services
- Second set of standards (E10-E16) - Specific Clinical Services
- Third set of standards talks about RMNCH+A Services (E17-E22) and National Health Programmes (E23)

Learning objectives

a. Understanding of the standards under the Area of Concern 'E' inclusive of-
   - Registration, Consultation and Admission
   - Clinical Assessment and Re-assessment
   - Continuity of Care
   - Nursing Care
   - High-risk and Vulnerable Patients
   - Drug Prescription
   - Safe Drug Administration
   - Clinical Records and Storage
   - Discharge of Patient
   - Intensive Care
   - Emergency Services
   - Diagnostic Services
   - Blood Bank/Storage
   - Anaesthetic Services
   - Operation Theatre Services
   - End-of-Life Care
   - Antenatal, Intra-natal and Postnatal Care
   - Newborn and Child Care
   - Family Planning and Adolescent Health
   - National Health Programmes

b. How these standards are distributed in different checklists

c. hings to be kept in mind while conducting assessment of these standards

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the perception that clinical services are the processes that define directly the outcome of services and quality of care. Non-adherence to clinical guidelines and protocols may affect the quality of care provided by the healthcare facility. Following outcomes are expected at the end of the session:

1. Well-versed with the underlying principles of clinical assessment and reassessment of the patients. Simultaneously, know the procedures for continuity of care during inter-departmental or inter-hospital transfer.
2. Importance of patient handover/nursing handover during the change in the staff shift.
3. Underlying concept of safe drug administration which includes: prescribing drugs by their

generic name only (and not by brand name), and as per Standard Treatment Guidelines (STG). Ensuring compliance with the 7R concept (Right Drug, Right Patient, Right Time, Right Route, Right Dose, Right Reason, Right Documentation) before prescribing drugs, identification and cautious administration of high alert drugs.

4. Trainees are aware of basic requirements of specific services viz Emergency, blood bank, SNCU, ICU, Mortuary etc.
5. Perceive the significance of the underlying principles of antenatal, intra-natal and postnatal care as per the guidelines.
6. Aware of the recent changes in various national health programmes.

Suggested Reading Material:

1. Hutchinson Clinical Methods, 24th Edition
2. A guide for advocating for Respectful Maternity Care by White Ribbon Alliance
3. National Patient Safety Implementation Framework
4. National Quality Assurance Standards for Public Health Facilities 2020
5. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

Clinical Services
Area of Concern- E

What 'area of concern-E' covers

	General Clinical Processes	Specific Clinical Processes	RMNCH+A & NHP
DH	Standard E1- E9	Standard E 10- E16	Standard E17-E23
CHC	Standard E1- E9	Standard E 10- E15	Standard E16-E22
PHC	Standard E1- E6	Standard E 7- E8	Standard E9-E15
UPHC	Standard E1- E3	Standard E 4	Standard E5-E9

Standards and MEs under Clinical Services

	DH	CHC	PHC	UPHC
Standard	23	22	15	9
ME	118	101	78	58

Standard E1	The facility has defined procedures for registration, consultation and admission of patients

Standard E1	The facility has defined procedures for registration, consultation and admission of patients.

ME E1.1 Registration	➢ unique identification no. is given ➢ Demographic details of the patients are Recorded	Applicable to All Clinical departments
ME E1.2 OPD Consultation	➢ Patients are called one by one ➢ History & Provision Diagnosis is written ➢ Patients are not consulted in standing ➢ Clinician are not administrative work	Applicable to OPD
ME E1.3 Admission	➢ Admission is done by written order ➢ Time of Admission is written ➢ There is no undue delay in admission ➢ Criteria of admission is defined	Applicable to all Indoor Departments, Emergency
ME E1.4 Non Availability of Beds	➢ Check for how facility cope with surplus patients. Is there any provision for extra beds	All Indoor Department & Emergency

Standard E2	**The facility has defined and established procedures for clinical assessment and reassessment of the patients.**

Standard E2	The facility has defined and established procedures for clinical assessment and reassessment of the patients

ME E2.1 Assessment	There is established procedure for initial assessment of patients.	All Patient Care Department
ME E2.2 Reassessment	There is established procedure for follow-up/ reassessment of Patients	All Patient Care departments

Standard E3	**The facility has defined and established procedures for continuity of care of patient and referral.**

Standard E3	The facility has defined and established procedures for continuity of care of patient and referral	
ME E3.1 Interdepartmental Transfers	The facility has established procedure for continuity of care during interdepartmental transfer	All Patient Care Areas
ME E3.2 Referral	The facility provides appropriate referral linkages to the patients/Services for transfer to other/higher facilities to assure the continuity of care	All Patient Care Areas
ME E3.3 Responsibility of Care	A person is identified for care during all steps of care	All Patient Care Areas Except OPD
ME E3.4 Telemedicine	The facility is connected to medical colleges through telemedicine services	Outpatient Departments

Standard E	**The facility has defined and established procedures for nursing care**

Standard E4	The facility has defined and established procedures for nursing care	
ME E4.1 Patient Identification	Procedure for identification of patients is established at the facility	All patient Care Departments
ME E4.2 Nursing Care Accuracy	Procedure for ensuring timely and accurate nursing care as per treatment plan is established at the facility.	All Patient Care Departments
ME E4.3 Patient Handover	There is established procedure of patient hand over, whenever staff duty change happens.	All Patient Care Departments

Standard E4	The facility has defined and established procedures for nursing care	
ME E4.4 Nursing Records	Nursing records are maintained.	All Patient Care Departments
ME E4.5 Patient Monitoring	There is procedure for periodic monitoring of patients	All Patient Care Departments

Standard E5	**The facility has a procedure to identify high risk and vulnerable patients**

Standard E5	The facility has a procedure to identify high risk and vulnerable patients	
ME E5.1 Vulnerable Patients	The facility identifies vulnerable patients and ensure their safe care	All Patient Care Departments
ME E5.2 High Risk patients	The facility identifies high risk patients and ensure their care, as per their need	All Patient Care Departments

Standard E6	The facility follows standard treatment guidelines defined by state/Central government for prescribing the generic drugs & their rational use

Standard E6	The facility follows standard treatment guidelines defined by state/Central government for prescribing the generic drugs & their rational use	
ME E6.1 Generic Drug Prescription	The facility ensured that drugs are prescribed in generic name only.	All Patient Care Departments
ME E6.2 Standard Treatment Guidelines	There is procedure of rational use of drugs	All Patient Care Departments

Standard E7	The facility has defined procedures for safe drug administration

Standard E7	The facility has defined procedures for safe drug administration.	
ME E7.1 High Alert Drugs	There is process for identifying and cautious administration of high alert drugs	All Patient Care Areas
ME E7.2 Legible Medication Orders	Medication orders are written legibly and adequately.	All Patient Care Areas
ME E7.3 Drug Administration	There is a procedure to check drug before administration/dispensing	All Patient Care Areas

Standard E7	The facility has defined procedures for safe drug administration.

ME E7.4 Right Patient	There is a system to ensure right medicine is given to right patient	All Patient Care Areas
ME E7.5 Self Drug Administration	Patient is counseled for self drug administration.	All Patient Care Areas

Standard E8	**The facility has defined and established procedures for maintaining, updating of patients' clinical records and their storage.**

Standard E8	The facility has defined and established procedures for maintaining, updating of patients' clinical records and their storage.

ME E8.1 Assessment Records	All the assessments, re-assessment and investigations are recorded and updated.	All Patient Care Areas
ME E8.2 Medical Orders Records	All treatment plan prescription/orders are recorded in the patient records.	All Patient Care Areas
ME E8.3 Treatment Records	Care provided to each patient is recorded in the patient records	All Patient Care Areas
ME E8.4 Procedure Records	Procedures performed are written on patients records	All Patient Care Areas

Standard E8	The facility has defined and established procedures for maintaining, updating of patients' clinical records and their storage.

ME E8.5 Form & Formats	Adequate form and formats are available at point of use	All Clinical Departments
ME E8.6 Registers	Register/records are maintained as per guidelines	All Clinical Departments
ME E8.7 Storage of Records	The facility ensures safe and adequate storage and retrieval of medical records	All Clinical Departments

Standard E9	**The facility has defined and established procedures for discharge of patient.**

Standard E9	The facility has defined and established procedures for discharge of patient.	
ME E9.1 Assessment Before Discharge	Discharge is done after assessing patient readiness	All Patient care Departments
ME E9.2 Follow Up	Case summary and follow-up instructions are provided at the discharge.	All Patient care Departments
ME E9.3 Counseling	Counseling services are provided as during discharges wherever required	All Patient care Departments

Specific Clinical Processes

E10 Intensive Care	**E11** Emergency Services	**E12** Diagnostic Services
E13 Blood Bank & Transfusion	**E14** Anesthesia	**E15** Surgical Services
	E16 End of life care & Death	

Standard E10	**The facility has defined and established procedures for intensive care.**

Standard E10	The facility has defined and established procedures for intensive care.

ME E10.1 Assessment Criteria	The facility has established procedure for shifting the patient to step-down/ward based on explicit assessment criteria	ICU
ME E10.2 Intensive Patient Care	The facility has defined and established procedure for intensive care	ICU
ME E10.3 Intubation	The facility has explicit clinical criteria for providing intubation & extubation, and care of patients on ventilation and subsequently on its removal.	ICU & SNCU

Standard E11	**The facility has defined and established procedures for Emergency Services and Disaster Management**

Standard E11	The facility has defined and established procedures for Emergency Services and Disaster Management	
ME E11.1 Triage	There is procedure for Receiving and triage of patients	Emergency, SNCU, NRC
ME E11.2 Emergency Protocols	Emergency protocols are defined and implemented	Emergency
ME E11.3 Disaster Management	The facility has disaster management plan in place.	All Departments & Special focus in Emergency

Standard E11	The facility has defined and established procedures for Emergency Services and Disaster Management	
ME E11.4 Ambulance Services	The facility ensures adequate and timely availability of ambulances services and mobilization of resources, as per requirement.	Emergency & SNCU
ME E11.5 Medico Legal	There is procedure for handling medico legal cases.	Emergency

Standard E12	**The facility has defined and established procedures of diagnostic services.**

Standard E12	The facility has defined and established procedures of diagnostic services	
ME E12.1 Pre- Analytical	There are established procedures for Pre-testing Activities	Laboratory & Radiology
ME E12.2 Analytical	There are established procedures for testing Activities	Laboratory & Radiology
ME E12.3 Post Analytical	There are established procedures for Post-testing Activities	Laboratory & Radiology

Standard E13	The facility has defined and established procedures for Blood Bank/Storage Management and Transfusion

Standard E13	The facility has defined and established procedures for Blood Bank/Storage Management and Transfusion	
ME E13.1 Donor Selection Criteria	Blood bank has defined and implemented donor selection criteria.	Blood Bank
ME E13.2 Blood Collection	There is established procedure for the collection of blood.	Blood Bank
ME E13.3 Testing of Blood	There is established procedure for the testing of blood	Blood Bank
ME E13.4 Blood Component	There is established procedure for preparation of blood component	Blood Bank

Standard E13	The facility has defined and established procedures for Blood Bank/Storage Management and Transfusion	
ME E13.5 Labeling of Blood	There is establish procedure for labeling and identification of blood and its product.	Blood Bank
ME E13.6 Storage of Blood	There is established procedure for storage of blood.	Blood Bank
ME E13.7 Compatibility Testing	There is established the compatibility testing	Blood Bank

Standard E13	The facility has defined and established procedures for Blood Bank/Storage Management and Transfusion	
ME E13.8 Issuing of Blood	There is established procedure for issuing blood.	All Patient Care Department
ME E13.9 Blood Transfusion	There is established procedure for transfusion of blood	All Patient Care Department
ME E13.10 Transfusion Reaction	There is an established procedure for monitoring and reporting Transfusion complication	All Patient Care Department

Standard E14	**The facility has established procedures for Anesthetic Services.**

Standard E14	The facility has established procedures for Anesthetic Services	
ME E14.1 Pre Anesthesia Checkup	The facility has established procedures for Pre-anesthetic Check up and maintenance of records.	Indoor Departments & OT
ME E14.2 Anesthesia Records	The facility has established procedures for monitoring during anesthesia and maintenance of records.	OT
ME E14.3 Post – Anesthesia Care	The facility has established procedures for Post-anesthesia care.	OT

Standard E15	The facility has defined and established procedures of Operation theatre services

Standard E15	The facility has defined and established procedures of Operation theatre services.	
ME E15.1 OT Scheduling	The facility has established procedures OT Scheduling	OT, Accident & Emergency, PPU
ME E15.2 Preoperative Care	The facility has established procedures for Preoperative care	OT, PP Unit
ME E15.3 Surgical Safety	The facility has established procedures for Surgical Safety.	OT
ME E15.4 Post- Operative Care	The facility has established procedures for Post operative care	OT, Accident & Emergency, PPU, LR, SNCU, ICU, IPD

Standard E16	**The facility has defined and established procedures for end of life care and death.**

Standard E16	The facility has defined and established procedures for end of life care and death.

ME E16.1 Death Note	Death of admitted patient is adequately recorded and communicated.	Indoor Departments , Labour Room, OT
ME E16.2 Death Management	The facility has standard procedures for handling the death in the hospital.	Indoor Departments , Labour Room, OT
ME E16.3 Post-Mortem	The facility has standard procedures for conducting post-mortem, its recording and meeting its obligation under the law	Emergency, ICU & SNCU

Standard E17	The facility has established procedures for Antenatal care as per guidelines

Standard E17	The facility has established procedures for Antenatal care as per guidelines	
ME E17.1 Registration & follow-up	There is an established procedure for Registration & Follow-up of Pregnant Women	Maternity Ward, OPD
ME E17.2 History taking & physical examination	There is an established procedure for History taking, Physical examination, and counselling for each antenatal visit	OPD
ME E17.3 Diagnostic & drugs	Facility ensures availability of diagnostic and drugs during antenatal care of pregnant women	OPD

Standard E17	The facility has established procedures for Antenatal care as per guidelines	
ME E17.4 High-risk pregnancy	There is an established procedure for identification of High-risk pregnancy and appropriate treatment/referral as per scope of services.	Maternity Ward, OPD
ME E17.5 Management of anaemia	There is an established procedure for identification and management of moderate and severe anaemia	Maternity Ward, OPD
ME E17.6 Counselling	Counselling of pregnant women is done as per standard protocol and gestational age	OPD

Standard E18	**The facility has established procedures for Intranatal care as per guidelines**

Standard E18	The facility has established procedures for Intranatal care as per guidelines	
ME E18.1 Second stage	Facility staff adheres to standard procedures for management of second stage of labour	Labour Room
ME E18.2 Third stage	Facility staff adheres to standard procedure for active management of third stage of labour	Labour Room
ME E18.3 Care of New-born	Facility staff adheres to standard procedures for routine care of new-born immediately after birth	Labour Room
ME E18.4 C-section	There is an established procedure for assisted and C-section deliveries per scope of services.	Labour Room

Standard E18	The facility has established procedures for Intranatal care as per guidelines	
ME E18.5 Pre-eclampsia/ Eclampsia	Facility staff adheres to standard protocols for identification and management of Pre-Eclampsia / Eclampsia	Labour Room
ME E18.6 PPH	Facility staff adheres to standard protocols for identification and management of PPH.	Labour Room
ME E18.7 Management of HIV	Facility staff adheres to standard protocols for Management of HIV in Pregnant Woman & Newborn	Labour Room
ME E18.8 Management of preterm delivery	Facility staff adheres to standard protocol for identification and management of preterm delivery	Labour Room

Standard E18	The facility has established procedures for Intranatal care as per guidelines	
ME E18.9 Management of infection	Staff identifies and manages infection in pregnant woman	Labour Room
ME E18.10 New-born resuscitation	There is Established protocol for newborn resuscitation is followed at the facility.	Labour Room
ME E18.11 Birth Companion	Facility ensures Physical and emotional support to the pregnant women means of birth companion of her choice	Labour Room

Standard E19	**The facility has established procedures for Postnatal care as per guidelines**

Standard E19	The facility has established procedures for Postnatal care as per guidelines	
ME E19.1 Assessment of condition	Facility staff adheres to protocol for assessment of condition of mother and baby and providing adequate postpartum care	Labour Room, Maternity ward, MOT
ME E19.2 Exclusive breast feeding	Facility staff adheres to protocol for counselling on danger signs, post-partum family planning and exclusive breast feeding	Labour Room, Maternity ward, MOT
ME E19.3 Care of New-born	Facility staff adheres to protocol for ensuring care of newborns with small size at birth	Labour Room, Maternity ward

| Standard E19 | The facility has established procedures for Postnatal care as per guidelines | |

ME E19.4 Referral	The facility has established procedures for stabilization/treatment/referral of post natal complications	Labour Room, Maternity ward
ME E19.5 Safe environment	The facility ensure adequate stay of mother and new-born in a safe environment as per standard protocols	Maternity ward, MOT
ME E19.6 Discharge	There is established procedure for discharge and follow up of mother and newborn.	Maternity ward

Standard E20	The facility has established procedures for care of new-born, infant and child as per guidelines

Standard E20	The facility has established procedures for care of new-born, infant and child as per guidelines	
ME E20.1 Immunization	The facility provides immunization services as per guidelines	OPD, Maternity ward, SNCU, NRC
ME E20.2 Emergency signs	Triage, Assessment & Management of newborns having emergency signs are done as per guidelines	OPD, Pediatric ward, SNCU, NRC
ME E20.3 Low birth weight	Management of Low birth weight newborns is done as per guidelines	Maternity ward, SNCU, NRC
ME E20.4 Neonatal asphyxia	Management of neonatal asphyxia is done as per guidelines	SNCU, NRC

Standard E20	The facility has established procedures for care of new-born, infant and child as per guidelines	
ME E20.5 Neonatal sepsis	Management of neonatal sepsis is done as per guidelines	SNCU, NRC
ME E20.6 Jaundice	Management of children with Jaundice is done as per guidelines	SNCU, NRC
ME E20.7 Fever, cough/ breathlessness	Management of children presenting with fever, cough/ breathlessness is done as per guidelines	OPD, Pediatric ward
ME E20.8 Severe Acute Malnutrition	Management of children with severe acute malnutrition is done as per guideline	OPD, Pediatric ward, NRC

Standard E20	The facility has established procedures for care of new-born, infant and child as per guidelines	
ME E20.9 Diarrhoea	Management of children presenting diarrhoea is done per guidelines	Pediatric ward
ME E20.10 Breast feeding practices	The facility ensures optimal breast feeding practices for new-born & infants as per guidelines	OPD

Standard E21	Facility has established procedures for abortion and family planning as per government guidelines and law

Standard E21	Facility has established procedures for abortion and family planning as per government guidelines and law	
ME E21.1 Counselling	Family planning counselling services provided as per guidelines	PP Unit
ME E21.2 Spacing method	Facility provides spacing method of family planning as per guideline	PP Unit
ME E21.3 Limiting method	Facility provides limiting method of family planning as per guideline	PP Unit
ME E21.4 Counselling for abortion	Facility provide counselling services for abortion as per guideline	PP Unit

Standard E21	Facility has established procedures for abortion and family planning as per government guidelines and law	
ME E21.4 Counselling for abortion	Facility provide counselling services for abortion as per guideline	PP Unit
ME E21.5 Abortion for 1st trimester	Facility provide abortion services for 1st trimester as per guideline	PP Unit
ME E21.6 Abortion for 2nd trimester	Facility provide abortion services for 2nd trimester as per guideline	PP Unit

Standard E22	**Facility provides Adolescent Reproductive and Sexual Health services as per guidelines**

Standard E22	Facility provides Adolescent Reproductive and Sexual Health services as per guidelines

ME E22.1 Promotive	Facility provides Promotive ARSH Services	OPD
ME E22.2 Preventive	Facility provides Preventive ARSH Services	OPD
ME E22.3 Curative	Facility Provides Curative ARSH Services	OPD
ME E22.4 Referral	Facility Provides Referral Services for ARSH	OPD

Standard E23	**Facility provides National health program as per operational/Clinical Guidelines**

Standard E23	Facility provides National health program as per operational/Clinical Guidelines	
ME E23.1 NVBDCP	Facility provides service under National Vector Borne Disease Control Program as per guidelines	OPD
ME E23.2 NTEP	Facility provides service under National Tuberculosis Elimination Program as per guidelines	OPD
ME E23.3 NLEP	Facility provides service under National Leprosy Eradication Program as per guidelines	OPD
ME E23.4 NACP	Facility provides service under National AIDS Control program as per guidelines	OPD

Standard E23	Facility provides National health program as per operational/Clinical Guidelines	
ME E23.5 NPCB	Facility provides service under National program for control of Blindness as per guidelines	OPD
ME E23.6 NMHP	Facility provides service under Mental Health Program as per guidelines	OPD
ME E23.7 NPHCE	Facility provides service under National programme for the health care of the elderly as per guidelines	OPD
ME E23.8 NPCDCS	Facility provides service under National Programme for Prevention and Control of cancer, diabetes, cardiovascular diseases & stroke (NPCDCS) as per guidelines	OPD

Standard E23	Facility provides National health program as per operational/Clinical Guidelines	
ME E23.9 IDSP	Facility provide service for Integrated disease surveillance program	OPD
ME E23.10 NPPCD	Facility provide services under National program for prevention and control of deafness	OPD

Session 9: Area of concern - F (Infection Control)

Infections are a problem of serious concern in hospitals as it not only adds morbidity or mortality, but also add to a financial burden to both patients as well as health care facilities. In the case of the patient, it contributes to increase the average lengthen of stay while in the case of a healthcare facility, it put additional strain on resources of the healthcare facility. It also increases antibiotic resistance, so it is the biggest bug for clinician and challenge for hospital administration. The magnitude of hospital acquire infections are challenging to identify as there is hardly any data collected by healthcare facilities, or people are scared to disclose the infection rates due to punitive actions.

Hospital-acquired infections or nosocomial infections are the infections acquired by the person in the hospital, the manifestation of which may occur during hospitalization or after discharge from hospital

Under Area of concern- F, Infection Control the following points will be covered in detail:

1. Constitution of hospital Infection Control Committee (ICC) for monitoring of the activities related to infection control in the facility. The principal responsibility of ICC is to ensure that the facility and staff comply with the requirements of infection control in the facility.
2. Practice and execution of Standard Precautions by a healthcare worker.
3. Usage of Personal Protective Equipment
4. Cohesive measures are needed to control transmission-based (like airborne, droplet, contact, etc.) infections.
5. Reprocessing of reusable instruments and equipment
6. Ensuring compliance with environment control measures like, Zoning of the OTs (protective, clean, sterile and disposal area) Labour room and ICUs, etc.
7. Ensuring compliance with Bio-Medical Waste Management Rules, 2016 (BMW) and its subsequent amendments for segregation, collection, treatment, and disposal of bio-medical and hazardous waste.

Learning objectives

a. Understanding of the standards under the Area of Concern 'F' inclusive of-
   - Infection Control Programme
   - Hand Hygiene Practices
   - Personal Protection
   - Equipment Processing
   - Environmental Control
   - Bio-Medical Waste Management

b. How these standards are distributed in different checklists

c. Things to be kept in mind while conducting assessment of these standards

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the following:

1. Standard precautions.
2. Constitution and role, responsibilities of Infection Control Committee, conducting meetings, minutes of meetings, action taken report, and follow-up action.
3. Donning and doffing of personal protective equipment.
4. Decontamination, cleaning, disinfection, sterilization of instruments/equipment
5. Physical layout and environmental control of the patient care area. Collection, reporting and analysis of culture reports for action planning.
6. Bio-Medical Waste Management as per the BMW Rules, 2016 and all the related amendments.

Suggestive Reading Material

1. Guidelines for management of Healthcare waste as per BMW rules 2016
2. Guidelines for implementation of Kayakalp Initiative
3. National Quality Assurance Standards for Public Health Facilities 2020
4. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

Infection Control
Area of Concern-F

Standards and MEs under Infection Control

Checklists	District Hospitals	CHCs	PHCs	UPHCs
Standards	6	5	5	4
ME	21	21	15	10

Standard F1	The facility has infection control Program and procedures in place for prevention and measurement of hospital associated infection.

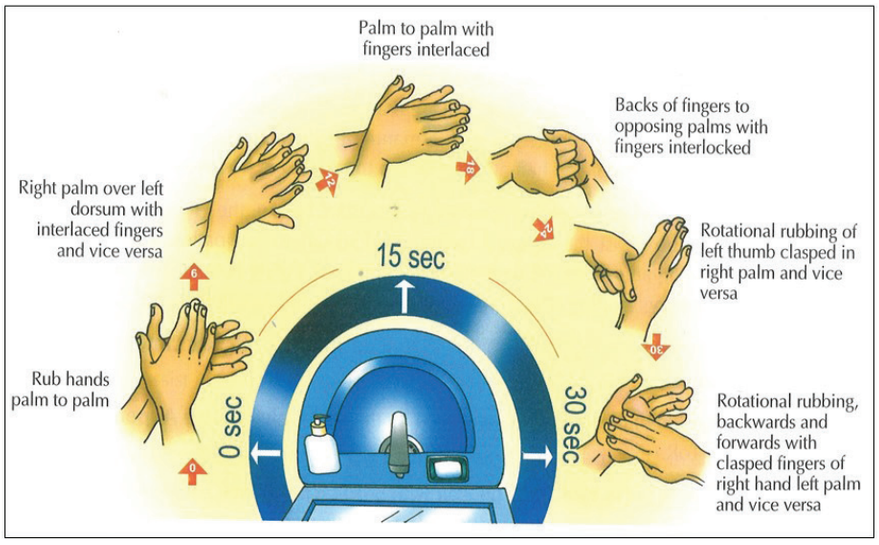
Standard F1	The facility has infection control Program and procedures in place for prevention and measurement of hospital associated infection.	
ME F1.1 Infection Control Committee	The facility has functional infection control committee.	General/ Administration
ME F1.2 Infection Surveillance	The facility has provision for Passive and Active culture surveillance of critical & high-risk areas.	OT, Labour Room ICU, SNCU, Emergency General/Administration
ME F1.3 Hospital Acquired Infections	The facility measures hospital associated infection rates.	Indoor Departments & OT General/Administration

Standard F1	The facility has infection control Program and procedures in place for prevention and measurement of hospital associated infection.	
ME F1.4 Staff Immunization	There is Provision of Periodic Medical Check-up and immunization of staff	All Departments
ME F1.5 Infection Control Monitoring	The facility has established procedures for regular monitoring of infection control practices	All Departments
ME F1.6 Antibiotic Policy	The facility has defined and established antibiotic policy	Policy level in General/Admin. Practices all patient care departments

Standard F2	**The facility has defined and Implemented procedures for ensuring hand hygiene practices and antisepsis**

Standard F2	The facility has defined and Implemented procedures for ensuring hand hygiene practices and antisepsis	
ME F2.1 Hand Washing Facility	Hand washing facilities are provided at point of use	All Departments
ME F2.2 Hand Washing Practices	The facility staff is trained in hand washing practices and they adhere to standard hand washing practices	All Departments
ME F2.3 Antisepsis	The facility ensures standard practices and materials for antisepsis	All Clinical Departments

Steps on hand hygiene



Standard F3

The facility ensures standard practices and materials for Personal protection

Standard F3	The facility ensures standard practices and materials for Personal protection

ME F3.1 Personal Protection Equipment	The facility ensures adequate personal protection Equipment as per requirements	All Departments
ME F3.2 Personal Protection Practices	The facility staff adheres to standard personal protection practices.	All Departments

Standard F4	**The facility has standard procedures for processing of equipment and instruments**

Standard F4	The facility has standard procedures for processing of equipment and instruments	
ME F4.1 Decontamination & Cleaning	The facility ensures standard practices and materials for decontamination and cleaning of instruments and procedures areas	All Clinical Area
ME F4.2 Disinfection & Sterilization	The facility ensures standard practices and materials for disinfection and sterilization of instruments and equipment	All Clinical Area Sterilization/Autoclaving covered in OT

Steps of processing instruments and other items

Decontamination

(Soak in 1% chlorine solution 10 minutes)

Cleaning with brush, detergent and water

Sterilization

Autoclave
15lbs/In2 pressure 121ºC, (250ºF)
20 min/30 min

Chemical soak in Glutaraldehyde (2%) for 8 hrs, Rinse with sterile water

Acceptable Method

Chemical
Soak in Glutaraldehyde (2%) for 20 min. Rinse with boiled for 20 min

Cool, dry and Store

Standard F5	Physical layout and environmental control of the patient care areas ensures infection prevention

Standard F5	Physical layout and environmental control of the patient care areas ensures infection prevention	
ME F5.1 Layout for Infection Prevention	Layout of the department is conducive for the infection control practices.	All High risk area like SNCU, ICU, OT, Labour Room, Emergency Etc.
ME F5.2 Disinfectant Materials	The facility ensures availability of standard materials for cleaning and disinfection of patient care areas.	All Departments
ME F5.3 Environment Cleaning	The facility ensures standard practices are followed for the cleaning and disinfection of patient care areas.	All departments with & Special focus on High Risk Areas

Standard F5	Physical layout and environmental control of the patient care areas ensures infection prevention

ME F5.5 Isolation	The facility ensures segregation infectious patients	All patient Care Area
ME F5.6 Air Quality	The facility ensures air quality of high-risk area	SNCU, ICU,OT Unit, Lab & PP Unit

Standard F6	**The facility has defined and established procedures for segregation, collection, treatment and disposal of Bio Medical and hazardous Waste**

Standard F6	The facility has defined and established procedures for segregation, collection, treatment and disposal of Bio Medical and hazardous Waste	
ME F6.1 Segregation	The facility Ensures segregation of Bio Medical Waste as per guidelines and 'on- site' management of waste is carried out as per guidelines	All Departments
ME F6.2 Sharp Management	The facility ensures management of sharps as per guidelines.	All departments except Pharmacy & Radiology
ME F6.3 Disposal	The facility ensures transportation and disposal of waste as per guidelines.	Transport in all departments & disposal in General/ Admin

DAY-2

Session 1: Area of Concern-G (Quality Management)

Quality management in health care is a broad term. In the current scenario, it aims to manage the processes to assure the delivery of quality healthcare services to its seekers.

It refers to observing the organizational functions as an interaction of procedures and methods that can be addressed individually and collectively.

Quality management ultimately seeks to improve the effectiveness of treatments and increase patient satisfaction with the services. A healthcare facility comprises different sections that is Clinical (Patient care areas like Wards, ICU, Operation Theatre, etc.) and administrative (Medical Record Department, Security, General Administration, etc.). All components need to provide quality service for the system to work properly. The essential facets of quality healthcare delivery encompass; being accessible, patient-centric, efficient, safe, impartial, and providing timely services.

Area of Concern G- Quality management requires a facility to constitute a team and undertake a set of interrelated activities that assure the quality of services according to set standards and strive to improve upon it through systematic planning, implementation, checking and acting upon the compliances. There are ten standards defined under the ambit of the National Quality Assurance Programme. It is expected that a public health facility shall provide quality care and will strive for continual improvement.

It is important to understand that while facilities shall be striving to assure provisioning of quality services, they shall be undertaking various improvement activities.

Learning objectives

a. Understanding of the various standards under the Area of Concern 'G'.

b. How these standards are distributed in different checklists

c. Why it is importance to work with teams

d. Constitution of different committees at facility level, frequency of meeting.

e. Roles and responsibilities of the Quality Team and different committees at the facility.

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the idea of the quality management in respect to health system. Under the ambit of NQAS, area of concern covers various aspects including team formation, undertaking audits, internal assessments using NQAS checklists, undertaking Patient and employee satisfaction survey, documentation aspects usage of tools for improvement and meeting the standards. The trainee shall be able to understand they should aim at providing patient-centred care by adopting a wide team-based culture in which mission, vision, certain values and objectives are shared and transparently communicated among team members.

The participants are expected to understand the following:

1. Formation of quality team, frequency of meetings, responsibilities of each member, minutes of meeting of the quality team of the concerned healthcare facilities.
2. Basic orientation to all the standards under Area of Concern G. and How to comply with them.

Suggested Reading Material:

1. Quality Management in Public Health Facilities- An implementation Handbook, National Health Systems Resource Centre
2. Quality Management in Hospitals, S. K. Joshi, Jaypee Publishers, New Delhi
3. Quality and Accreditation of Health Services-A Global Review, ISQua & WHO
4. National Quality Assurance Standards for Public Health Facilities 2020
5. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

Quality Management
Area of Concern G

Standard G1	The facility has established organizational framework for quality improvement

Standard G1	The facility has established organizational framework for quality improvement

ME G1.1 Quality Team	The facility has a quality team in place.	General/Admin
ME G1.2 Review Meetings	The facility reviews quality of its services at periodic intervals.	General/Admin

Standard G2	Facility has established system for patient and employee satisfaction

Standard G2	Facility has established system for patient and employee satisfaction

ME G2.1 Patient Feedback	Patient satisfaction surveys are conducted at periodic intervals.	All department except ICU, Emergency & OT
ME G2.2 Feedback Analysis	The facility analyses the patient feedback, and root-cause analysis.	General/Admin
ME G2.3 Feedback Action Plan	The facility prepares the action plans for the areas, contributing to low satisfaction of patients	General/Admin

Standard G3	Facility have established internal and external quality assurance programs wherever it is critical to quality.

Standard G3	Facility have established internal and external quality assurance programs wherever it is critical to quality

ME G3.1 Internal Quality Assurance	Facility has established internal quality assurance program at relevant departments	Applicable to all the departments & special focus on lab services
ME G3.2 External Quality Assurance	Facility has established external assurance programs at relevant departments	Applicable to Diagnostic & Pharmacy Services
ME G3.3 Use of Checklist	Facility has established system for use of check lists in different departments and services	Applicable to all departments

Standard G4	The facility has established, documented implemented and maintained Standard Operating Procedures for all key processes and support services.

Standard G4	The facility has established, documented implemented and maintained Standard Operating Procedures for all key processes and support services	
ME G4.1 SOP Availability	Departmental standard operating procedures are available	All Departments
ME G4.2 SOP Adequacy	Standard Operating Procedures adequately describes process and procedures	All Departments
ME G4.3 SOP Training	Staff is trained and aware of the procedures written in SOPs	All Department
ME G4.4 Work Instructions	Work instructions are displayed at Point of use	All department

Standard G5	The facility maps its key processes and seeks to make them more efficient by reducing non-value adding activities and wastages

Standard G5	The facility maps its key processes and seeks to make them more efficient by reducing non-value adding activities and wastages

ME 5.1 Process Mapping	The facility maps its critical processes	All departments
ME G5.2 Non-Value Adding Activities	The facility identifies non-value adding activities / waste / redundant activities	All departments
ME G5.3 Process Improvement	Facility takes corrective action to improve the processes	All departments

Standard G6	The facility has established system of periodic review as internal assessment , medical & death audit and prescription audit

Standard G6	The facility has established system of periodic review as internal assessment, medical & death audit and prescription audit	
ME 6.1 Internal Assessment	The facility conducts periodic internal assessment	All departments
ME G6.2 Clinical Audits	The facility conducts the periodic prescription/ medical/death audits	All Clinical Departments
ME G6.3 Control of Non-Compliances	The facility ensures non compliances are enumerated and recorded adequately	All departments

Standard G6	The facility has established system of periodic review as internal assessment, medical & death audit and prescription audit	
ME G6.4 Action Plan	Action plan is made on the gaps found in the assessment / audit process	All departments
ME G6.5 Quality Improvement	Planned actions are implemented through Quality improvement cycle (PDCA)	All departments

Standard G7	Facility has defined Mission, Values, Quality policy and Objectives, and prepares a strategic plan to achieve them

Standard G7	Facility has defined Mission, Values, Quality policy and Objectives, and prepares a strategic plan to achieve them	
ME G 7.1 Mission Statement	Facility has defined mission statement	General Admin
ME G7.2 Core Values	Facility has defined core values of the organization	General Admin
ME G7.3 Quality Policy	Facility has defined Quality policy, which is in congruency with the mission of facility	General Admin
ME G7.4 Quality Objectives	Facility has defined quality objectives to achieve mission and quality policy	All Departments

Standard G7	**Facility has defined Mission, Values, Quality policy and Objectives, and prepares a strategic** plan to achieve them

ME G 7.5 Mission Statement	Mission, Values, Quality policy and objectives are effectively communicated to staff and users of services	All departments
ME G7.6 Core Values	Facility prepares strategic plan to achieve mission, quality policy and objectives	General Admin
ME G7.7 Quality Policy	Facility periodically reviews the progress of strategic plan towards mission, policy and objectives	General Admin

Standard G8	**The facility seeks continually improvement by practicing Quality method and tools.**

Standard G8	The facility seeks continually improvement by practicing Quality method and tools.

ME G8.1 Quality Methods	The facility uses method for quality improvement in services.	All Departments
ME G8.2 Quality Tools	Facility uses tools for quality improvement in services	All Departments

Standard G9	Facility has defined, approved and communicated Risk Management framework for existing and potential risks

Standard G9	**Facility has defined, approved and communicated Risk Management framework for existing and potential risks**

ME G 9.1 Scope & context	Risk Management framework has been defined including context, scope, objectives and criteria	General Admin
ME G9.2 Responsibility	Risk Management framework defines the responsibilities for identifying and managing risk at each level of functions	General Admin
ME G9.3 Incident Reporting	Risk Management Framework includes process of reporting incidents and potential risk to all stakeholders	General Admin

Standard G9	**Facility has defined, approved and communicated Risk Management framework for existing and potential risks**

ME G9.4 List of risks	A compressive list of current and potential risk including potential strategic, regulatory, operational, financial, environmental risks has been prepared	General Admin
ME G 9.5 Training	Modality for staff training on risk management is defined	General Admin
ME G9.6 Review	Risk Management Framework is reviewed periodically	General Admin

Standard G10	Facility has established procedures for assessing, reporting, evaluating and managing risk as per Risk Management Plan

Standard G10	Facility has established procedures for assessing, reporting, evaluating and managing risk as per Risk Management Plan	
ME G 10.1 Approval & Up-dation	Risk management plan has been prepared and approved by the designated authority and there is a system of its up-dation at least once in a year.	General Admin
ME G10.2 Dissemination	Risk Management Plan has been effectively communicated to all the staff, and as well as relevant external stakeholders	General Admin
ME G10.3 Assessment Criteria	Risk assessment criteria and checklist for assessment have been defined and communicated to relevant stakeholders	General Admin
ME G10.4 Physical Safety Risk	Periodic assessment for Physical and Electrical risks is done as per defined criteria	Radiology & General Admin

Standard G10	Facility has established procedures for assessing, reporting, evaluating and managing risk as per Risk Management Plan	
ME G 10.5 Fire Safety risks	Periodic assessment for potential disasters including fire is done as per defined criteria	General Admin
ME G10.6 Patient safety Risks	Periodic assessment for Medication and Patient care safety risks is done as per defined criteria	All Clinical Departments
ME G10.7 Staff Safety risks	Periodic assessment for potential risk regarding safety and security of staff including violence against service providers is done as per defined criteria	General Admin

Standard G10	Facility has established procedures for assessing, reporting, evaluating and managing risk as per Risk Management Plan	
ME G10.8 Risk Rating	Risks identified are analyzed evaluated and rated for severity	General Admin
ME G 10.9 Risk Treatment	Identified risks are treated based on severity and resources available	General Admin
ME G10.10 Risk Register	A risk register is maintained and updated regularly to risk records identified risks, there severity and action to be taken	General Admin

Quality Team formation

Quality Team at the facility

- The Quality Team at the facility level will be the core team to improve Quality of care in the facility.
- Quality Team will be the functional arm to coordinate the activities of other committees in the facility
- The committees given below are suggestive one. It may vary as per requirement, resources and functions of the hospitals
- There is suggestive list of members of the Quality Team and other committees, a facility may amend the members based on the available HR in the facility.

Suggestive Committee's and frequency of their meetings

Recommended Committee	Frequency of Committee	Convenor
Quality Team	Monthly	Hospital/Quality Manager
Disaster Management	At least Quarterly	Nominated MO/Casualty MO
Committee against Sexual Harassment	Should activate when any complaint received	Nursing Superintendent/Infection control Nurse
Drug and Therapeutic Committee	At least Quarterly	Chief Pharmacist
Maternal Death Review Committee	Monthly	FNO-Obstetrician
Child Death Review Committee	Monthly	FNO-Paediatrician
Hospital infection control committee	Monthly	Nursing in charge
Medical Audit committee	At least Quarterly	Pathologist
Death Audit Committee	Monthly	Superintendent of the Hospital

Composition of Quality Team at District Hospital

1. I/C Hospital/Medical Superintendent-Chair Person
2. Quality/Hospital Manager-Convenor
3. I/C Operation Theatre/ Anaesthetic/Surgery
4. I/C Obs and Gynae
5. I/C Lab services (Microbiologist/Pathologist)
6. I/C Nursing
7. I/C Ancillary Services
8. I/C Transport
9. I/C Stores
10. I/C Records
    - *Frequency- Monthly*

Term of Reference

1.Staff orientation:-

- Orientation training to be conducted for all staff of Quality team
- Involve all staff including Medical, Paramedical, Support staff, Group C and D staff and orient them about the NQAS standards

2.Ensuring adherence to Quality standards

- Through regular internal assessment, audits, review etc.
- Corrective action plan for identified gaps

3.Regular reporting to District QAC

- Reporting of outcome and Key Performance indicators
- Finding of assessment and action plan
- Any adverse event like maternal death, infant death, sterilization death/ failure /complications

4.Ensure interdepartmental coordination

- For effective implementation of QA activities
- To share finding of internal assessment & ensure action are taken
- Co ordinate the activities of other functional committee of the hospital etc

Process

- Once the Quality team is formed, areas for an initial assessment needs to be identified.
- Undertake filling the NQAS Checklists, scoring and summarise the gaps.
- Prepare action plan based on the identification of gaps
- Monitor and follow-up of these action plans
- Traverse the identified gaps
- DQAC/SQAC visits and assessments for certification of facility

1. Disaster Management Committee

1. Medical Superintendent- Chairmen
2. Medical officer Casualty- Convener
3. I/C Surgery
4. I/C Orthopedics
5. I/C Anesthesiology
6. I/C Medicine
7. I/C Pediatrics
8. I/C Gynecology
9. I/C from any other clinical department of present
10. Nursing Superintendent
11. I/C Store
12. Account Officer
13. House keeping In-charge

Frequency:- At least quarterly

2. Committees against Sexual Harassment

1. Senior Lady Medical officer- Chair person
2. Nursing Superintendent- Convenor
3. There shall be at least one person selected from the list of third parties. A Third party either an NGO or other body who is familiar with the issue of Sexual Harassment or a nominee of the State/District Human Rights Commission or State/District Commission for women familiar with the issue of Sexual Harassment.

- *More than half of its members should be women.*
- *Frequency:- should activate when any complaint received.*

3. Drugs and Therapeutic Committee

1. Senior Medical officer- Chair Person
2. Chief Pharmacist- Convenor
3. Surgeon
4. Medicine specialist
5. Gynaecologist
6. Nursing Superintendent
7. Medical Record Technician
8. Lab Technician

Frequency : At least Quarterly

4. Maternal Death Review Committee

1. Medical Superintendent- chairman
2. FNO (Obstetrician from the dept)- Convener
3. At least two obstetrician/ MO from Obs Dept.
4. One Anesthetist
5. One blood bank MO
6. Nursing Superintendent
7. One physician

Frequency:- Monthly

5. Child death Review committee

1. Medical Superintendent- Chairmen
2. FNO Pediatrician- Convener
3. Pediatrician/ MO posted as Pediatrics
4. One Anesthetist
5. Senior nurse posted in pediatric

Frequency:- Monthly

6. Hospital Infection Control Committee

1. Medical Superintendent- Chair Person
2. Nursing Superintendent/Infection control Nurse- Convener
3. Pathologist/ Microbiologist
4. Blood Bank in charge
5. In charge of OT
6. Lab technician
7. Hospital/Quality Manager
8. Chief pharmacist
9. Housekeeping incharge

- *Frequency- Monthly*

7. Medical Audit Committee

1. Medical superintendent- Chair Person
2. Pathologist- Convener
3. Chief pharmacist
4. Clinicians from the speciality
5. Members of the Drugs & therapeutic Committee
6. Members of the Infection Control committee
7. Members of the Medical records department

Frequency- Quarterly

8. Death Audit Committee

1. Medical Superintendent- Chair Person & Convener
2. Medical officer casualty
3. Surgeon
4. Medicine specialist
5. Nursing Superintendent
6. MO who had attended the case in the facility should be invited

Frequency- Monthly

Session 2: Internal assessment & Gap Identification

Undertaking Quality Improvement (QI) initiatives and ensuring the sustenance of the changes made during the process becomes imperative for any quality inclined system. Quality in healthcare is a systematic approach to make changes that lead to improved outcomes and better performance of the health system. For undertaking improvement activities, it becomes crucial to assess or find out the existing gaps or lacunas. Hence, it becomes essential for a health facility to assess all its internal processes/activities via the system of periodic review that is required for the delivery of quality healthcare services to meet the patients' expectations. For identifying gaps, the following type of assessment can be performed at a health facility:

Internal Assessment: Each facility should be assessed and scored by its trained staff (Internal Assessors) using the NQAS checklists. These may be hospital staff, members of the quality team or district quality assurance unit.

Internal assessment is a continuous process and an integral part of the National Quality Assurance Programme. It is an in-house systematic quality assurance process for evaluating the services/ processes objectively and determine the extent to which the quality standards are fulfilled.

To undertake the facility level quality initiatives, it becomes important to have a facility-level quality team.

Based on this assessment, the facility would be able to identify the gaps. Apart from NQAS checklists facility shall be utilising various departmental indicators, audit reports, process mapping, surveys (e.g. Patient Satisfaction) to determine the loopholes and prepare an action plan to address these gaps.

Facility's quality team can schedule internal assessment on a periodic (preferably quarterly) basis. The Internal assessment can be conducted for the whole facility in the beginning, and the lowest-performing departments can be prioritised. However, all the departments of a facility need to be assessed and scored at least once in a quarter. This scheduling must involve respective authorities from all departments. Gaps identified must be communicated, and action needs to be taken at the facility /departmental level.

State-level Assessment: Facilities achieving 70% score in internal assessment and can sustain the changes must request for the state assessment by State Quality Assurance Unit. Facilities meeting the defined criteria in-state assessment then become eligible for the national level assessment.

National Assessment: National Assessment is undertaken by the experienced, well trained and empanelled external assessors under the National Quality Assurance Standard (NQAS).

Learning objectives

a. To understand the key steps of internal assessment
b. Developing time-bound action plan
c. Execution as per the action plan followed by corrective and preventive measures

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with:

1. Systematic understanding of the principles of internal assessment for gap identification, followed by prioritization.
2. development of a time-bound action plan for removal of gaps, and thereby accelerating the implementation of total quality improvement for sustenance of desirable outcome.

Suggested Reading Material

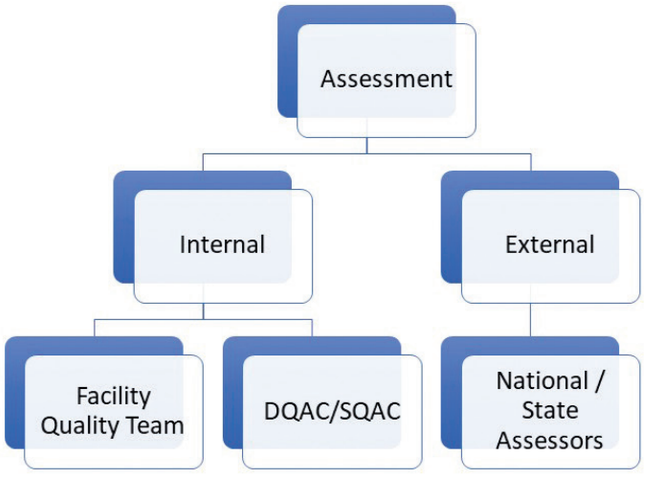
1. Quality Management in Public Health Facilities- An Implementation Handbook, National Health Systems Resource Centre
2. Quality Management in Public Health Facilities- Traversing Gaps, National Health Systems Resource Centre
3. National Quality Assurance Standards for Public Health Facilities 2020
4. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

Internal Assessment, Gap- Analysis & Action planning

Steps for Implementation of Quality in Facility

- Formation of Quality Assurance Team
- Quality Policy & Objectives
- Standard Operating Procedure & work Instruction
- Patient Satisfaction Survey
- **Internal Assessment**
- Audit Medical /prescription/ death etc.
- Internal & External Quality Assurance Processes
- Key Performance Indicators
- Rapid Improvement Events

Types of Assessment



Internal Assessment

WHAT	An in-house systematic, independent, and documented quality assurance process of obtaining evidence and evaluating it objectively to determine the extent to which the quality standards are fulfilled
WHERE	At Patient care and support service department of public health facilities where quality assurance program is being implemented
WHEN	As a periodic quality assurance exercise on as per assessment plan. Preferably quarterly.
WHO	Team of trained and competent Internal Assessors. These may be hospital staff, members of quality team or district quality assurance unit.

Internal Assessment Activities

PRE-ASSESSMENT ACTIVITIES	ASSESSMENT ACTIVITIES	POST ASSESSMENT ACTIVITIES
• Training of Internal Assessors • Preparing Assessment Plan • Selecting Assessment team • Preparing Assessment Schedule • Work allocation • Logistics and Communication	• Conducting opening meeting • Assigning guide/coordinator • Collecting and verifying information • assessment conclusion • Conducting closing meeting	• Generating scores • Gap analysis • Preparation of Assessment report • Dissemination of report • Hand holding for action plan • Follow up for gap closure • Maintaining Records

PRE-ASSESSMENT ACTIVITIES

Creating pool of Assessors

- Nominate candidate for internal assessors
  - Representation from all cadre of staff (Doctors, Nurse, Administration)
  - May or may not be quality team members
- Provide Internal Assessor Training (2 days) followed by Training followed by evaluation
- Certify Internal Assessors
- Prepare list of trained assessors and get it approved by DQAC
- Identify the area of competence/expertise of each assessor
- Prepare TOR and SOP for Internal assessment

Preparing Assessment Plan

- Prepare an annual plan for assessment activities
- Prioritize departments based on
  - Baseline Scores/Previous scores
  - Utilization of services
  - Quality Issues
  - Certification objectives
- All departments should be assessed once in a quarter
- Get annual assessment plan approved by quality team
- Disseminate the to the respective department
- Share a copy assessment plan with DQAU

Selecting Assessment Team

- Based on Department to be assessed
- At least one person having some domain knowledge
  - Clinician for Clinical departments,
  - Nursing staff for Indoor Departments
- Invite Internal Assessors from DQAU or nominated by them
- Staff working in department should not be part of assessment team
- Appoint a team leader
- At least one member for each team should be certified internal assessor *(incase of non availability of adequate Internal assessors)*

Preparing Assessment Schedule

- Micro plan of assessment
  - Who will assess (Assessor)
  - What will assess (Department)
  - Whom will assess (Assesse)
  - When will Assess (Time)
- Should be prepared in consent of in charge department
  - Ensure His / Her Availability on day and time of assessment
- Keep timing when assesse is relatively less workload *(Avoid peak hours)*
- Keep in mind closing timing of departments (Assessment should start in well advance of closing time.

Logistic & Communication

- Communicated Assessment Schedule to respective departments at least one week prior.
- Take printouts of Checklists in advance
- Arrange for stay and travel (For assessors coming from other facilities)
- Communicate in advance for specific requirements
  - Records to assessed,
  - observing procedure
  - interacting specific staff
  - Personal Protective Equipment Required

ASSESSMENT

Opening Meeting

- Introduction of the Assessors, Assesses and observers (if any) an outline of their responsibilities
- Confirmation of the objectives, scope and criteria (NQAS)
- Confirmation of the assessment schedule and other relevant arrangements with the assesse , such as the date and time
- Presentation of the methods to be used to conduct the assessment, including sampling method
- Confirmation of formal communication channels between the Assessment team and assesse
- Confirmation that the resources and facilities needed by the assessment team are available
- Information on the method of reporting assessment findings including scoring
- Information about the closing meeting

Conducting Assessment

ISQua Accreditation
SURVEYOR TRAINING PROGRAMME

- Familiarize with Measurable element and Checkpoint
- Understand the Assessment method and Means of verification
- Gather the information & Evidence
- Compare with checkpoint and means of verification
- Arrive at a conclusion for compliance
- Assign Scores

Figure 3: Sample checklist*.

Checklist for Accident & Emergency					
Reference No.	Measurement Element	Checkpoint	Compliance	Assessment Method	Means of Verification
AREA OF CONCERN - A SERVICE PROVISION					
Standard A1	The facility provides Curative Services				
ME A1.1.	The facility provides General Medicine services	Availability of Emergency Medical Procedures		SI/OB	Poisoning, Snake Bite, CVA, Acute MI, ARF, Hypovolumic Shock, Dysnea, Unconsiou Patients
ME A1.2.	The facility provides General Surgery services	Availability of Emergency Surgical Procedures		SI/OB	Appendicitis, Rupture spleen, Intestinal Obstruction, Assault Injuries, perforation, Burns
ME A1.3.	the facility provides Obstetrics & Gynaecology Services	Availability of Emergency Obstertics & Gynaecology Procedures		SI/OB	APH, PPH, Eclampsia, Obstructed labour, Septic abortion, Emergency Contraceptives
ME A1.4.		Availability of emergency Pediatric procedures		SI/OB	ARI, Diarrheal diseases, Hypothermia, PEM, reucitation

OBSERVATION (**OB**) STAFF INTERVIEW (**SI**) RECORD REVIEW (**RR**) PATIENT INTERVIEW (**PI**)

POST ASSESSMENT ACTIVITIES

Generating Score Cards

- Putting the values in Excel based tool
- Sores will be self generated
- Interpreting scores for action and improvement

Labour Room Score Card	
Labour Room Score	70%
Area of Concern wise score	
Service Provision	78 %
Patient Rights	52 %
Inputs	55 %
Support Services	50 %
Clinical services	77 %
Infection control	85 %
Quality Management	90 %
Outcome	73 %

Gap Analysis

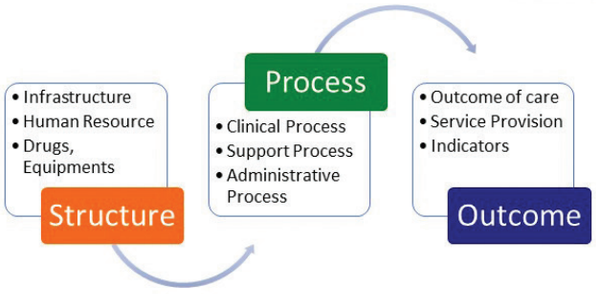
Identify Checkpoints having Partial and Non-Compliance

Write Down gap statement

Assign Reference No. (Measurable element)

Assign Gap Classification

Assign Gap Severity Rating

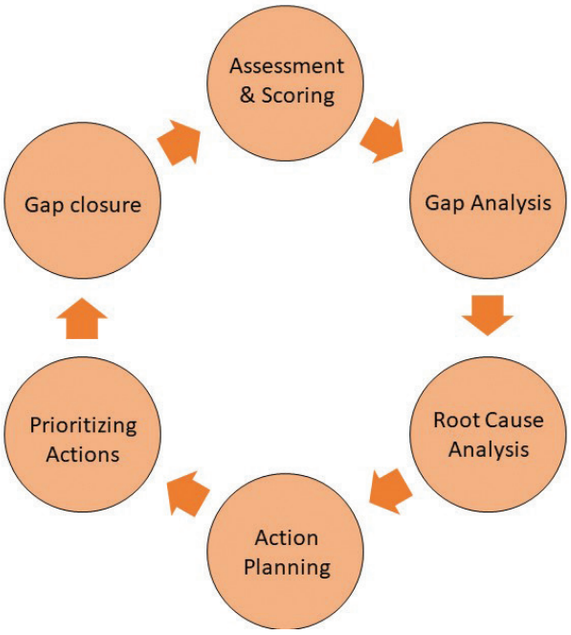


Patient Care

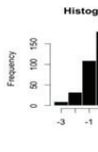
- Directly Effecting
- Indirectly Effecting
- Not effecting

- Severe
- Moderate
- Low

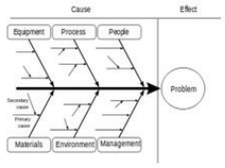
Quality Assurance Cycle



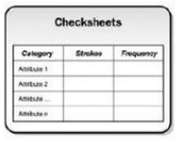
Root Cause Analysis using Quality Tools



Histogram

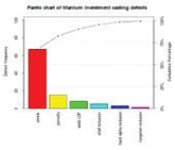


Fishbone Diagram

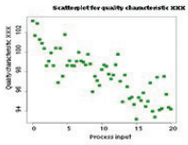


Check sheets

Control Charts



Pareto Charts



Scatter Plot

Run Chart

Why-Why Analysis

- First you state the problem and ask why it has occurred?
- Keep on asking why?
- Till you find the root cause.
- It may be noted that at each step, most suited statement should be selected for further analysis. Let us explain it with an example:

Action Planning

Action Planning Methodology

- Gap statement
- Root Cause Analysis
- Action to be taken
- Prioritization Score
- Responsibility
- Timeline

Prioritization- Using PICK Chart

	PICK Chart Results	
	BIG payoff (Benefits)	**SMALL** payoff (Benefits)
EASY to implement	Implement I Severe Gap needs no or very less resources Severe Gap Requires needs local action Visible Changes with less efforts	Possible P Moderate or Low Gaps require Low resources or efforts Desirable Improvement Action
HARD to implement	Challenge C Severe Gaps Needs High Resource Severe Gaps Needs State level Intervention Major change in the processes	Kick out K Low level Gaps require high efforts or resources Efforts adding no value in quality

Session 3: Patient Satisfaction Survey (PSS)

Confirmation of the fact that citizens are satisfied with the provided healthcare services can be done by capturing the "Voice of Patient". Measurement of patient's satisfaction offers the opportunity to improve service delivery mechanism in the facility by addressing the gaps which are directly affecting the patients' experience of care. The Patient Satisfaction Survey through Mera Aspataal initiative or manually aims to identify the attributes which are major dissatisfiers for most of the patients. The facility team, after identifying characteristics which are the lowest scoring undertake improvement initiatives for its closure.

Mera-Aspataal Initiative: The Government has launched the "Mera-Asptaal/My Hospital" initiative to empower the patients by seeking their views on the quality of experience in a public healthcare facility. Mera-Asptaal/My Hospital is a multi-lingual and straightforward application that captures patient feedback in a short time on the services received at public hospitals. It works through multiple communication channels, including Short Message Service (SMS), Outbound Dialling (OBD), a mobile application, and a web portal. The app allows feedback to be consolidated, analysed, and disseminated on a frequently updated dashboard. Analysed data can be used to improve quality of services in healthcare facilities. The 'My Hospital' allows patients to connect with the healthcare providers and policymakers and ensure their opinion heard and acted upon

Learning objectives

a. To understand the methodology and rationale for conducting PSS

b. Method of collating and analysing feedback given by patients (identifying the lowest scoring attributes)

c. Taking corrective and preventive action for gap closure by undertaking improvement efforts.

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the idea that a key component for understanding and improving patients' experience is ensuring that what is measured reflects what matters most to the patients.

Here, the whole idea is not just to collect the PSS with a pre-defined attribute, but after collection of responses, data should be analysed to identify the lowest attributes and prepare an action plan for the closure of gaps identified during the survey. There could be more than one identified problem, prioritization rule can be applied based on identified attributes and corrective and preventive action can be taken accordingly.

Exercise

An exercise follows this session, wherein trainees will be provided with a sheet having a patient satisfaction score on a random sample of the patient, which will be scored on a Likert scale against specific attributes. All the participants will divide into 5-6 groups (as per the number of participants, not more than 10 in a group). Each participant calculates the average patient satisfaction score of a facility and for individual attributes as well. After the calculation of average PSS, the participants have to identify two lowest-performing characteristics from within the sheet and make a hypothetical time-bound action plan for improvement in the PSS.

Suggested Reading Material:

1. Determinants of patient satisfaction in public hospitals and their irremediabilities, BMC Proceedings 2012
2. National Quality Assurance Standards for Public Health Facilities 2020
3. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

Patient Satisfaction Survey

Patient Satisfaction under NQAS

Standard G2:- The facility has established system for Patient and Employee Satisfaction

- ME G2.1:- Patient satisfaction survey are conducted at periodic interval
- ME G2.2:- The facility analyses the patient feedback, and root cause analysis
- ME G2.3:- The facility prepare the action plans for the areas, contributing to low satisfaction of patients

Patient Satisfaction Survey (PSS)

- Patient Satisfaction Survey (PSS) are the integral part of Quality Improvement Programme at the facility level.
- It's a tool that provides valuable information about patient perception and experience in the facility.
- It includes analysis of feedbacks given by patients, root cause identification for causes of low satisfaction, preparation of action plan and taking corrective and preventive actions.

How to initiate PSS?

- Develop or finalize Questionnaire to seek feedback from the patients for OPD and IPD.
- Collect feedback for OPD patients, when they are about to leave the hospital (preferably after collection of medicines from Pharmacy)
- For IPD patient at the time of discharge of patients.
- Collect appropriate sample size each month based on average OPD/IPD patients in a month

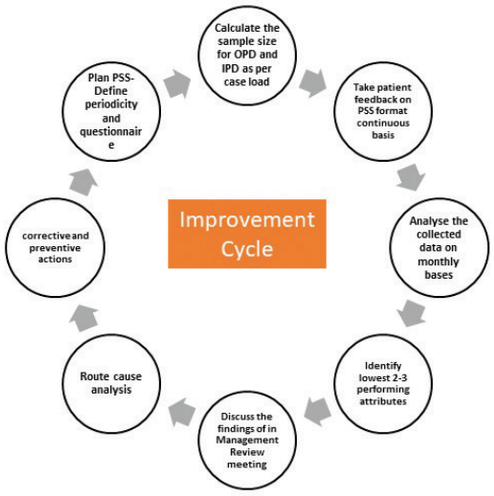
Plan

- Periodicity:- District hospital should have PSS on monthly basis
- Stationary:- Translate PSS in local language and ensure that formats are available in adequate numbers at OPD and IPD.
- Responsibility:- Designate who will be taking and collecting feedback. Hospital/Quality Manager should coordinate this activity.
- Sample Size:- Sample size should be adequate for getting valid result.

Sample size calculator

Population (OPD Attendance/ IPD Admissions)	Sample Size (Number of patients to be surveyed)			
	Margin of Error -10% Confidence Level -90%	Margin of Error -10% Confidence Level -95%	Margin of Error - 5% Confidence Level -90%	Margin of Error -5% Confidence Level -95%
10	9	9	10	10
20	16	17	19	20
50	29	34	43	45
100	41	50	74	80
200	51	66	116	132
300	56	73	143	169
500	60	81	176	218
1000	64	88	214	278
3000	67	94	249	341
5000	67	95	257	257
10000	68	96	264	370
15000	68	96	266	375
20000	68	96	268	377
30000	68	96	269	380
50000	68	96	270	382
100000	68	96	270	383

Patient Satisfaction Improvement Cycle



Do

- Patient feedback should be taken as per decided plan and sample size.
- Ensure to take Patient feedbacks from all departments of the hospitals.
- Ensure to have mechanism to collect feedback from the illiterate, disabled person and parents of new-born and children.
- Exit feedback should preferred always.
- Filled forms should be collected and submitted to coordinators.

Check

- Check for completeness of the Patient satisfaction survey forms.
- Check for appropriate sample size achieved.
- Collected feedback should be collated and analysed.
- Analysis should generate overall as well as attribute wise score.
- Identify for 2-3 low scoring attributes of dissatisfaction and do root cause analysis.

Patient Satisfaction Survey Analysis

Attribute	Pt. 1	Pt. 2	Pt. 3	Pt. 4	Pt. 5	Pt.6	Pt. 7	Pt. 8	Pt. 9	Pt. 10	Average
Availability of sufficient information	3	2	4	3	3	3	4	5	2	4	3.3
Waiting time at the registration counter	4	4	3	4	4	4	5	4	3	5	4
Behaviour & attitude of staff	3	3	2	2	4	3	3	3	4	3	3
Amenities in waiting area	3	4	4	4	2	3	1	3	3	3	3
Attitude & communication of Doctors	1	1	1	2	2	1	2	3	3	2	1.8
Consultation & examination time	4	3	2	4	3	2	2	2	4	2	2.8
Availability of Lab & Radiology facilities within hospital	3	3	3	2	2	2	1	2	2	3	2.3
Promptness at Med distribution counter	4	5	4	4	3	5	4	5	4	4	4.2
Availability of prescribed drugs	3	1	1	1	2	2	2	1	1	2	1.6
Your overall satisfaction during the visit to the hospital	2	2	2	3	4	3	3	2	4	4	2.9
Average	3	2.8	2.6	2.9	2.9	2.8	2.7	3	3	3.2	2.89

PSS Findings

- Patients most dissatisfying factor is non availability of all drugs at Pharmacy (1.6)
- Secondly patients are unhappy with the attitude and communication of doctors at OPD (1.8)
- Availability of Lab and Radiology services is the third most dissatisfying factor for the patients at OPD(2.3)

Act

- Discuss the finding in the monthly Quality team meeting.
- Prepare an action plan with detailed of the action to be taken and the responsible person.
- Take corrective and preventive action
- Compliance to action should be reviewed monthly.
- Plan for the next PSS

Session 4: Internal and External Quality Assurance Programme

Ensuring healthcare quality requires improved management and supervision of clinical services. With this regard, internal quality assurance should be a cyclical process, which is continuously followed, and the results regularly reviewed for quality of care to improve. To achieve the expected results, the internal quality assurance cycle should consist of the following steps:

- Detection and assessment of problems and gaps in health care services followed by formulating the aim.
- Identification of opportunities for improvements.
- Identification and implementation of interventions/change ideas to meet the objective
- Analysis of whether an intervention has the desired results, and
- Repeat the cycle to ensure continued improvements.

On the other hand, the term External Quality Assurance (EQA) has a wide range of definitions. Donabedian defines EQAS as "The managed process whereby the comparison of care against predetermined standards is guaranteed lead to action to implement changes and ensuring that these have produced the desired improvement". Any EQAS program should reveal or provide with the information of whether inbuilt measurement procedures are of standard value and they have not deviated from its actual value.

Internal and External Quality Assurance in Laboratory

The attainment of quality service in a laboratory requires a comprehensive Quality Assurance Program which includes both Internal and External quality control processes. Internal Quality Control (IQC) and External Quality Assurance (EQAS) are complementary to each other. The Internal quality control processes in the lab is performed within the laboratory to monitor and ensure the reliability of test results produced by the laboratory. Internal quality control ensures that the results are reliable and reproducible.

External quality assessment is the objective evaluation, by an outside agency on the performance of several laboratories, on material that is supplied specially for the purpose. External quality assessment (EQA) is an important supplement to the internal quality assessment that the same material is sent from a national or regional centre to a large number of laboratories. All the laboratories send the results back to the centre where they are analysed and interpreted by one of several procedures.

Learning objectives

a. Understanding the basics of internal quality assurance and external quality assurance programme.

b. Methods to interpret results obtained through internal and external quality assurance programme.

c. To undertake improvement activities further if needed.

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the idea that how a facility ensures that there is an established framework for internal and external quality assurance programme in the laboratories. The results of Internal Quality Control and External Quality Assurance scheme for diagnostic services strengthen the laboratories by providing analysis of their test reports and provide an opportunity for action planning and continuous improvement.

Suggested Reading Material:

1. http://home.cmcvellore.ac.in/clinqc/
2. http://home.cmcvellore.ac.in/clinqc/about Registration.aspx
3. www.ishtmaiimseqap.com
4. National Quality Assurance Standards for Public Health Facilities 2020
5. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

Internal and External Quality Assurance Programme for Laboratories

Quality Assurance Programme for Lab

QA Programme for Laboratories include

- Internal Quality Control (IQC)
- External Quality Assurance Scheme (EQAS)

Internal & External Quality Assurance Programme

- The existence of internal quality control programmes and external quality assurance schemes is important in ***enabling the maintenance of good service to patients***.
- All aspects laboratories are important as Laboratory results effect directly to diagnosis and treatment of the patient.
- So, it is utmost important the results given from laboratory are precise and accurate.
- Other than ensuring quality system in laboratories it is equality important to have Internal Quality Control and external quality assurance scheme for labs.

Remember : Internal Quality Control & EQAS are complementary to each other. You can not have only EQAS without ensuring IQC

Internal Quality Control Programme

- Quality Control is performed within laboratory to monitor and ensure the reliability of test results produced by the laboratory.
- Control materials (usually liquid controls) are used to monitor the test system and verify that quality patient test results have been attained.

Why do we need Internal Quality Control:-

- Ensure that test results are reliable
- Ensure that test results are reproducible
- Control quality of daily routine work

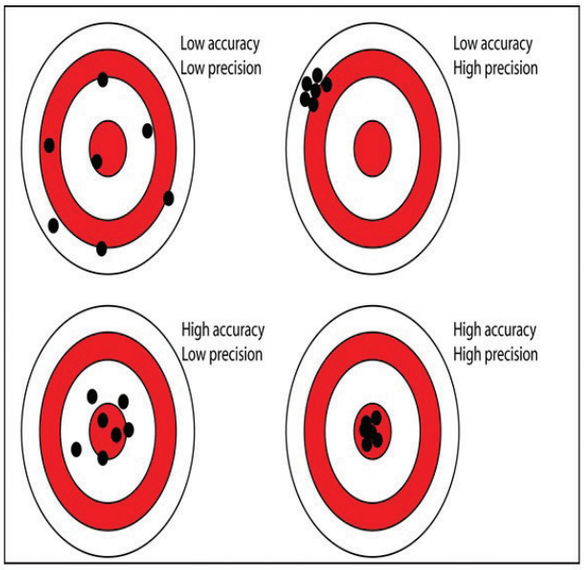
Precision & Accuracy

- **Precision**

Precision is the reproducibility of an analytical method

- **Accuracy**

Accuracy defines how close the measured value is to the actual value.



Quality Control

Quality Control-

Less than 40 per day - at least one level QC once a day.

Between 40-80 per day - apply two level QC at least once a day.

More than 80 per day - apply two level QC at least twice a day for such analyses.

If controls are not available-

- Retesting of any randomly chosen specimen/s
- Replicate test of specimen by different method, different machine and different person, wherever applicable

LJ Chart

- Interpretation of quality control data involves both graphical and statistical methods.
- Quality control data is most easily visualized using a Levey Jennings Chart.
- Named after S. Levey and E. R. Jennings who in 1950 suggested the use of Shewhart's control charts in the clinical laboratory.
- The dates of analyses are plotted along the X-axis and control values are plotted in the pattern of plotted points provides a simple way to detect increased random error and shifts or trends in calibration.

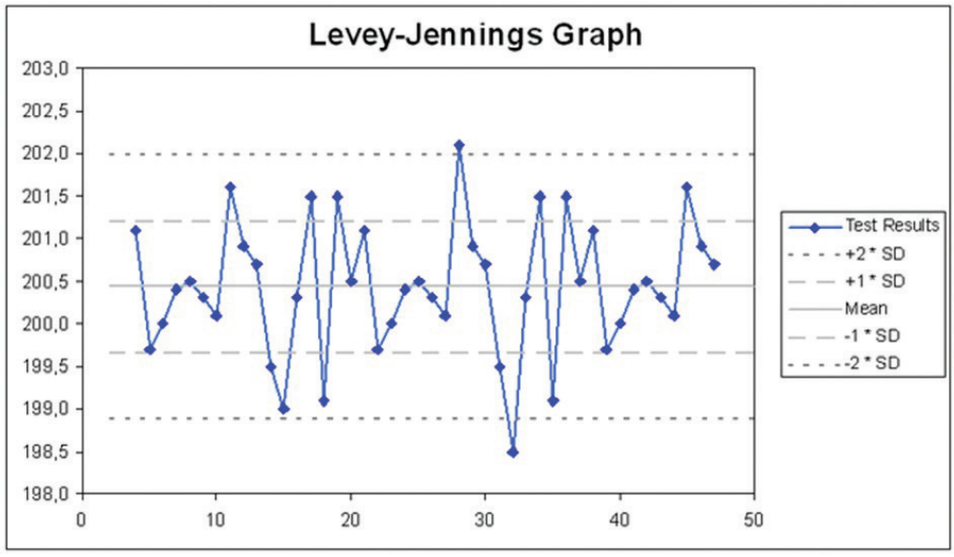
Interpretation of LJ Chart

- Westgard rules are applied to see whether the results from the samples when the control was done can be released, or if they need to be rerun.

➢ The formulation of Westgard rules were based on statistical methods. Rules used to define specific performance limits for a particular assay and can be used to detect both random and systematic errors.

➢ Usually, programmed in to automated analyzers to determine when an analytical run should be rejected.

Example..Graphical view



Type of Errors

- Pre Analytical
- Analytical
- Post Analytical

1. Pre Analytical :
   - Patient identification & preparation
   - Sample labelling
   - Correct specimen volume
   - Clotted blood samples/ improper mixing
   - Haemolysis

Types of errors

2. **Analytical Measurement**

- Instrument not calibrated correctly
- Specimens mix – up
- Incorrect volume of specimen
- Interfering substances present
- Instrument precision problem

Type of Errors

Post Analytic Errors	
Test reporting	**Test interpretation**
▪ Wrong patient ID ▪ Transcription error ▪ Report not legible ▪ Report delayed	▪ Interfering substance not recognized ▪ Specificity of the test not understood ▪ Precision limitation not recognized ▪ Analytical sensitivity not appropriate ▪ Previous values not available for comparison

External Quality Assurance Programme

- EQA is here defined as a system for objectively checking the laboratory's performance using an external agency or facility.
- EQA: The term **external quality assessment** (EQA) is used to describe a method that allows for comparison of a **laboratory's** testing to a source outside the **laboratory**.
- This comparison can be made to the performance of a peer group of **laboratories** or to the performance of a reference **laboratory**.

External Quality Assurance process for CMC Vellore

Register on
http://home.cmcvellore.ac.in/clinqc/aboutRegistration.aspx

↓

Fill the form and send it with demand draft of requisite fee

↓

CMC will send the lyophilized sample every month

↓

Run the samples and upload the values on portal

↓

Download the report at end of month

↓

Analyze the results and take corrective actions

Interpretation of VIS

–VIS	Performance
–< 100	Very good
–100 -150	Good
–150 -200	Satisfactory room for improvement
> 200	Not acceptable

- If VIS of >200 on two or more occasions for the same analyte, them check your standardization procedures & calibration
- Indicates an accuracy problem (systematic error/bias)

Z-Score

Interpretation of Robust Z-scores:

Z score less than 2 - Satisfactory
Z score 2 but less than 3 - Questionable performance
Z score more than 3 – Unsatisfactory

Both ZB & ZW should be < 2

Using only one Z-score may misleading

ZW < 2 ZB > 2 = Higher bias i.e. low reproducibility

ZB < 2 ZW > 2 = low precision (i.e., low repeatability)

For assessing laboratory's technical competency, both ZW and ZB value should be low at the same time.

Handling of Un-accepted Results

- EQA result represents 1 point in time and will occasionally be a random error
- Repeat the measurement using a stored aliquot of the EQA sample (assuming the measure and was stable on storage) to confirm if the problem has persisted or to conclude that the problem no longer exists and the original unacceptable result was a random event, and therefore no corrective action is indicated.
- If the repeated result is still unacceptable, the laboratory conducts further investigation to identify the root cause, and then initiates corrective action

Handling of Un-accepted Results

- Gather data related to the testing event to include records of calibration, reagent use, QC results, and maintenance procedures
- Obtain other data on assay performance, e.g., previous PT/EQA results and relevant patient data;
- Identify the root cause of the error
- Take corrective action and preventive action if indicated
- Monitor the success of the corrective action
- Document the investigation and the corrective action

Gathering & reviewing the data

- Was the testing material received in satisfactory condition?
- Was the appropriate sample tested?
- Were procedures for sample preparation followed?
- Was the appropriate method used for analysis?
- Was the method performed according to
- documented procedures?
- Were appropriate reagents and controls used?
- Was equipment operated according to documented procedures?

Gathering & reviewing the data

- Was equipment appropriately maintained?
- Was QC acceptable at the time of testing ?
- Samples?
- Were results interpreted appropriately?
- Has this problem occurred previously with samples?
- Are data consistent with previous distributions? Is there a trend leading to failure or is the current set completely unexpected?
- Did repeat testing on the properly stored residual sample produce similar results?
- Were patient results acceptable at the time of testing?

Classifying the errors

- Clerical error
- Methodological problem
- Equipment problem
- Technical problem
- Problem with proficiency testing materials
- Problem with evaluation of results
- No explanation after investigation

Conclusion

- **Internal** and **external quality control programs complement each other**.
- **Internal quality control** monitors **the** daily precision and accuracy of methodologies, personnel, and instruments.
- **External quality control** maintains long term accuracy and Increased confidence in **the** accuracy of **the** laboratory's testing results.

Session 5: Documentation in Quality Management

Documentation in healthcare facilities/system becomes an important part. It is valuable as it details about the official way to perform the task. Documentation simplifies complex & error-prone processes; an aid for training/ supplement requirement and create objective evidences for the assessor to identify the current gaps or areas of improvement.

For a facility documentation in terms of defining the Vision, Mission, Values statements, Quality Policy & Objectives, Standard Operating Procedure (SOP) etc. are important components for an organization's strategic planning.

The **Vision statement** is future-focused and describes where the facility team would like the organization to be or what would the team like to accomplish in the long term to ensure accessible and affordable quality healthcare to all.

While, **Mission** is focused on the present and describes the purpose of your organization or why it exists. The Mission is what people do to achieve the vision. Therefore, it is necessary to align a health facility's Mission with the vision.

Finally, **Values statements** reflect core behaviours or guiding principles (like accountability, quality, knowledge, etc.) that guide the actions of service providers as they execute plans to achieve the Mission and vision.

A **Quality Policy** is a brief statement that aligns with organization's mission, vision and strategic direction, provides a framework for quality objectives, and includes a commitment to meet applicable requirements (ISO 9001, customer, statutory or regulatory).

Quality objectives could be described as goals for a department as well as for the overall organization. It is a primary quality management process to establish a set of quality objectives. Quality objectives are the goal(s), which should be SMART (Specific, Measurable, Achievable, Realistic and Time-bound).

An **SOP (Standard Operating Procedure)** is a set of written instructions that document a routine or repetitive activity, to achieve uniformity of the performance of a specific function. An SOP addresses the "who, what, where and when" of an activity. SOPs describe the overall functioning of the department or a particular process. It addresses the job responsibilities to a process owner.

Learning objectives

1. Understanding the importance of documentation in health system.
2. Understanding the key concept, importance, and method to how to define / formulate Vision, Mission, Quality Policy and Objectives.
3. Understanding the key concept, importance, and method to how to formulate Standard Operating Procedures.

Expected outcome

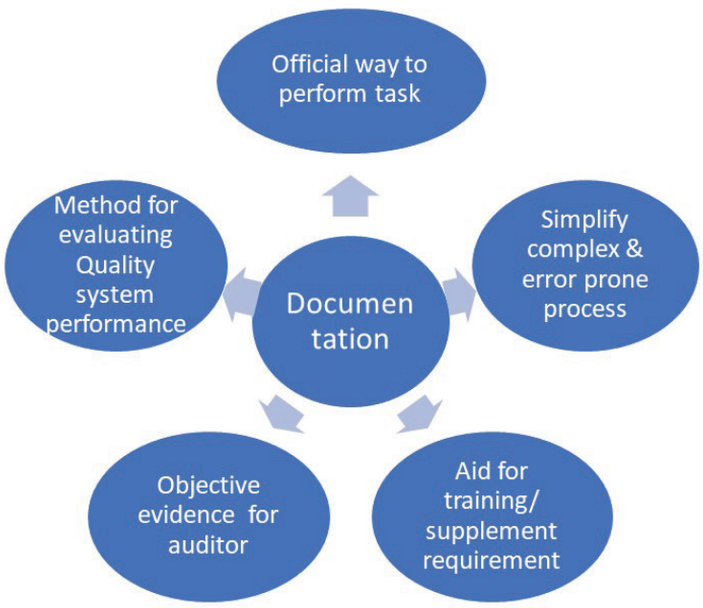
By the end of the session, it is expected that trainees will be well acquainted with the idea that the facility needs to have a defined Vision, Mission, Values, Quality policy and Objectives which are effectively communicated to staff and users of services, and to prepare a strategic plan to achieve them. The trainees shall also be able to understand the importance and method of developing the Standard Operating Procedures.

Suggestive Reading Material

1. Standard Operating Procedures for District Hospitals 2013, National Health Systems Resource Centre, New Delhi
2. National Quality Assurance Standards for Public Health Facilities 2020
3. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

Documentation in Quality Management

Importance of Documentation



Objective of Documentation

- To declare intentions & planned arrangements of organization or facility for meeting customer/ beneficiary, patients' or stakeholders requirements and way to convey it through defining organizations vision, policies, plans, processes, standards & procedures.
- To records these intentions & planned arrangement have been effectively implemented
- To ensure the product or service meet its specified requirements.

Approach to documentation

- **Say what you do, do what you do, prove it and improve it**

The approach is mostly overlooked

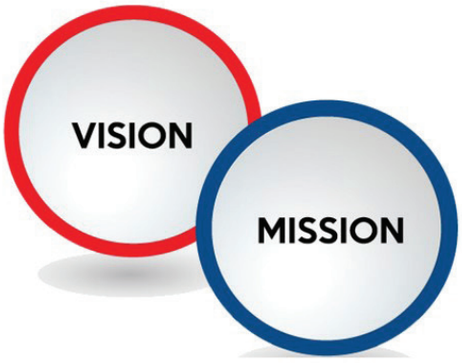
- Say what you do: Establish appropriate quality control processes & systems
- Do what you say: ensure that everyone involved in process follow the establish procedures
- Prove it: demonstrate the compliance of quality system every time.
- Improve it: Look for gaps and put up efforts to improve it.

Vision & Mission

- Vision layouts the future – i.e. what organization want to be in future. It is a source of inspiration and motivation.

- Mission describes present i.e. what organization wants to do now to achieve desired level. It defines the customer(s), critical processes and it informs the desired level of performance.

- In nutshell, Its broad statement about organization's Goals & Objectives, but serve different purposes for a organization and often confused with each other



Mission & Vision Statement

Sr no	Mission Statement	Vision Statement
1	Defines the purpose and primary objectives related to customer needs and team values.	Communicates both the purpose and values of organization
2	Describes what does organization do? What makes them different?"	Communicate Where do we aim to be?"
3	Define the present leading to its future.	Defines about organization's future.
4	Prime function is internal; to define the key measures of the organization's success and its prime audience is the leadership, team and stockholders.	Lists where organization see itself in future. It inspires to give best and shapes every one's understanding about what they are aiming for

Mission & Vision Statement

Sr no	Mission Statement	Vision Statement
5	Ensures statement address what do organization do today? For whom do we do it? What is the benefit?	Ensure statement define where do organization want to be going forward? When do we want to reach that stage? How do we want to do it?
6	Effective statement should define purpose and values of the organization: Who are the organization's primary customers (stakeholders)? What are the responsibilities of the organization towards the customer?	Effective statement should defines clarity , Describing a bright future (hope); Memorable and engaging expression; realistic aspirations, achievable; alignment with organizational values and culture.

Mission & Vision

- The **mission and vision** statements of the healthcare facilities help direct the organizational strategy.
- **Mission and vision** statements help to outline performance standards and metrics based on the goals they want to achieve.
- They also provide employees with a specific goal to attain, promoting efficiency and productivity.
- Without **mission and vision**, the **plan** exists in a vacuum:

a. as the **mission** is the starting point for **planning**,

b. the **vision** is the destination

c. the **strategic plan** is the roadmap that helps you navigate from one to the other.

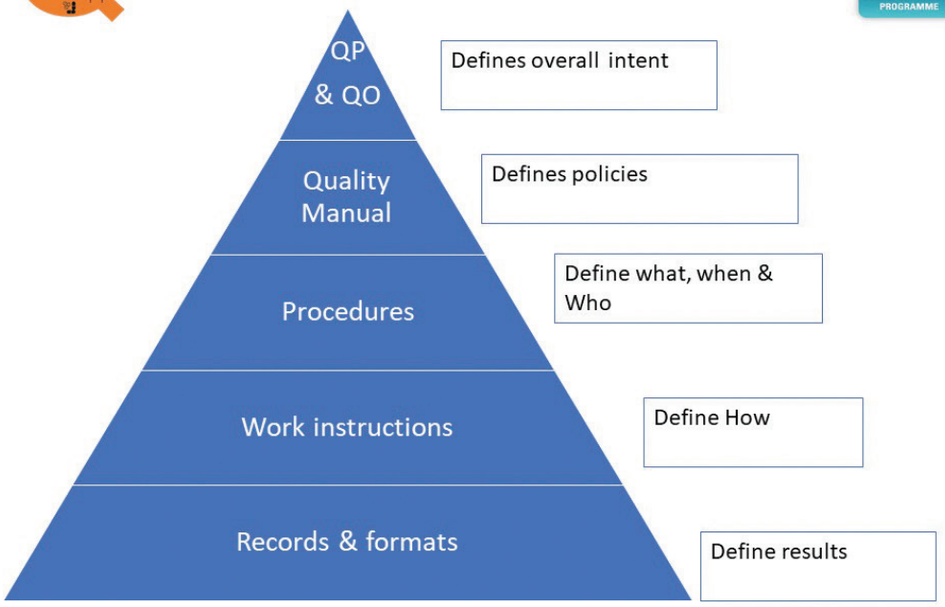
Policies

- Any statement made by management at any level that are designed to constrain the actions & decisions of those it affects is a policy.
- There is no requirement for having dedicated document for polices.
- Policies can take many forms like purpose & mission of the organization become policy when expressed by management so do the principles or values guiding people's behavior- i.e. what is permitted or not permitted by employees.

Policies

- Policies are essential in ensuring effective planning of processes because they lay down rules to be followed to ensure that actions & decisions taken serves organization objectives & expectation of stakeholders
- Policies can be integrated within any document.
  - Safety policies – organizations intention w.r.t hazard in workplace
  - Personnel Policies- How organization treat it employees
  - Social Policy- How organization will interface with society etc
  - The organization have strong values-based culture, policies are undocumented .

Hierarchy of Documents



Quality Policy

Quality Policy should be the goal of organization.
Policy is a reflection of the goals of the organization it can be used as a filter for decisions.

Quality Policy Statement should include:

- A brief description about your organization/business
- A quality statement relevant to your organization
- A commitment to continuous improvement and customer satisfaction
- A reference to the processes and systems in your organization
- What systems you use to monitor the effectiveness of your QMS
- Reference to your objectives and how they are reviewed
- Signed and dated

Write & Communicate Quality Policy

- Draft a policy by keeping all these things in mind.
- It will guide the organization and provide direction to create quality objectives.
- Quality Policy must be simple, concise, and easily remembered when under pressure. It is important that all employees not just know the policy, but understand what it means and how their job supports meeting the Quality Policy.
- Display of Quality policy at all strategic points in organization after due approval from appropriate authority.

Example: Quality policy

- *We shall strive to provide preventive, promotive and secondary level of curative healthcare services to the people in the region with sustained efforts to ensure that it is equitable, affordable , accountable and responsive to the people needs, with in limitation of its resources .*
- *We are committed to delight the end users of our services by efficient service delivery.*

Quality Objectives

- Quality objectives are quality oriented goal. A quality objective is something organization aim for or try to achieve.
- The **quality objectives** are the main method used to focus the goal(s) from the **Quality Policy** into plans for improvement.
- The quality objectives shall be measurable and consistent with the quality policy & quality problems

Components of Quality Objectives

- The objectives should be designed to be S.M.A.R.T

1. Specific,
2. Measurable,
3. Achievable,
4. Realistic and
5. Time-based

- Quality Objective should have relevance at all levels of the organisation, meaning that each healthcare provider should understand how their job supports meeting the Quality Objectives

Example: Quality Objective

Department

- Increasing LSCS rate to 'g%' in 'h' months
- Increasing major surgery by 'm%' in 'n' months/ one year

Labour Room

- Increasing night time deliveries by 'd%' in 'c' months
- Reducing post-partum infection by 'k%' in 'l' months

SOP-Definition

- *An SOP is a set of written instructions that document a routine or repetitive activity. It is a set of detailed written instructions to achieve uniformity of the performance of a specific function. A standard operating procedure or SOP is a set of instructions that address the **"who, what, where and when"** of an activity.*

SOPs are used to

- Identify the responsible person for each task.
- Describe actions (what is to be completed).
- Train staff.
- Monitor site performance.

When are SOPs needed?

- Repetitive actions or procedures
- Critically important procedures
- Ensuring quality control

When SOPs help improve a system?

- When variation must be controlled
- When safety risks are present
- When numerous people perform the same procedure
- When objective feedback on performance is a goal
- When steps and decisions can be standardized

Writing SOPs

- Decide what SOPs are necessary
- Check existing SOPs
- Gather information
- Select a format
- Assemble necessary documents
- Determine process
- Common sense
- Logic
- Start at the beginning
- Step by step
- Stop at the end

Writing SOPs: General Hints

- Avoid complex sentences and paragraphs
- Short, clear, concise words
- Be clear and precise.
- Use the same word for the same thing
- Define acronyms, etc.
- Use active voice.
- Avoid names
- use appointments / designations

Writing SOPs

- List steps and who (position) is responsible for carrying out each step.
- Don't include steps that are done by people outside the organization (only include what that organization is responsible for).

Criteria for including a Step or Sub step

- Is the step essential to completing the activity?
- Are there appropriate and inappropriate ways of completing the step?
- Will variation in how the step is completed affect the activity or regulatory compliance?
- Will variation in how the step is completed affect performance results?
- Will variation in how the step is completed significantly affect efficiency?
- Is there another significant reason why the step must be completed in a particular way?

How much detail?

- Less detail = easier compliance
- More detail = easier for new employees to use
- Need to strike a balance!

Suggested Format

- Title
- Purpose
- Scope
- Definitions
- Process Owners
- Procedure
- Process Efficiency Criteria
- References
- Records

Life Cycle of SOPs

Involve People

- SOP is an operational tool. The process owner knows better what and how can be implemented. So it is critical to involve the departmental in charges and process owners while writing the SOPs
- A base draft can be circulated to process owners so they can review it at point of use and give their feed back on it. Single handily written sops with no inputs from the frontline worker may lead to poor implementation.

Keep it Simple, Ensure Availability

- Information overload is also bad.
- People should know precisely what they have to do. Never club the processes, write one process in one column.
- Write process in present tense as in there 'are' performed and not in future tense as they 'will' be preformed
- The basic principle is that each worker should know what he/ore she has to do. So SOPs and work instruction should be available with them It is also necessary that give only the relevant SOPs/Part of SOPs.
- A bulky document with lot of irrelevant processes that worker do not deal with, lead to poor acceptability of document If it is not possible to provide copy of SOPs to every staff than it should be kept at place from it is easily accessible.

User Friendly, Visual Management

- Wherever possible use illustrations & flow chart for illustrations.
- Some SOPs may be used by the staff those are not knowing English, so after customization of these SOPs translate the relevant SOPs into local language.
- SOPs and work instructions lying cupboards are of no use. Display relevant procedures and work instructions at point of use.
- caution, do not over do. Only the relevant one. Work instructions should as possible pictorial.

Use SOPs enablers, Keep SOPs up-to date

- Use SOPs as tool for training.
- Only classroom training will not do.
- Provide hands on training on SOPs reinforced by continuous monitoring.
- SOPs are dynamic documents. If a new process is added at your facility, add it to relevant SOP also. Accordingly their may be suggestions for improving an existing process, start it with amending the process in your SOP. Similarly any new advancement or technical requirements should be incorporated in the SOP.

Use SOPs as assessment tools & clear-cut Responsibility

- During the periodic assessment process use SOPs as criteria for assessment. Try to see people are working according to the procedures in the SOPs or not.
- Responsibility for doing a particular job should be clearly written against the process. For critical processes try to do define the alternate responsible person, if the appointed person is not available, in case.

Session 6: Introduction to Quality Tools

Quality tools are the essential tools and techniques which include diagrams, charts, techniques, and methods that support quality management efforts. They are the means to accomplish change by undertaking step by step quality improvement initiatives. Quality tools have the broadest range of applications - from the simplest to the most complex. These tools can be used for prioritising the problems, analysing them to identify the root cause and monitoring/evaluating the improvement or change. They also support to prevent problems by identifying errors and devising measures to avoid failure.

The seven quality tools were first emphasised by Ishikawa (in the 1960s). They are also called the seven "basic" tools as they can be utilised by people even with minimal of "quality" knowledge. Subsequently, other new tools have been developed for various purposes, but the basis for each work is related to the seven quality tools. These tools are also fundamental to Kaizen and Juran's approach to quality improvement.

The seven basic quality tools are:

1. Cause-and-effect diagram
2. Check-sheet
3. Control chart
4. Histogram
5. Pareto chart
6. Scatter diagram
7. Run chart

Learning objectives

a. Understand 07 basic tools of quality and their usability scenarios (where they can be used)

b. How to use these tools and interpret the obtained results.

c. Understand how these tools support facility in quality improvement and meeting the desired requirements

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the idea that most of quality-related problems can be resolved with most basic tools. The key to successful problem solving is the ability to identify the problem, setting up an objective (aim), use the appropriate tools based on the nature of the problem, and process to be improved. Choosing the right tools will support to accomplish the aim and its monitoring for ensuring the sustenance.

Exercise

This session is followed by a few exercises, wherein trainees will be provided with some quantitative data sheets. All the participants will be divided into 5-6 groups (as per the number of participants, not more than 10 in a group). All the trainees have to analyse the given data with the help of quality tools and give the interpretation of the obtained result for further action.

Additional Reading Material:

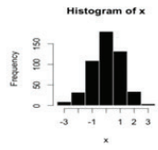
1. Ishikawa, Kaoru. Guide to Quality Control. Tokyo: Asian Productivity Organization, 1986
2. The Quality Toolbox, Nancy R Tague, ASQ Quality Press
3. Mistake Proofing: The Design of Healthcare-AHRQ, USA
4. National Quality Assurance Standards for Public Health Facilities 2020
5. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

Introduction to Quality Tools

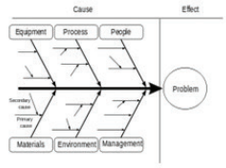
Tools for Quality Improvement

Quality Improvement Tools by Situation	
Working with Ideas/Concepts	**Working with Numbers**
Affinity	Histogram
Brainstorming	Pareto
Fishbone/Cause and Effect	Control Charts
Forcefield	Run Charts
Gantt	Scatter Diagram
Flowchart	Check Sheet
Matrix	Stratification
Story board	Data Points
Logic Model	Process Capability

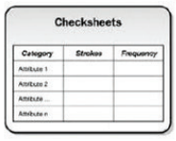
7 Basic Quality Tools



Histogram

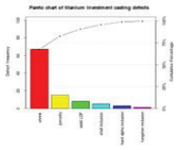


Fishbone Diagram

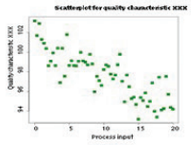


Check sheets

Control Charts



Pareto Charts



Scatter Plot

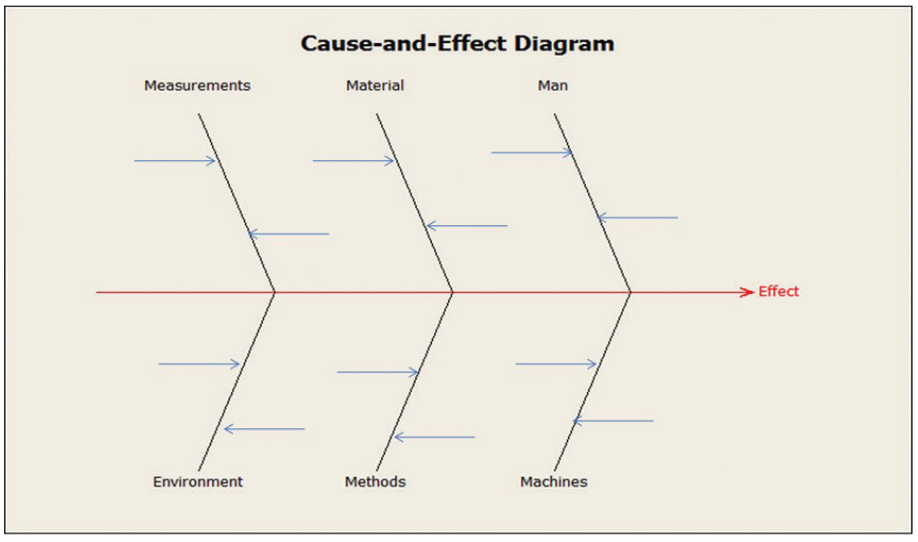
Run Chart

Cause and Effect Diagram

Problem or Effect

- Effect or problem being investigated is shown at end of a horizontal arrow
- Potential causes are then shown as labeled arrows entering main cause arrow
- Each arrow may have other arrows entering it as principal causes
- Factors are reduced to their sub-causes
- Brainstorming can be effectively used to generate causes & sub-causes

Fish Bone Diagram



Pareto Analysis

Large majority of problems (80%) are produced by a few key causes (20%).

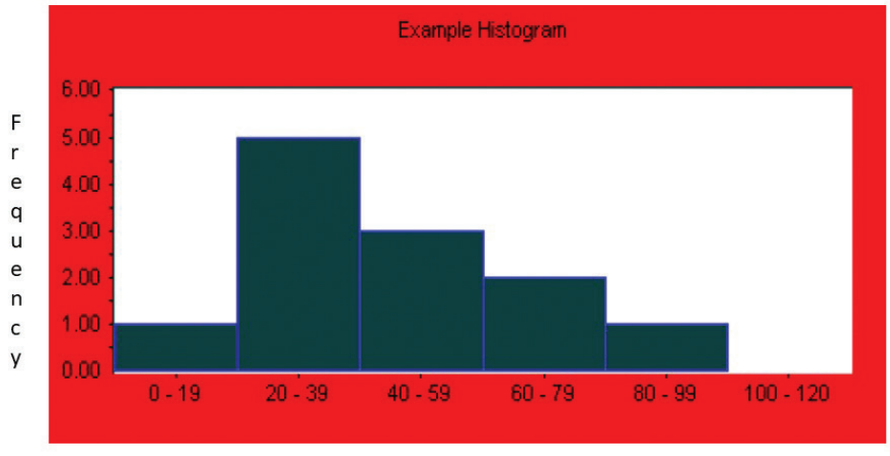
Methodology -

- Step 1: Form an explicit table listing the causes and their frequency as a percentage.
- Step 2: Arrange the rows in the decreasing order of importance of the causes (i.e., the most important cause first)
- Step 3: Add a cumulative percentage column to the table
- Step 4: Plot with causes on *x*- and cumulative percentage on *y*-axis
- Step 5: Join the above points to form a curve
- Step 6: Plot (on the same graph) a bar graph with causes on *x*- and percent frequency on *y*-axis

Pareto Analysis Example

Causes	Frequency	Percentage	Cumulative %
Severe Anemia	30	42.97%	42.97%
APH	12	17.1%	60%
PPH	9	12.9?%	72.9%
Eclampsia	5	7.1%	80%
Shock	4	5.2%	85.2%
Jaundice	3	4.3%	91.4%
Others	3	4.3%	100%

Example of a Histogram



Number of patient's visiting emergency in night

Constructing a Histogram

- Use range to estimate beginning and end
- Calculate the width of each column by dividing the range by the number of columns

$$\frac{\text{Range}}{\text{\# of Columns}} = \text{Width}$$

Uses for a Histogram

- to display large amounts of data values in a relatively simple chart form.
- to tell relative frequency of occurrence.
- to easily see the distribution of the data.
- to see if there is variation in the data.
- to make future predictions based on the data.

Check Sheets

- For Service Delivery Assurance (RCH, IPHS Check Lists)
- For Mistake proofing (Surgical Safety, Safe Birth Check List)
- For Quality Assurance – Housekeeping Checklist, NQAS Checklists.
- Can be Observational or Quantitative (Scoring sheets)
- Must for Quality Assurance Exercises

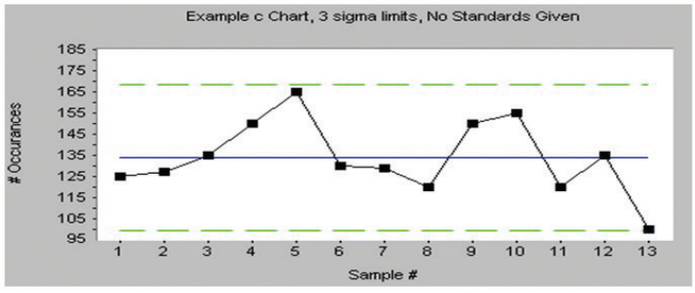
Control Charts (Schewart)

- Line graphs where data are plotted over time.
- with two horizontal lines, called control limits, the upper control limit (UCL) and the lower control limit (LCL).
- The vertical axis represents a measurement and the horizontal axis is the time scale.

Uses of Control charts

- **Controlling** processes by finding and correcting problems as they occur.
- **Predicting t**he expected range of outcomes from a process.
- **Determining** whether a process is stable (in statistical control).
- **Analyzing patterns** of process variation from special causes (non- routine events) or common causes (built into the process).

Control Charts

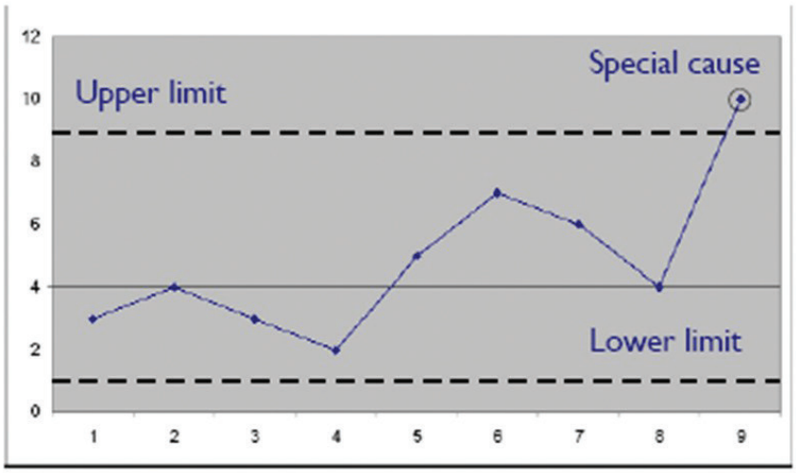


All control charts have three basic components:

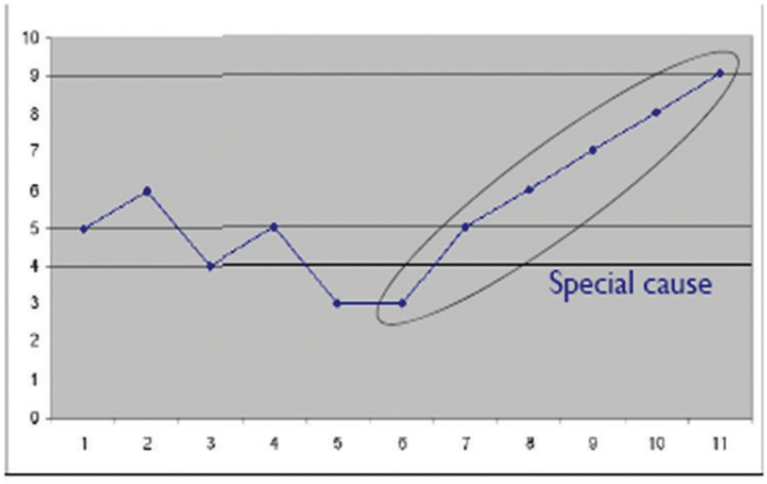
- A centerline, usually mathematical average of all samples plotted
- Upper & lower statistical control limits that define constraints of common cause variations
- Performance data plotted over time

The point of making control charts is to look at variation, seeking special causes & tracking common causes

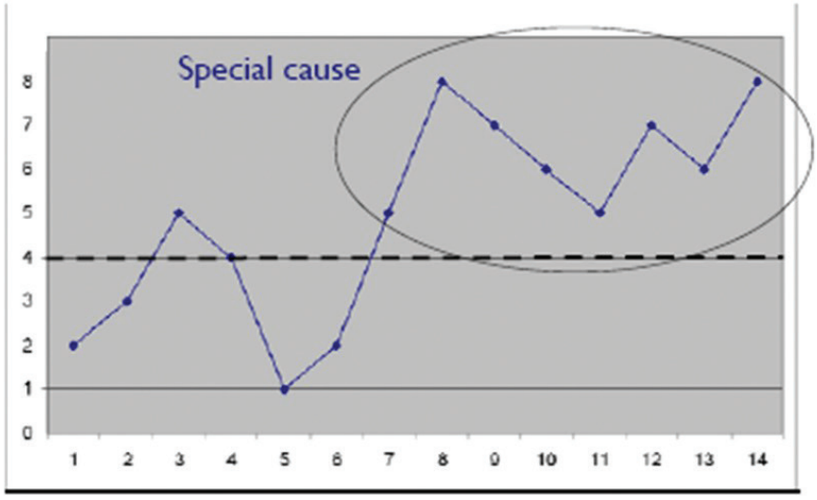
Special Cause Variations



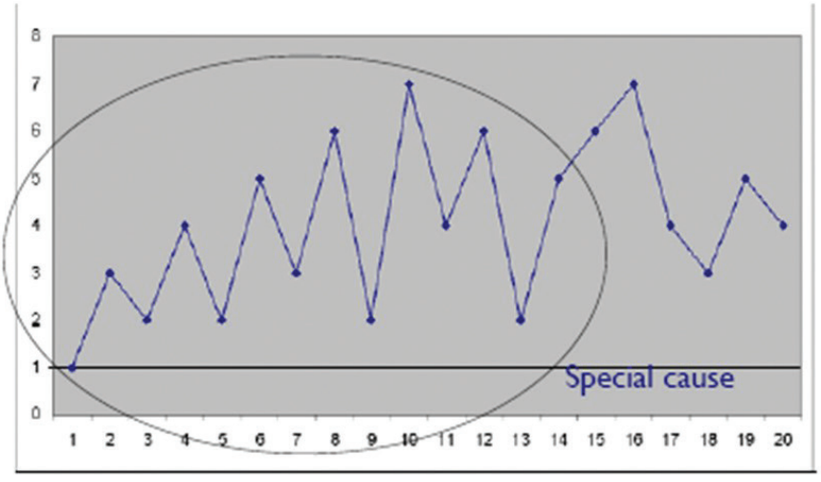
Special Cause Variations



Special Cause Variations



Special Cause Variations



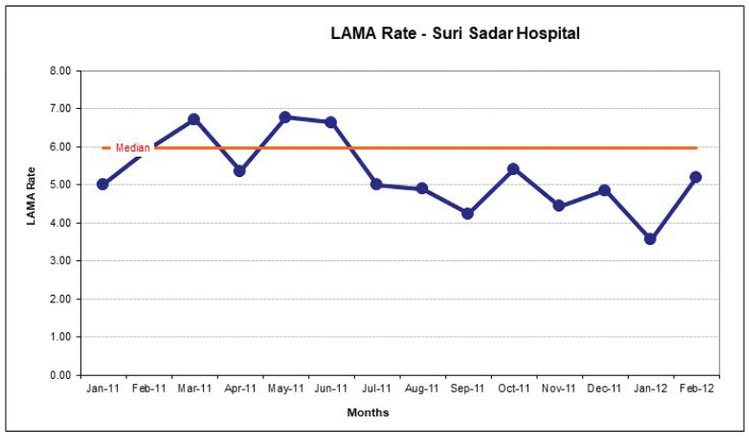
Run charts

- Run charts help you determine whether your process is stable, consistent, and predictable.
- This enables to visualize how process is performing and helps to detect signals of special causes of variation.

Benefits

- Understand the process variation
- Analysis data for pattern
- Monitor process performance

Run Charts



- List the data
- Calculate the median, Events shown in y axis against time on X axis.
- Draw data point & connect with straight lines.

Signals of improvement

- 6 or more consecutive points above or below the median.
- 5 or more consecutively increasing or decreasing points

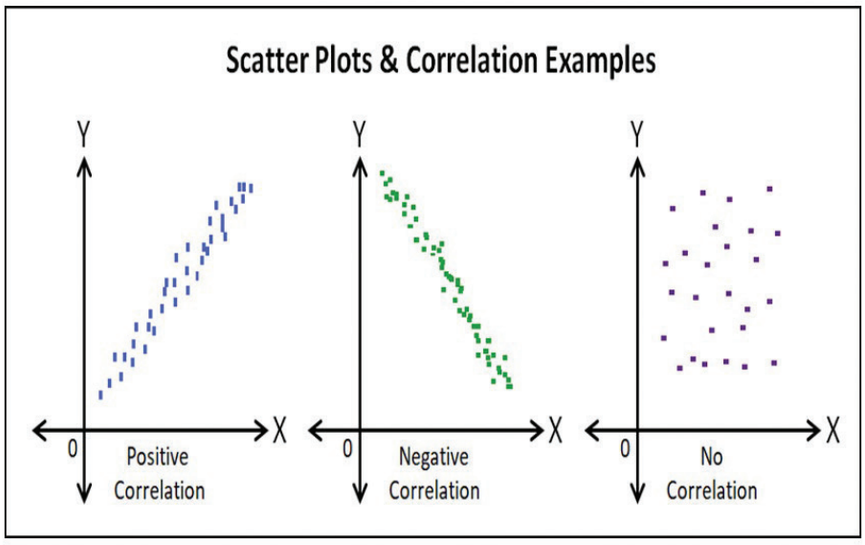
Scatter Plot

- Scatter diagram is used to determine relationship between 2 variables.
- When the variables are correlated, the points fall along a line or curve.
- The better the correlation, the tighter the points will be near line or curve.

Scatter plot is used to

- Identify potential root causes of problems
- After brainstorming, causes and effects using a fishbone diagram to determine objectively whether a particular cause and effect are related
- When determining whether two effects that appear to be related both occur because of same/common cause
- When testing for autocorrelation before creating control charts

Scatter Plot



Session 7: Area of Concern-H (Outcome Indicator)

"If you can't measure something you cannot understand it. If you cannot understand it, you can't control it. If you cannot control it, you can't improve it."

Indicator is an attribute (the criteria in terms of structure, process, or outcome) which are used to measure the quality of care. A healthcare indicator is a well-defined performance measurement that is used to analyse and monitor all relevant healthcare processes to improve and achieve the optimum outcomes. Providers wish to know how well they are performing and to have effective means for assessing and improving the quality of care. For this, they require measures that are meaningful, interpretable and of demonstrable value in helping to improve quality.

Key Performance Indicators (KPI, facility-level) and Outcome Indicators (Department- wise) are measures that the healthcare facilities can use to gauge their performance. As per National Quality Assurance Standards, these indicators have been categorised into- Productivity, Efficiency, Clinical Care & Safety and Service Quality. Indicators are useful in assessing the facility's operations and its objectives. In other words, KPI and outcome indicators can be used for:

1. Analysing the performance of the facility in terms of productivity, efficiency, quality of clinical care, safety, and service quality.
2. Undertaking quality improvement initiatives.
3. Monitoring and evaluation of a process for rationalisation and appropriate resource allocation.
4. Support in setting benchmarks.

Area of concern H- Outcome contain four Standards under NQAS. These Indicators comprises a set of performance indicators which can be categorised into- productivity, efficiency, clinical care & safety, and service quality indicators. Each category has defined department wise indicators which provide facility-wise holistic picture. A brief description of the set of indicators is given below:

- **Productivity Indicators:** Indicators that measure the volume of services or overall coverage of the services provided by a health facility. E.g., Bed Occupancy Rate, C-section Rate, Proportion of major surgeries done at night.
- **Efficiency Indicators:** Indicators indicating how efficiently are the services being delivered. Number and quantity of resources in terms of HR, equipment, space, drugs, consumables, etc., are being utilized in delivery of services. E.g., Bed turnover rate, Number of major surgeries per surgeon.
- **Clinical Care and Safety Indicators:** Indicators that give information related to the effectiveness of the treatment provided and the errors and other safety related issues. E.g., ALOS, Maternal Mortality, Neonatal Mortality.
- **Service Quality Indicators:** Indicators providing information about the patients' experience at the facility and their satisfaction level. E.g., LAMA rate, average door-to-drug time.

Learning objectives

a. Understanding of the standards under the Area of Concern 'H' inclusive of-
   - Productivity Indicators
   - Efficiency Indicators
   - Clinical Care and Safety Indicators
   - Service Quality Indicators

b. How to calculate the Key Performance Indicators?

Expected outcome

Quality is a journey, and quality management advocates continual improvement. Public health facilities collect data but still have very little information because data elements are not

translated into meaningful information using objective measures. However, if measures were used, the information could have been used by top management for planning and improvement in the quality of care of a hospital. This module envisages:

- Building capacity of participants for data collection
- Analyse of the performance of the health facility and necessary action can be further taken.

Additional Reading Material:

1. National Quality Assurance Standards for Public Health Facilities 2020
2. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.
3. IS 15195, Performance Guidelines for Quality Assurance in Hospital Services up to 100-Bedded Hospitals

Measuring Hospital Performance
Area of Concern-H

Standards as per AOC - H

H1
- The facility measures Productivity indicators and ensures compliance with State/National Benchmarks

H2
- The facility measures efficiency indicators and ensures to reach State/National Benchmarks

H3
- The Facility measures Clinical care and safety indicators and tries to reach State/National Benchmarks

H4
- The facility measures Service Quality Indicators and endeavors to reach State/National Benchmarks

Number of KPI and Outcome indicators

Facility	Key Performance Indicators	Departmental Outcome indicators
District Hospital	30	307
Community Health Centers/ Sub divisional Hospital	25	193
Primary Health Centers	20	70
Urban Health Centers	16	89

Aspects of Measuring Quality of Care

Productivity

Volume of the services provided.

e.g.: OPD attendance, BOR, Lab test done

Efficiency

Volume of the services provided in given resources i.e. Output to input ratio.

E.g.: OPD per doctor , Surgery done per Surgeon

Clinical care and safety

How effective and safe are our hospital services.

e.g.: Maternal death, Neonatal death , Complication rates.

Service Quality

How acceptable the services are.

e.g.: Waiting times, Satisfaction score

Key Performance Indicators

Productivity

- Bed Occupancy Rate
- Lab Utilization Index
- Percentage of High-Risk Pregnancy/ Obstetric Complications
- Percentage of Surgeries done at Night
- Percentage of Surgeries done during day
- C- Section Rate

Efficiency

- Emergency Death Rate
- Referral Rate
- Major Surgeries per Surgeon
- OPD per Doctor
- External Quality Assurance Score for Lab test
- Stock out percent of supplies for RMNCHA

Clinical Quality

- Maternal Death Rate
- Neonatal Death Rate
- Percentage Maternal Death Review done
- Average Length of Stay
- Surgical Site Infection Rate
- SNCU Mortality Rate
- No. of Sterilization Failures
- No. of Sterilization Complications
- No. of Sterilization Deaths
- Blood unit replacement Rate
- Partograph Recording Rate
- Antibiotic use rate

Service Quality

- LAMA Rate
- Patient Satisfaction Score (OPD)
- Patient Satisfaction Score (IPD)
- Registration to Drug time
- Percentage of JSY payment done before discharge
- Percentage of women provided drop back after delivery

1.Bed Occupancy Rate

- Significance - Indicator of utilization of Indoor services of the Hospital
- Formula –

$$\frac{\text{Patient Bed Days}}{\text{Functional Beds X days in Month}} \times 100$$

- Numerator- Patient Census of each day added for the month

  Exclusion –
  1. Newborns in Maternity Wards
  2. Day Care Patients
- Denominator - Product of Functional Beds in the Hospital and Days in the month
- Exclusion
  1. Labour Room Tables
  2. Observation Beds
- Source of Data - Daily Mid Night Census

2. Lab Utilization Index

- Significance - Indicator of Utilization of Lab services
- Formula –

$$\frac{\text{Total No. of Test Done}}{\text{Total no. of patients}} \times 1000$$

- Numerator- No. of test done each day added for month for Both OPD and IPD patients

  Exclusion - Test done at Point of care
- Denominator - Sum of OPD attendance and indoor admissions for the month
- Source of Data - Lab Register, OPD Register , IPD Register

3. Percentage of High-Risk Pregnancy/ Obstetric Complications

- Significance - Indicator for preparedness and utilization of EmOC services
- Formula –

$$\frac{\text{Total no. of High-Risk Pregnancies/ Obstetric Complications Managed X 100}}{\text{Total No of Obstetric cased registered}}$$

- Numerator- No. of cases of High-Risk Pregnancies Managed each day in labour room, Wards and OT added for the month

  Inclusion – Severe Anaemia ,PPH, PIH/Eclampsia/Pre-Eclampsia, Retained Placenta, HIV Positive Pregnant women, Septic Cases, Obstructed labour including C- Section

  Exclusion - Cases Referred
- Denominator - Sum all obstetric cases admitted in the hospital
- Source of Data - Labour Room Register, OT Register, Indoor Registers

4. Percentage of Surgeries done at Night

- Significance - Indicator of preparedness and utilization of Surgical Services
- Formula –

$$\frac{\text{No. of Surgeries done at Night X 100}}{\text{Total No. of Major Surgeries Done}}$$

- Numerator- No. of Major surgery done each night (8PM to 8AM) added for the Month

  Exclusion – Minor Surgeries
- Denominator - Total no. of Major Surgeries done

  Exclusion –Minor Surgeries
- Source of Data - OT Register

5.Percentage of Surgeries done during day

- Significance - Indicator of preparedness and utilization of Surgical Services
- Formula –

$$\frac{\text{No. of Planned Surgeries done X 100}}{\text{Total No. of Surgeries Done}}$$

- Numerator- No. of elective surgeries planned and conducted
- Denominator - Total no. of Surgeries Done
- Source of Data - OT Register

6. C- Section Rate

- Significance - Indicator of preparedness and utilization of Surgical Services
- Formula –

$$\frac{\text{No. of C Section done X 100}}{\text{Total No. of Deliveries conducted}}$$

- Numerator- No. of C Section Surgeries done each day added for the month
- Denominator - Total no. of deliveries done for Month

  Inclusion – Normal Deliveries, Assisted and C-section
- Source of Data - OT Register , Labour Room Register

7. Emergency Death Rate

- Significance - Indicator of promptness and process efficiency of the emergency department
- Formula –

$$\frac{\text{No. of Deaths Occurred at Emergency Department X 100}}{\text{No. patient managed at emergency}}$$

- Numerator- No. of deaths occurred at emergency department each day added for month

  Exclusion :- Brought in Dead
- Denominator - Total no. of Patients registered in emergency department for the month

  Exclusion - Cases referred out
- Source of Data - Emergency Register/ Death Register

8. Referral Out Rate

- Significance - Indicator of efficiency of clinical process
- Formula –

$$\frac{\text{No of cases referred out from the hospital X 100}}{\text{Total no. of cases admitted}}$$

- Numerator- No of referred out cases each day added for the month.
  Exclusion – LAMA & Absconding
- Denominator Total no of patients admitted in the Hospital for the month
  Exclusion – Day care procedures
- Source of Data - Referral Register/ Indoor Register

9. Major Surgeries per Surgeon

- Significance Indicator of efficiency of Surgeons and Operation theatre
- Formula –

$$\frac{\text{Total No. of Major Surgeries}}{\text{No. of surgeon appointed at Hospital}}$$

- Numerator- No. of major surgeries conducted each day added for month
  - Exclusion – Minor Surgeries
- Denominator- No. of full time surgeons appointed at hospital including contractual and regular Ortho, General, Gynae & Obs, EmOC trained MOs
- Source of Data - OT Register

10. OPD per Doctor

- Significance Indicator of efficiency of Doctors in OPD
- Formula –

$$\frac{\text{No of OPD Patients Consulted}}{\text{No of Doctors appointed at Hospital}}$$

- Numerator- No. of Outdoor patients consulted each day added for the month

  Exclusion – Patients examined / Consulted by other than doctors eg. Refractions done by Optometrist or ANC by ANM with involving the concerned doctor
- Denominator No. of Doctors appointed at OPD

  Exclusion – Doctors not directly consulting the patients at OPD – Pathologist, Radiologist, Medical Superintendent.
- Source of Data - OPD Register

11. External Quality Assurance Score for Lab test

- Significance Indicator of efficiency of Lab Processes
- Formula – Take Median
  - Arrange scores in increasing order
  - Pick the middle value if numbers are odd
  - Take average of middle two values if numbers are even
- Source of Data - EQAS Register
- Benchmark -
  - Z Score - < 2

12. Stock out percent of supplies for Essential Commodities

- Significance Indicator for availability of essential drugs and consumables
- Formula –

$$\frac{\text{No. of Stock out days for Essential Commodities X 100}}{\text{Total no. of commodities X Days in Month}}$$

- Numerator Stock outs occurred for essential commodities each day added for the month
  - Inclusion – List of Commodities
  - Exclusion – Strockout of any other drug
- Denominator Product of Total no. of Commodities and days in the month
- Source of Data - Pharmacy Register Departmental indent expenditure register

13. Maternal Death Rate

- Significance Indicator of Quality of obstetric Clinical Care
- Formula –

$$\frac{\text{Maternal Death occurred at Hospital X 100}}{\text{No. of pregnant woman admitted}}$$

- Numerator No. Maternal deaths occurred in the month at the facility
- Denominator Total No. of pregnant woman admitted in the hospital in the Month
- Source of Data - Indoor Register, Labour Room Register, Death Register, OT Register

14. Neonatal Death Rate

- **Significance** Indicator of Quality of Newborn Clinical Care
- **Formula –** No. of Neonatal Deaths occurred in Hospital X 100 / No of Live births and Neonatal admission

Numerator Neonatal deaths occurred in Hospital each day added for month

Inclusion – Neonate died during first 28 days while admitted in Hospital including Out born admitted in neonate ward/SNCU

Exclusion – Still Birth

Denominator Total no. of neonates admitted including live births in Hospital and out born admissions

Exclusion – Still Birth

- **Source of Data -** Labour Room Register

Death Register

15. Percentage Maternal Death Review done

- **Significance** Indicator of adherence to maternal death review process
- **Formula –** No. of Maternal Death Review Done X100 / Maternal Deaths occurred at the Hospital
- **Numerator** Total no. of Maternal Death Review done in the Month according to MDR Guidelines
- **Denominator** Total no. of Maternal Death in the Month
- **Source of Data -** MDR Records, Death Register

16. Average Length of Stay

- Significance Indicator of Quality of Clinical care and infection control practices
- Formula –

$$\frac{\text{Patient Bed Days}}{\text{Total No. of Discharges}}$$

- Numerator- Patient Census of each day added for the month

  Exclusion –Day care Patients

- Denominator Total no. of Discharges in the Months

  Inclusion- LAMA, Death, Refferal and Absconding in the Month
- Source of Data- Indoor Register

17. Surgical Site Infection Rate

- Significance Indicator of Quality of Infection Control and Surgical Safety Practices
- Formula –

$$\frac{\text{No. of Surgical Site infective Cases observed} \quad X100}{\text{Total no. of Surgeries Done}}$$

- NumeratorTotal no of cases of Surgical Site infection in the Month

  Inclusion -Any purulent discharge, abscess, or spreading cellulitis at the surgical site during the month after the operation conducted at the Facility
- Denominator Total no of surgeries conducted

  Inclusion – All Major surgeries, Family Planning Surgeries , Episiotomy and D&C

  Exclusion –Minor Surgical Procedures at OPD , Emergency where patient is not admitted
- Source of Data- OT Register

  Infection Control Monitoring Register

18. SNCU Mortality Rate

- Significance Indicator of Quality of Clinical Care in SNCU
- Formula –

$$\frac{\text{No of Newborn Deaths occurred in SNCU X 100}}{\text{No of newborn admitted in the SNCU}}$$

- Numerator- Total no of newborn deaths occurred in the SNCU in the Month
  Inclusion – Inborn and Out born
- Denominator Total no of admitted in the SNCU in the Month
  Inclusion – Inborn and Outborn
- Source of Data- Admission Registers
  Death register

Family Planning Surgeries

19. No. of Sterilization Failures- Sum of Sterilization failures occurred after male or female sterilization procedures

20. No. of Sterilization Complications- Sum of no. of major complications occurred in the month during/after family planning surgeries include aesthesia related complications , injury/Trauma, Haemorrhage, Infection others.

21. No. of Sterilization Deaths- Sum of No. of deaths occurred in the month during or after family planning surgery with underlying cause attributable to the FP procedure

22. Blood unit replacement Rate

- Significance Indicator of availability of blood from voluntary donation
- Formula

$$\frac{\text{No. of Unit Issued on replacement X 100}}{\text{Total No. of Unit issued}}$$

- Numerator- No. of Blood Unit issued on replacement in each day added for Month

  Exclusion – Blood Units issued without replacement
- Denominator Total no of blood unit issued in the month

  Inclusion- Blood Unit issued with out replacement
- Source of Data- Blood Issue Register

23. Partograph Recording Rate

- Significance Indicator of adherence to Labour Room Clinical Protocol
- Formula

$$\frac{\text{No. of Delivery cases Partograph Recorded X100}}{\text{No. of Delivery Conducted in Labour Room}}$$

- Numerator- No. of cases for which paragraph maintained in each day added for month.
- Denominator Total no. of delivery conducted in the labour room. Including no. cases referred to Operation Theatre
- Source of Data- Labour Room Register

24. Antibiotic use rate

- Significance Indicator of prescription practices and adherence to Standard treatment Guidelines
- Formula

$$\frac{\text{No. of OPD Slips with Antibiotic Prescribed X100}}{\text{Total no. of prescription audited}}$$

- Numerator- No of OPD Slip found with antibiotics prescribed during Monthly Prescription audit
- Denominator Total no of OPD prescriptions reviewed during prescription audit
- Source of Data Prescription Audit record

25. LAMA Rate

- Significance Indicator of service quality and patient satisfaction with treatment and stay in Hospital
- Formula

$$\frac{\text{No. of LAMA Patients X100}}{\text{Total no. of admission}}$$

- Numerator- No. patients sent on LAMA (Left against medical advice) each day added for month
- Denominator Total no of admission in the month

  Exclusion – Day Care Patients , Absconding
- Source of Data- Indoor Register

26-27. Patient Satisfaction Survey (OPD & IPD)

- Significance Indicator of patient satisfaction in OPD & IPD
- Formula Mean of scores given by each patients in Patient satisfaction survey for OPD/Indoor Department done each month on statistically adequate sample (at least 30)
- Source of Data- Patients Satisfaction Survey Records

28. Registration to drug time

- Significance :- To observe Patient waiting time for our OPD service delivery.
- Formula Average time taken by a patient from entering in queue for OPD registration to finally getting drugs at Pharmacy counter observed in time motion study done at peak hours on sample basis (at least 5 patients) for General OPD
- Source of Data- Time motion Study

29. Percentage of JSY payment done before discharge

- Significance Indicator of Promptness of JSY Payment
- Formula

$$\frac{\text{Number of Delivered mother received JSY Payment before discharge X 100}}{\text{Total no. of JSY beneficiaries registered}}$$

- Numerator- No. of JSY beneficiaries got payment before discharge
- Denominator Total no. of JSY beneficiaries registered in the month
- Source of Data JSY Payment records , ANC Register

30. Percentage of women provided drop back after delivery

- Significance Indicator of promptness of transport facility under JSSK
- Formula

$$\frac{\text{No. of woman provided drop back X 100}}{\text{Total no of deliveries conducted}}$$

- Numerator- No of women provided dropback each day added for month
  Exclusion – Refferal transport to higher Centre
- Denominator Total no. of deliveries conducted at the facility including C-Section
- Source of Data:- Labour Room Register

Session 8: Improving the quality through Audits

While audit as a term is often inferred as a policing activity by an external party, but in reference to the Audit mechanism under NQAS, it is an inbuilt process which is used as a polishing activity which supports in identifying the gaps, which can further be closed or improved.

Audits can be used to improve all aspects of clinical care. It allows public health facilities to work towards enhancing the quality of care continually. It supports them to show where they are falling short and enable them to undertake improvement cycles, and conduct follow-up audits to see if a beneficial and sustainable change has taken place. Please note only improvement will not support the implementation of NQAS; efforts should be made in the direction of sustenance of the changes.

The audit should not be considered as data collection and format filling activities. It support to compare the current practice against well-defined and established standards (e.g., 80% of the times blood transfusion begins within one hour of the decision to transfuse.) or support in developing a desired standard/objective as per facility's requirement/benchmark. The primary aim of conducting audits are always improving the quality of care provided to the patient as per the defined standards or benchmarks.

Audit measures the elements of care including Structure, Process and Outcome of care provided, which form a cycle of activities:

- Preparation and Planning- constituting a team/ committee, setting up a criteria/standard.
- Identify source of data collection.
- Measuring level of performance.
- Data review and identifying where we are failing to meet standards (Root cause analysis)
- Undertaking improvement activities- implementing the change idea using PDCA and assessing if they can be adapted, adopted, or abandoned.
- Sustaining the change.

National Quality Assurance Standards envisages different type of audits namely, prescription audit, clinical audit. Maternal death audits, infant and child death audits and death audit etc. However, methodology for conduction of audit remains ,but it is required to have an established committee (like Drug and Therapeutic Committee for prescription audit, Death Audit Committee, maternal and new-born deaths review committee (as per MOHFW guidelines, etc.). To conduct the audit a person should be designated for coordinating the process of audit, starting from collecting data to completion of follow-up audit.

Learning objectives

a. Identification of problem/objective of conducting audit

b. How to undertake audit; a step-by-step process from undertaking the audit to improvement and sustaining the changes.

c. Understanding various types of audits.

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the idea that:

- Audit is a fact-finding exercise, and not a fault-finding activity.
- Understanding Different types of audit (medical/clinical audit, prescription audit, death audit, etc.).
- Audits are conducted to reduce the gaps

between current clinical practice and benchmarked standards; hence, decreases the variability of professional conduct.

- Audit is a gap (area of improvement) finding activity, which supports to set standards/ objectives, undertake improvement and sustaining the changes.

Suggested Reading Material:

1. ISO 19011:2011, Guidelines for auditing management systems, International Organization for Standardization
2. Maternal Death Review, Guidebook, MoHFW, Government of India
3. ICD 11-International Statistical Classification of Diseases and related Health Problems
4. National Quality Assurance Standards for Public Health Facilities 2020Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II.

Improving the Quality through Audits

Audits

- Audit is not a **Fault-finding** exercise, but a **Fact**-finding exercise.
- Audits are not for **Policing, b**ut for **Polishing.**
- Audit is not an **External Quality Assurance** method, but an **internal** mechanism for **Quality Improvement**.

What is Audit?

- A systematic review and analysis of any service delivered and its evaluation in terms of quality within given resources.
- A tool to find out what you do now, in comparison to the past, what should you do in the future.
- To analyse the best thing in the best way.

Pre-requisite of an Audit Process

- Good record keeping systems
- Should be carried out by fair and impartial professionals
- Clinician, nursing and other staff as well as patient anonymity to be maintained
- Purpose should be simple and clearly stated
- Initiative should come from within & ensure intention should be to effect change for the better

Making Audit Easier, Avoid the Blocks

BEFORE YOU START	WHEN YOU START
• Time – big audits can eat up time in an already busy schedule, so: • Keep it simple and small • Look at one or two criteria • Engage the whole team – otherwise it will be difficult! Is the team ready? (Enthusiasm, wanting to improve)	• Delegate & Share the workload – involve others • Make life easier – use computers to do the laborious stuff (patient searches) • Clear aims must be identified • Use protocols / standards already laid by others (why re-invent the wheel?) • Be careful of data collection & choice of a topic

Defining the Purpose

Guiding Principles for defining the purpose of an audit:

- to improve the quality
- to enhance performance
- to increase efficiency
- to change procedure
- to ensure patient satisfaction
- to reduce cost
- To reduce errors

Example-

- To ensure Partograph is maintained for all normal deliveries
- To increase the average length of stay after delivery
- To improve the blood transfusion reaction monitoring

Importance of well organised Medical Records in Audit

- Clinical record keeping is an integral component in good professional practice and the delivery of quality healthcare.
- Regardless of the form of the records (i.e. electronic or paper), clinical records should be updated, where appropriate, by all members of the multidisciplinary team that are involved in a patient's care
- Clinical records are also valuable documents to audit the quality of healthcare services offered and can also be used for investigating serious incidents, patient complaints and compensation cases

Audit Cycle

Stage -1 Preparation and Planning

Constitute an Audit Committee

Conduction of training for Audit

Selecting Areas of interest

Providing necessary Resources

Select the criteria

Constitute an Audit Committee:-

- Like death audit can be conducted by maternal death review committee or prescription audit by drugs and therapeutic committee
- Committee will be responsible for conduction of requisite trainings

Selecting area of interest:-

- Preferably, one which is a high priority for the facility

Providing necessary resources:-

- There will be existing guidelines (STGs) defining desired standards for the area chosen

Select the criteria:-

- These should be in the form of a statement e.g. Partograph is generated in at least 90% deliveries in Labour Rooms
- Audit standards will come from standard treatment guidelines or best practices

Standards

- "An audit standard is a minimum level of acceptable performance for that criterion."
- Make sure the standard is directly related to the criterion, also should include a suitable timeframe
  - "At least 80% of eligible women aged 25-65yrs should have had a cervical smear in the last 5 years."
  - "80% of the times blood transfusion begins within one hour of the decision to transfuse."
  - "80% patients suspected or diagnosed uterine rupture, emergency surgery should be performed within 2 hours"
  - "100% of drugs in crash cart should be in-date."

Standards

How to set standards

- Look at national guidelines (Standard Treatment Guidelines) / Clinical Protocols
- Literature (journals), textbooks
- Local guidelines
- Discussion with consultants
- Discussion with trainer/partners

KEY POINT: Standards set should be realistic, attainable and applicable to local circumstances; Justifiable reasons for the standard set

Stage-2 Measuring level of performance

- Planning data collection
- Methods of data collection
- Handling data
- Analyse the data collected

Stage-3 Making improvements

- Present the results and discuss them with the relevant stakeholders in the facility
- The results should be used to develop an action plan, specifying what needs to be done, how it will be done, who is going to do it and by when.
- Next step is to implement the action plan to achieve the desired outcome

Stage-4 Sustaining improvement

- This stage is critical to the successful outcome of an audit: it verifies whether the implemented action plan have had an effect and determines whether further improvements are needed to achieve the standards
- Conduct follow-up audit to measure the improvement made followed by giving back feedback to the involved stakeholders

Audits Suggested Under NQAS

- Clinical Audits
- Death Audits
- Prescription Audits
- Referral Audits
- Maternal Death Audits
- Newborn Death Audit
- Child Death Audits

To be done as per respective guidelines of MOHFW

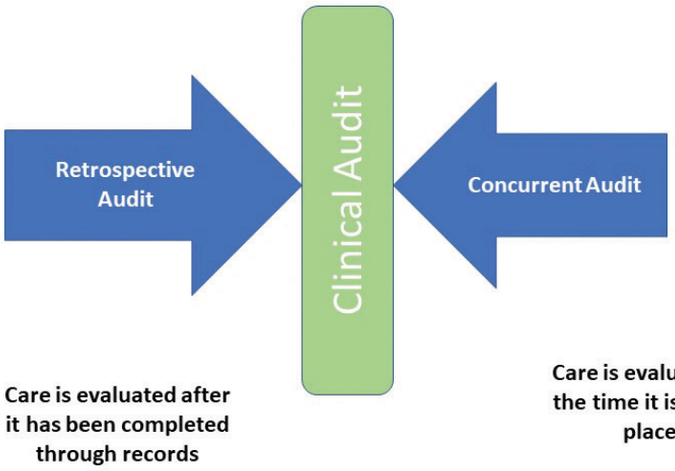
Different Audits

1. **Medical/Clinical Audit**: It covers all aspects of clinical care including that provided by medical, nursing and paramedical staff.
2. **Death Audit**: Death audit is important because it gives an understanding to what happens and why. This helps to go beyond rates and ratios to determine the inciting factors and to take measures how deaths could have been avoided.
3. **Prescription Audit:** Prescription Audit is a tool for identifying the errors in prescription practices to reduce the occurrence of medication errors. Prescription auditing is a very useful tool that can be used to generate data on several aspects of medication.

Clinical Audit

- The systematic critical analysis of the quality of clinical care including the procedures used for diagnosis and treatment, the use of resources and the resulting outcome and quality of life for the patients
- Clinical audit is a way of improving the care of patients by using a multi-disciplinary approach, when appropriate, to look at what you are doing and see if you can do it better
- Considered as tool not goal
- Clinical audits are done at defined interval by designated team for randomly selected cases preferably retrospectively.

Types of Clinical Audits



Medical Audit

Medical audits are carried out on the case sheets of patients admitted in a facility over a defined period with the objective of determining the following :

- Whether the admission/treatment was justified
- Whether the diagnosis documented was as per the ICD terminology
- Whether the medicines prescribed were as per the STGs
- Whether the investigations ordered were appropriate
- Whether the follow-up of the patient was timely and appropriate/referred timely to the appropriate consultant.
- Whether the patient was advised and timely transferred
- Whether the timely detection and treatment of complications was done

Death Audit

- All deaths occurring after 48 hours of admission should be subjected to Death Audit.
- All the deaths should be audited every month
- The death case sheets are examined in terms of qualitative and quantitative adequacy.
- The various parameter used are:
  - The diagnosis, investigation, treatment given in comparison to normal standard.
  - Delay in examination, investigation or initial treatment, if any.
  - Types of consultations obtained and recorded.
  - Daily Monitoring of Progress.

Prescription Audit

Prescription	Prescription Audit
A prescription is a written, verbal, or electronic order from a practitioner or designated agent to a pharmacist for a particular medication for a specific patient	• Part of Clinical Audits • A tool to improve the prescription quality and ensure patient get high quality care & outcome. • Support to measure performance in terms of prescribing practices & patient care

Characteristics of a good Prescription

1. **Complete:** Prescription is complete in all respects: date, name, age, sex, address, weight-if needed, special instructions, and details of follow up
2. **Legible:** Prescriptions are clear and legibly written; preferably in Capital letters
3. **Use of '0' zero:** Leading zeroes should be preferred (e.g. 0.25 mg). Trailing zeros should not be used e.g. 5.0 mg
4. **Spacing:** Give space between drug and strength as no space between drug and strength may be misread (e.g. Inderal40 mg can be misread as Inderal 140 mg)

Characteristics of a good Prescription

5. Symbols and Abbreviations: Avoid error prone symbols, Abbreviations to the extent possible.

- Many drugs identified with abbreviations

EX: HCTZ for hydrochlorothiazide, MSO4 for morphine sulfate

- Attempts to standardize abbreviations have been unsuccessful
- JCAHO (January 1, 2004): "Do Not Use" List: Abbreviations, Acronyms, and Symbols

Standard Procedure for Prescription Audit

- OPD/IPD ticket should be standardized.
- Random collection of prescription/Case sheet
- Only OPD/ Emergency prescription- Xerox copy, document and keep in record.
- Adequate sample size. Min. 30

Steps for Prescription Audit

1. Availability of Prescription Audit format.
2. Depute a person for collecting the prescriptions from OPD/Pharmacy/MRD/IPD.
3. Collect at least one prescription(Xerox copy) per day and numbered (Minimum 30 prescription in a month).
4. Analysis the prescription as per Audit tool.
5. Put the number 1 (if compliance meet) & 0 (if compliance not meet).

Steps for Prescription Audit

6. If any point of Audit tool is not applicable as per the prescription then mention as NA.
7. Calculate the compliance and generate the score of Prescription audit.
8. Indicate Low performing attributes as per audit tool and discuss these attribute with your committee and doctors for CAPA.
9. After that do the Re-Audit and again check the compliance.

Marking & Evaluation

Marks obtained:

•100% to > 75%	Rational
•75% to > 50%	Semi rational
•< 50%	Not acceptable

Common Prescription Errors

- Prescribing Investigations that are **not required.**
- **Over prescription**.
  i) straight away 4th generation antibiotics
  ii) Complex prescription -More than one drugs when only one drug is required.
- Prescription of **tonics** without indication.
- prescribing **sugar base** tonics to Diabetic patients
- Advising Investigations **outside,** when available in Health facility.
- Adherence to EDL and STG.
- Preference for Branded drugs.
- **Unnecessary** prescription of Injections
- **Non-documentation** of drugs prescribed other than from Essential Drug List

Gap Identification

- Gap identified after conducting audit could be categorised through Structure, Process and Outcome
- Structure i.e., facilities being provided /patients complaint too long to get an appointment
  - Waiting times
  - Availability of staff
  - Record keeping (all patient records should have a summary card)
  - Equipment
- Process i.e., what was done to the patient - referrals, prescribing, investigations
  - Identification of High risk pregnancy

Gap Identification

- Outcome i.e., result for the patient
  - Patient satisfaction
  - Hypertension patients aged between 20-35 should have a diastolic below 90mmHg within the first year of treatment
  - High risk practices (significant event audits)
    - Pneumococcal vaccines in splenectomised patients, are significant events being acted upon?
    - "Significant events"
      - Maternal/neonatal death in low risk pregnancy
      - Near-miss case review
- The outcome is the ideal indicator for care but the most difficult to measure.

Session 9: Process Mapping

Taylor and Randall (2007) describe process mapping as a simple but powerful tool to unlayer both service processes and patient pathways, which involve hospital staff in different roles and departments. It is a valuable method of identifying issues, developing solutions, and enabling interdisciplinary teamwork.

Process mapping enables the team to create a visual picture (it is a symbolic presentation), a map of how the pathway currently works, capturing the current process in as-is condition, finding out areas of duplication, various wastes, the bottlenecks, longest step, variation in process and unnecessary steps. Process mapping helps the facility team to trace the processes which are most time consuming or are resulting in more patients' dissatisfaction. By involving a range of people from across the process, everyone can discuss the actual steps taken through the process from their own perspective and take the time to consider what works best or not so well from a patient perspective.

Once the wastes or bottle necks are identified facility needs to undertake the improvement processes to bring out the sustainable change.

Significance of process mapping

- Increase efficiency
- Eliminate non-value added (NVA) activities
- Reduce cycle time
- Expand service capabilities
- Simplify workflow
- Minimize dependencies
- Gain buy-in and organizational support for change

Learning objectives

a. To understand the concept of process mapping and method to do it.

b. To identify non-value-added activities, wastes, bottlenecks (MUDAS).

c. Analysis of process map through:
   - How many duplications?
   - How many hands-offs?
   - What is the approximate time of or between each step?
   - Where are possible delays?
   - Where are major bottlenecks?
   - How many steps **do not add value** for patients?

d. To remove the wastes by undertaking improvement cycles.

e. Sustaining the changes thereafter.

Expected outcome

By the end of the session, it is expected that trainees will be well acquainted with the idea that process mapping is a vital tool used in service improvement to clearly understand each step of a process. Participants are familiar with the symbols used to draw a process map and are well-versed with the phrase that all process maps must have start and end points. Once a process map is drawn, identify the process bottlenecks, difference between value-adding and non-value adding activities, and importance of removing MUDAS (waste) from a process to make it more efficient.

Exercise

This session is followed by an exercise, wherein trainees will be provided with a case study on a hypothetical scenario. All the participants will be divided into 5-6 groups (as per the number of participants, not more than 10 in a group). Each participant has to make a process map, identify the value adding and non-value adding (MUDAS) activities, followed by time taken for all the activities in the map for the completion of a process. Once all the NVA activities have been identified, each participant has to draw a new process map by eliminating non-value-adding activities to improve the process by creating a set of hypothetical improvement cycles.

Suggested Reading Material:

1. Value Stream Mapping for Healthcare Made Easy, Cindy Jimerson, CRC press, New York
2. National Quality Assurance Standards for Public Health Facilities 2020
3. Assessor's Guidebook for Quality Assurance in District Hospitals 2019, Vol I & Vol II

Process Mapping

What is Process

A process is a set of interrelated or interacting activities which transforms inputs into outputs

A process is also defined as "a series of steps which convert one or more inputs into one or more outputs."

What is a Process Map?

- Graphical representation of the series of steps of a process
- A pictorial representation of the sequence of actions that comprise a process.
- It traces the flow of physical product and information through the steps
- If there is no physical product, the map is used to document the step-by-step activities involved in providing a service

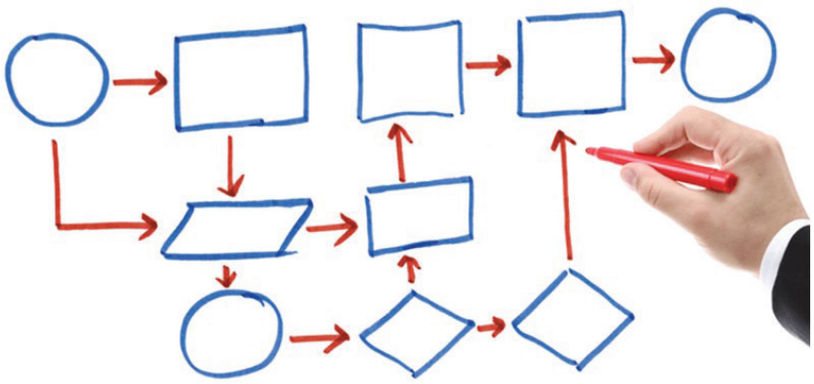
Why Process Mapping?

- Process maps are a great problem-solving tool
- Helps us determine what is the problem.
- Support to identifies problem areas and opportunities for process improvement.
- Provides a common understanding of the entire process and specific roles and contributions of process participants.
- Means to visually represents the work process
- Develop understanding about process improvement

Process Mapping

- Increase efficiency
- Eliminate non-value-added activities
- Reduce cycle time
- Expand service capabilities
- Simplify workflow
- Minimize dependencies
- Gain buy-in and organizational support for change

Steps used for Process Mapping



Symbols used to Process Map

- **Start & End**: An **oval** is used to show the materials, information or action (inputs) to start the process or to show the results at the end (output) of the process.

- **Activity**: A **box or rectangle** is used to show a task or activity performed in the process. Although multiple arrows may come into each box, usually only one arrow leaves each box.

- **Decision**: A **diamond** shows those points in the process where a yes/no question is being asked or a decision is required.

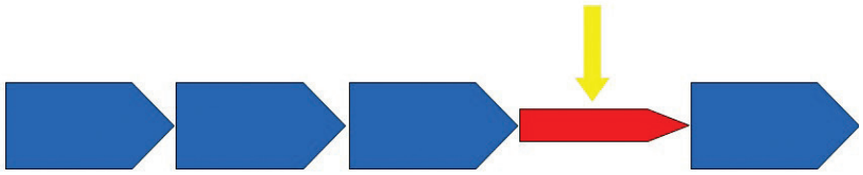
- **Break**: A **circle** with either a letter or a number identifies a break in the process map and is continued elsewhere on the same page or another page.

Important Points

- Process Map what is, not what you would like the process to be.
- Process Mapping is dynamic. Use Post-it notes, dry erase markers, pencil, etc.
- All Process Maps must have start and stop points.

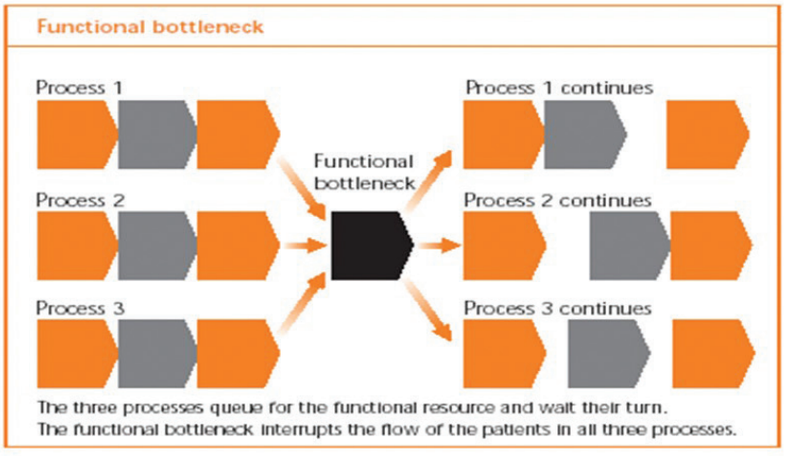
Process Bottlenecks

Bottlenecks occurs when a step is the limiting rate of the process that is a step takes a significant time, and slows the whole process down.



Friday, 26 June 2020

Functional bottleneck



Value/Non-value adding steps

Value adding

- The activity transforms the patient and moves them towards the next defined outcome
- The activity is something that the patient cares about

Non-value adding

- Do not serve any purpose (aim to remove these) or waste

Necessary non-value adding

- Do not directly benefit patient but are necessary
  e.g. completion of forms, logging patient details onto systems, numerous checks of details

Waste is a sensitive issue

- Its critical to eliminate "waste"
- Its also critical to recognise that the non value adding activities may have been a core part of someone job for many years
- It's the activities that are non value adding not the person

Wastes in Hospitals (MUDAS)

1. Confusion
2. Motion/Conveyance
3. Waiting
4. Over processing
5. Inventory
6. Defects
7. Over production

Wastes in Hospitals (MUDAS)

1. Confusion:

Nurses spend 65% of their time looking for things they could not find, clarifying unclear instructions and doing redundant paperwork. *(Jimmerson et al. 2005).* Confusion includes questions like:

- What do I do with this requisition?
- What does this order mean?
- Where do I have to store this item?

Wastes in Hospitals (MUDAS)

2. Motion/Conveyance:

- Physical movement required to get a simple task done and to move people from place to place.
- Redundant reaching for items.
- Walking to another location only to return to the starting point.
- Conveyance of patients and materials from room to room or department to department.

Wastes in Hospitals (MUDAS)

3. Waiting:

Waiting for :

- a procedure to be done,
- a medication to arrive,
- or a doctor's order to be given.

Wastes in Hospitals (MUDAS)

4. Over processing:

- Doing more activities than is necessary to complete a work.
- Multiple entries of patient's demographic details during the hospital visit.

Wastes in Hospitals (MUDAS)

5. Inventory:

- Stored supply that are:
- Obsolete.
- Duplicated.
- Unnecessary.
- Missed charges for items used.

Wastes in Hospitals (MUDAS)

6. Defects:

- Medication errors.
- Wrong site surgery.
- Leaving instruments in patient's body.
- Wrong blood group errors.
- Bed sores.
- Incidence of fall from bed.

Wastes in Hospitals (MUDAS)

7. Over Production:

- Doing more work than necessary.
- Redundant Paperwork. (Waste of patient time, possibility of error)

Analysing the process map

- How many steps in your process?
- How many duplications?
- How many hand-offs?
- What is the approximate time of or between each step?
- Where are possible delays?
- Where are major bottlenecks?
- How many steps ***do not add value*** for patients?
- How many types of wastes are there between each step?
- Where are the problems for patients and staff?

Basic Process Redesign Techniques

- Eliminate non-value-added activities
- Eliminate duplicate activities
- Combine related activities
- Identify and remove waste at each step.
- Process in parallel
- Use decision-based, alternative process flow paths

Process mapping facts

- Process mapping is basic and simple — the best way to learn it is to do it!
- Process mapping is a repetitive process, maps should never be thrown away but reviewed and updated.
- Display the maps so all staff can see them and contribute to ongoing improvements

Annexure-I

Instructions for the Participants for _____Training

On behalf of the National Health Systems Resource Centre (NHSRC) New Delhi and National Health Mission (…….), we extend a very warm welcome to you to the ____days '-___ _____Training" under the National Quality Assurance Programme.

1. About the Course

Under the National Health Mission, the Ministry of Health & Family Welfare, Government of India has launched National Quality Assurance Programme to ensure that the services at Public Health Facilities are not only adequate, but also meet the international norms and practices.

The aim of '_____ _____Training" is to impart knowledge and skills for undertaking internal assessment of health facilities against the predefined norms of National Quality Assurance Standards at fixed intervals, preferably quarterly, covering all critical departments. The course intends building the participants' capacity to evaluate evidences to arrive at a conclusion with reference to various checkpoints, which are given in the Assessors' Guidebook for National Quality Assurance Standards.

The training is a prestigious sought-after programme and the curriculum is intense with class-room discussions, case studies and group work. The methodology followed in the course would be participatory with lectures, case studies, group work and presentations.

The training course material will respond to the frequently asked questions by a service provider, such as: road-map for implementing National Quality Assurance Standards at the health facility, minimum standards and regulatory compliances which a facility should meet, use of quality tools in identification of gaps and area of improvement, followed by an action plan for gap closure.

2. Course Duration: - _____ days.

3. Attendance

Attendance and participation in all sessions including group work and case studies are mandatory. No relaxation in the attendance is permissible.

Please record your attendance at the start and end of training on each day.

4. Evaluation

All participants are expected to undergo an evaluation test on the last day of the training programme, which is an objective type question paper. There is no negative marking for incorrect answers. 60% score is mandatory for "Internal Assessor Certificate".

All participants are advised to write their name, designation, facility name, mobile number and email-id in legible handwriting (preferably in CAPITAL LETTERS). Certificate will be issued based on the information submitted in the evaluation sheet.

Filled-in evaluation sheet is required to be submitted to the NHSRC Course Coordinator.

5. Feedback

Your feedback on the training programme is important and valuable for us. Kindly complete the feedback form on the last day and hand it over to the NHSRC course coordinator.

7. Empanelment

The participants who have attended all sessions successfully and have scored more 60% or above marks in the post-training evaluation test, would be eligible to be empanelled as an "Internal Assessor" of Public Health Facilities.

All the best and looking forward to a worthwhile and mutually enriching learning programme!

Annexure-II

Draft Agenda

IA-Cum-Service Provider Training on National Quality Assurance Program*

Enter Date of Training: -
Place: -

Day-1		
Time	**Topic**	**Resource Person**
08:30 AM-09:00 AM	Registration	
09:00 AM-09:15 AM	Inaugural Address	
09:15 AM-10:00 AM	Overview of National Quality Assurance Standards	
10:00 AM-10:45 AM	Measurement System under NQAS	
10:45 AM-11:00 AM	**Tea**	
11:00 AM-11:30 AM	Area of concern A	
11.30 AM-12:15 PM	Area of concern B	
12.15 PM-12:45 PM	Area of concern C	
12:45 PM-01:30 PM	Area of concern D	
01:30 PM-02:00 PM	**Lunch**	
02.00 PM-02:45 PM	Exercise on Measurement System	
02:45 PM-03:30 PM	Inventory management	
03:30 PM-03:45 PM	**Tea**	
03.45 PM-04:45 PM	Area of concern E	
04:45 PM-05:30 PM	Area of concern F	
Day-2		
09:00 AM-09:15 AM	Recap	
09:15 AM-10:15 AM	Area of Concern G and Overview of Quality team formation	
10:15 AM-10:30 AM	**Tea**	
10:30 AM-11:15 AM	Internal Assessment and Gap Identification	
11:00 AM-11:45 AM	Exercise on Internal Assessment and Gap Identification	
11:45 AM-12:15 PM	Patient Satisfaction Survey with exercise	
12:15 PM-12:45 PM	Internal and External Quality Assurance Program	
12:45 PM-01:15PM	Documentation in Quality Management	

Time	Topic	Resource Person
01:15 PM-02:00PM	**Lunch**	
02:00 PM-03:00PM	Introduction to Quality tools	
03:00 PM-03:30 PM	Area of Concern -H	
03:30 PM-03:45 PM	Tea	
03:45 PM-04:45 PM	Improving the Quality through Audits (Medical, death and prescription audits)	
04:45 PM-05:30 PM	Process Mapping with Exercise	
Day-3		
09:00 AM-10:00 AM	Introduction to PDCA	
10:00 AM-11:00 AM	Exercise from workbook: PDCA-Patient Satisfaction Survey	
11:00 AM-12:00 PM	PDCA-Key Performance Indicator	
12:00 PM-01:00 PM	PDCA-Prescription Audit	
01:00 PM-01:30 PM	PDCA-Internal Assessment Score	
01:30 PM-02:00 PM	**Lunch**	
02:00 PM-03:30 PM	Post Training evaluation	
03:30 PM-04:15 PM	Road Map for Quality Assurance and State specific issues	
04:15 PM-04:30 PM	**Tea**	
04:30 PM-05:00 PM	Open Discussion, Feedback & Valedictory	

(* For Internal Assessor training please use only 2 Days Agenda)

Abbreviations

ALOS	Average Length of Stay
ANC	Antenatal Care
APH	Antepartum Haemorrhage
ARSH	Adolescent Reproductive & Sexual Health
BMW	Bio-Medical Waste Management Rules
BP	Blood Pressure
BSI	Bureau of Indian Standards
CEmONC	Comprehensive Emergency Obstetric & Newborn care
CHC	Community Health Centres
DH	District Hospital
DOT	Directly Observed Treatment
DQAC	District Quality Assurance Committee
DQAU	District Quality Assurance Unit
DVDMS	Drugs and Vaccine Distribution Management System
ECG	Electrocardiogram
ENT	Ear Nose throat
EOC	Emergency Obst. Care
EQAS	External Quality Assurance Scheme
FEFO	First-Expired-First-Out.
FFHI	Family Friendly Hospital Initiative
FIFO	First-In-First-Out
FNO	Facility Nodal Officer
HR	Human Resource
IAT	Internal Assessor Training
ICC	Infection Control Committee
ICD	International Classification of Disease
ICTC	Integrated Counselling and testing Centre
ICU	Intensive Care Unit
IDSP	Integrated disease surveillance program
IPD	Inpatient Department
IPHS	India Public Healthcare Standards
IQC	Internal Quality Control
ISO	Internal organization for Standardization
IT	Information technology
IYCF	Integrated Young Feeding Practices
JCI	Joint Commission International
JSSK	Janani Shishu Suraksha Karyakram
JSY	Janani Suraksha Yojana
KPIs	Key Performance Indicators
LAMA	Left against Medical Advise
LJ Chart	Levey Jennings Chart
MD	Mission Director
MO	Medical Officer
MoHFW	Ministry of Health & Family Welfare
MOV	Means of Verification
NABH	National Accreditation Board for Hospitals and Healthcare Providers
NABL	National Accreditation Board for Testing & Calibration Laboratories
NACP	National AIDS control Program
NHM	National Health Mission
NHP	National Health Policy
NHSRC	National Health System Resource Centre
NLEP	National Leprosy Eradication Program
NMHP	National Mental Health Program
NPCB	National program for control of Blindness
NPCDCS	National Programme for Prevention and Control of cancer, diabetes, cardiovascular diseases & stroke

NPHCE	National programme for the health care of the elderly
NPPCD	National program for prevention and control of deafness
NQAP	National Quality Assurance Programme
NQAS	National Quality Assurance Standards
NRC	Nutritional rehabilitation Centre
NSSO	National Sample Survey Organisation
NTEP	National Tuberculosis Elimination Program
NVA	Non-value added
NVBDCP	National Vector Borne Disease control Programme
OB	Observation
OBD	Outbound Dialling
OMR	Optical Mark Recognition
OPD	Outpatient Department
OT	Operation theatre
PCPNDT	Pre-Conception and pre-natal Diagnostic Technique
PDCA	Plan, Do , Check and Act
PHC	Primary Health Centres
PI	Patient Interview
PP Unit	Postpartum Unit
PPH	Post-partum Haemorrhage
PSS	Patient satisfaction Survey
QA	Quality Assurance
QC	Quality Control
QI	Quality Improvement
QO	Quality Objective
QOC	Quality of Care
QP	Quality Policy
RBSK	Rashtriya Bal Swasthya Karyakram
RCA	Root Causes Analysis
RCH	Reproductive & Child Health

RMNCAH+N	Reproductive, Maternal, Newborn Child, Adolescent Health+ Nutrition
RMNCH+A	Reproductive, Maternal, Newborn Child and Adolescent Health
RNTCP	Revised National Tuberculosis Programme
RR	Record Review
RRC-NE	Regional Resource Centre- North East
SAM	Severe Acute Malnutrition
SC	Sub Centre
SDG	Sustainable Development Goals
SDH	Sub District Hospital
SI	Staff Interview
SMART	Specific, Measurable, Achievable, Realistic and Time-bound
SMS	Short Message Service
SNCU	Sick Newborn Care Unit
SOP	Standard Operating Procedure
SPT	Service Provider Training
SQAC	State Quality Assurance Committee
SQAU	State Quality Assurance Unit
STG	Standard Treatment Guidelines
TMT	Treadmill test
TPR	Temp., Pulse, Respiration
UHC	Universal Health Coverage
UPHC	Urban Primary Health Centre
USG	Ultrasonography
VA	Value Adding
VD	Venereal Disease
VED	Vital, Essential, Desirable
VIS	Variance Index Score
5S	Sort, set in order, shine, standardise, and sustain
7R	Right Drug, Right Patient, Right Time, Right Route, Right Dose, Right Reason, Right Documentation

List of Contributors

1.	Dr J N Srivastava	Advisor-QI, NHSRC
2.	Dr Parminder Gautam	Senior Consultant-QI, NHSRC
3.	Dr Deepika Sharma	Senior Consultant-QI, NHSRC
4.	Dr Chinmayee Swain	Consultant-QI, NHSRC
5.	Ms. Vinny Arora	Consultant-QI, NHSRC
6.	Dr Shivali Sisodia	Consultant-QI, NHSRC
7.	Dr Rashmi Wadhwa	Consultant-QI, NHSRC
8.	Dr Arvind Srivastava	Consultant-QI, NHSRC
9.	Dr Sushant Agrawal	Quality Expert, Asian Development Bank
10.	Mr. GulamRafey	Consultant-QI, NHSRC
11.	Dr Arpita Agrawal	Consultant-QI, NHSRC