

Orientation Workshop **On** **National Quality Assurance Standards for** **Integrated Public Health Laboratories**

10th-11th October 2024



Venue: First Floor Hall
National Health Systems Resource Centre
Ministry of Health & Family Welfare, New Delhi



Table of Content

S. No.	Topic	Page No.
1	Introduction	3
2	Aims & Objectives	3
3	Methodology	4
4	Inaugural & Welcome Note	4
5	Technical Session	5-8
6	Valedictory	8
7	Way Forward	8
8	Annexure: Agenda List of Participants	9-12

INTRODUCTION

Medical laboratory services are an integral part of modern medicine and are considered pivotal for the clinical decision making. Accessibility to reliable laboratory diagnosis at all levels of healthcare is vital for ensuring effective universal healthcare to all our citizen and building a resilient health system capable of withstanding future pandemics.

India being a vast country, with high density population there is a huge demand for a network of integrated laboratories at various levels of healthcare for providing diagnostic for disease specific programs for integrating healthcare surveillance supported by quality assured laboratory data. Keeping this in view, Government of India launched Integrated Public Health Laboratories (IPHL) across the districts of country. These labs provide rapid, reliable and accurate test results to the public through defined upward and downward linkages.

Establishing a Quality Management System (QMS) in the IPHL is imperative for ensuring accuracy and precision of the testing processes and results. The National Quality Assurance Standards (NQAS) have already paved path of having internationally benchmarked quality standards for each level of public health care facility of India.

The quality certification of IPHL will assure beneficiaries and service providers that investigation reports are reliable and aligned with benchmarks. The National Health Systems Resource Centre (NHSRC) has undertaken the task of orienting a group of experts, all of whom are National Assessors with qualifications in Clinical Pathology. A 1.5-day orientation workshop was held on 10th & 11th October, 2024. The workshop module was designed to give hands on training to the participants. Total 27 participants attended the training out of which 19 participants were National Assessors and 8 were Consultant with Quality and Patient Safety Division, National Health Systems Resource Centre (List attached as Annexure B). The workshop encouraged active participation, allowing participants to engage with trainers in discussions about challenges and solutions. Sessions covered laboratory processes and checkpoints within the National Quality Assurance Standards toolkits, supplemented by practical exercises. At the end of the day, feedback was collected from the participants on the sessions conducted.

AIMS & OBJECTIVES

The aim of the workshop is to orient the Laboratory experts who are identified from the existing pool of the National Level NQAS External Assessors in regards to the assessment methodology and requirements of the standards.

These experts will strengthen the certification process by orienting staff for quality standards and its implementation activities on National Quality Assurance Standard for Integrated Public Health Laboratories

METHODOLOGY

A mixed method was used for 1.5 days Orientation workshop on National Quality Assurance Standards for Integrated Public Health Laboratories, as follows:

- Lecture method using Power Point Presentation
- Case Studies
- Brainstorming Exercises

INAUGURAL SESSION

The Orientation workshop commenced with a welcome address and introduction by Dr J N Srivastava, Advisor, Quality and Patient Safety Division (QPS) at NHSRC.

The ceremony proceeded with the lighting of the lamp and address by the Chief Guest, Air Commodore (Dr) Ranjan Kumar Choudhury, VSM, Advisor- Healthcare Technology. In his address, Dr Ranjan highlighted the importance of quality, and mentioned about the support from the Government of India in establishing the Integrated Public Health Laboratories (IPHL) as a part of Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM). He also mentioned how National Quality Assurance Standards (NQAS) for IPHL will ensure the high standards of quality, reliability and integrity in the testing and analysis process of IPHL and will assure the beneficiaries and services providers that investigations reports are reliable and benchmarked.

Subsequently, all participants introduced themselves, followed by a Vote of Thanks extended to the dignitaries. The event then transitioned into the technical session.



Fig.1- Address by Dr J N Srivastava



Fig.2-Picture of participants of workshop



Fig. 3- Address by Chief Guest Air Commodore (Dr) Ranjan Kumar Choudhury, VSM- Advisor HCT



Fig 4-Lamp lighting

TECHNICAL SESSIONS

Day- 01 (10th October 2024)

Session 01: Overview of Integrated Public Health Laboratories

Dr J.N. Srivastava, Advisor - QPS division, conducted the session, beginning with an online quiz to assess participants' knowledge of IPHL.

He then discussed the IPHL's goal to create a network of public health labs across all districts, enhancing diagnostic capabilities for both communicable and non-communicable diseases. Key components including rural and urban Health and Wellness Centres, Block Public Health Units, and Critical Care Hospital Blocks. He explained how the program integrates resources from various National Health Programs, adopting a hub-and-spoke model to ensure efficient service delivery. With the IPHL vision statement, he outlined the functional integration, human resource requirements, scope of services, and progress made at the state level.

Session 02: Introduction to National Quality Assurance Standards for IPHL

Dr Deepika Sharma, Lead Consultant - QPS division, conducted a session providing an overview of NQAS standards for IPHL for ensuring quality, accuracy, and efficiency in diagnostic services. She covered all Areas of Concern-service provision, patient rights, facility inputs, support services, infection control, and quality management. Further she discussed the scope and purpose of each standard and also explained the relationship between NQAS components.

Session 03: Measurement System under NQAS

Dr Naveen Kumar, Consultant- QPS division, conducted a session on the Measurement System in NQAS. He introduced the scoring rules, explained the score calculation method, and presented a scorecard for clarity. He further discussed key NQAS components, covering areas of concern, standards, measurable elements, and checkpoints. He provided insights into different assessment methods, clarified scoring rules, and familiarized participants with assessment protocols.

Session 04: Documentation for the Implementation & Application Requirement of NQAS for IPHL

Dr Abhay Dahiya, Consultant- QPS division, conducted a session covering the objectives and hierarchy of documentation. He discussed the roles of various documents, including the Quality Manual, policy documents, Standard Operating Procedures (SOPs), work instructions, and forms.

Further he highlighted the importance of documentation in assessments, outlined the document submission requirements for NQAS in IPHL, detailed application requirements and key performance indicators. He also explained the certification processes at state and national levels, along with the criteria for surveillance assessments and re-certification.

Session 05: Equipment/ Reagent Management in IPHL as per NQAS

Dr Rachna Agarwal, Professor and Head of Neurochemistry at IHBAS, led the session, beginning with an overview of standards and measurable elements related to reagents and consumables. She discussed handling emergencies during sample collection, including the use of spill kits, and outlined the instruments required based on scope, along with essential supporting services. Additionally, she emphasized the importance of instrument calibration.

Session 06: Safety Aspects in IPHL

Dr Juhee Chandra, Consultant Pathologist & Laboratory Quality Assurance Expert, took the session on IPHL safety highlighting the importance of lab safety audits for risk identification, regulatory compliance, and fostering a safety culture. Further she covered infection control, chemical and biosafety, electrical and mechanical hazards, and fire safety. She emphasized on training lab personnel, proper emergency equipment, and clear safety protocols. Further she explained how safety officer's role is crucial, encompassing inspections, waste management, and ensuring equipment readiness to maintain a safe lab environment.

Session 07: Infection Control & Bio- Medical Management

Dr Renu Gupta, Assistant Professor and head of Department of Clinical Governance, IHBAS took the session on Area of Concern F within NQAS for IPHL addressing essential infection control practices for laboratory safety. Her session included the implementation of infection control programs, hand hygiene, personal protective equipment (PPE), equipment cleaning and disinfection, environmental controls, and biomedical waste management. Further she emphasized on the roles of the Infection Control Committee, detailed hand hygiene steps, PPE selection, and cleaning protocols for labs. Dr Gupta also highlighted managing air quality in high-risk areas and the correct handling of biomedical waste to mitigate infection risks and enhance safety in laboratory settings.

Session 08: Assessing Competency & Training Needs in IPHL as per NQAS

The session was taken by Dr Juhee Chandra. The session focuses on assessing and ensuring staff competency within clinical and para-clinical settings. Key topics include criteria for competence assessment, performance appraisal, and ongoing professional development. She emphasizes monitoring competence through authorization, continuous education, and training on job-specific processes. Dr Chandra stressed for consistent system improvements to enhance quality, productivity, and cost-effectiveness, along with modern on-the-job training methods and educational encouragement to uphold high standards in healthcare services.

Exercises

Participants were given workbook exercises having case studies on the topics discussed, designed to help them identify gaps and understand the scoring system. The QPS Consultant facilitated the exercise to enhance understanding.

Day- 02 (11th October 2024)

Session 01: Ensuring Quality in Pre – testing, Testing & Post – testing

Dr Juhee Chandra took the session. In her session she covered essential standards and procedures for efficient laboratory operations, focusing on patient registration, pre-test preparation, sample handling, testing protocols, and post-test procedures. She emphasised on accurate patient preparation, precise sample labeling, stringent quality control (internal and external), and effective result reporting. The session underscored the importance of computerized systems for seamless record-keeping and reinforced that standardized processes are key to ensuring accuracy, safety, and high-quality clinical services.

Session 02: QMS & Risk Management Public Health Laboratories

The session was taken by Dr Rachna Agarwal. In her session she highlighted the importance of a strong Quality Management System (QMS) and thorough risk management. Key aspects of her session includes a clear vision, adherence to SOPs, and ongoing quality assurance. Further she taught Risk management addressing biohazards- chemicals, electrical, mechanical, and fire safety risks, using assessments, risk registers, and quality improvement cycles to safeguard patient safety, staff well-being, and lab reliability.

Session 03: Use of Quality Tools for ensuring Accuracy & Precision of Test Results

The session on Quality tools was taken by Dr Renu Gupta. In her session she focuses on quality tools in laboratories to enhance the accuracy and precision of lab tests, emphasizing internal and external quality control measures. Key topics of her session include understanding quality assurance programs, defining accuracy and precision, and applying quality tools such as the Plan-Do-Check-Act (PDCA) cycle, fishbone diagrams, and Pareto analysis to identify and address errors. Stress was made on making Corrective actions for addressing non-compliance, with a focus on maintaining rigorous standards for consistent test quality.

Session 04: Key Component of Report Writing with exercises

The session was taken by Dr Ranjith K Mandal, Sr. Consultant-Certification Unit. This session outlines key components of report writing. It defines report writing principles, highlighting the purpose, structure, and essential elements required for effective communication of findings. The presentation introduces the 6Cs of report-making, and emphasizes avoiding common mistakes, such as vague statements, incomplete documentation, and breaches of confidentiality. Detailed guidelines are provided for writing specific, actionable gap statements, avoiding generic language, and including supportive evidence when possible. Additionally, it covers procedural norms for national-level certification and outlines the reporting format, emphasizing timely submission, and consistent communication with the National Health Systems Resource Centre (NHSRC).

Session 05: Outcome Indicators and Continual Quality Improvement in NQAS assessed facilities & Action Plan

The session was taken by Dr Rachna Agarwal. This session provides an overview of quality indicators and continuous quality improvement (CQI) for healthcare facilities assessed under

the National Quality Assurance Standards (NQAS). It details various categories of quality indicators, including pre-analytical, analytical, post-analytical, and public health function indicators, along with outcome indicators such as productivity, efficiency, clinical care, and service quality. Dr Gupta discussed steps for developing and implementing quality indicators, analyzing trends, and evaluating performance through both numerical and graphical methods. She also explained application of CQI by giving example, like improving patient satisfaction and critical value reporting.

Session 06: Exercises

Participants were given an exercise on identifying standards and measurable elements to enhance their understanding of the sessions. This exercise was facilitated by the QPS consultant to provide on the topics.

Valedictory

Dr J N Srivastava, Advisor- QPS delivered the vote of thanks. In his address he thanked the participants for their overwhelming participation and requested the participants to provide support to state in implementation.

Way Forward

The group of experts trained at the Orientation Workshop can serve as a valuable resource. Their expertise can be utilized to:

1. Conduct Training of Trainers (ToT) Sessions: Equip a core team of experts to further train others.
2. Organize Training Programs for Lab Technicians: Essential for ensuring lab technicians are well-versed in NQAS protocols and quality management practices.
3. Support State Facilities in NQAS Documentation: Provide guidance to states on accurate documentation practices, which is crucial for maintaining records and ensuring audit-readiness.

Agenda

Orientation Workshop on National Quality Assurance Standards for Integrated Public Health Laboratories



10th-11th October 2024

VENUE: First Floor Hall, NHSRC

Day 1- 10 th October 2024 (Thursday)		
Time	Topic	Resource Person
08:45 AM-09:00 AM	Registration	QPS Team
INAUGURAL SESSION		
09:00 AM - 09:10 AM	Welcome Address and Aims & Objectives of workshop	Dr J N Srivastava Advisor- QPS
LAMP LIGHTING		
09:10 AM-09:20AM	Address by Chief Guest	Air Commodore (Dr) Ranjan Kumar Choudhury, VSM Advisor- Healthcare Technology
09: 20AM -09:30AM	Introduction of Participants	
09:30 AM-09:35 AM	Vote of Thanks	Dr Deepika Sharma Lead Consultant-QPS
09:35 AM-10:00 AM	Group photograph followed by Tea	
10:00 AM-10:45AM	Overview of Integrated Public Health Laboratories	Dr J N Srivastava Advisor- QPS
10:45 AM -11:45AM	Introduction to National Quality Assurance Standards for IPHL	Dr Deepika Sharma Lead Consultant- QPS
11:45 AM-12:15 PM	Measurement System Under NQAS	Dr Naveen Kumar Consultant- QPS
12:15 PM- 01:00 PM	Documentation for the Implementation & Application Requirement of NQAS for IPHL	Dr Abhay Dahiya Consultant- QPS
01:00 PM -01:45 PM	Lunch	
01:45 PM- 02:30 PM	Equipment / Reagent Management in IPHL as per NQAS	Dr Rachna Agarwal External Faculty
02:30 PM- 03:15 PM	Safety Aspect in IPHL	Dr Juhee Chandra External Faculty
03:15 PM – 04:00 PM	Infection Control & Bio- Medical Waste Management	Dr Renu Gupta External Faculty
04:00 PM – 04:30 PM	Exercises	QPS Team
04:30 PM-04:45 PM	Tea Break	
04:45 PM- 05:30 PM	Assessing Competency & Training Needs in IPHL as per NQAS	Dr Juhee Chandra External Faculty

**Day 2 -
11th October 2024 (Friday)**

Time	Topic	Resource Person
09:00 AM-10:15 AM	Ensuring Quality in Pre- testing, Testing & Post-testing Activities	Dr Juhee Chandra External Faculty
10:15 AM- 11:00 AM	QMS & Risk Management Public Health Laboratories	Dr Rachna Agarwal External Faculty
11:00 AM- 11:15 AM	Tea Break	
11:15 AM- 11:45 PM	Use of Quality Tools for ensuring Accuracy & Precision of Test Results	Dr Renu Gupta External Faculty
11:45AM- 12:15 PM	Key Components of Report Writing with Exercise	Dr Ranjith Mandal Sr. Consultant- CU
12:15 PM- 01:00 PM	Outcome Indicators and Continual Quality Improvement in NQAS assessed facilities & Action Plan	Dr Rachna Agarwal External Faculty
01:00 PM-01:30 PM	Group Discussion/ Case study	Team QPS
01:30 PM- 01:45 PM	Valedictory	Team QPS
01:45 PM onwards	Lunch	

Annexure: B

Participants List for Orientation workshop on NQAS for IPHL (10th-11th Oct 2024)				
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