TRAINING MANUAL FOR PARTICIPANTS

DHIS-2 Data Analysis and Visualization for Primary Healthcare Settings

KHYBER PAKHTUNKHWA- HUMAN CAPITAL INVESTMENT PROJECT

Activity: DHIS-2 Data Analysis and Visualization Training Manual for Primary Healthcare Settings

Project Name: Khyber Pakhtunkhwa Human Capital Investment Project

(KP-HCIP)

Sponsored by: World Bank

Adapted from: National & International Guidelines

Implemented by: Department of Health, Khyber Pakhtunkhwa, Pakistan

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Acknowledgement

This manual has been designed as a practical, user-friendly resource for healthcare providers, managers and supervisors at all levels of the PHC system. It aims to equip them with the necessary skills to effectively analyze, interpret and visualize routine health data using DHIS-2—transforming raw information into meaningful insights for decision-making, problem-solving and performance monitoring.

High-quality data is the foundation of a responsive health system. Accurate and timely information enables healthcare workers to identify service gaps, allocate resources efficiently, track disease trends and implement targeted interventions. By strengthening competencies in DHIS-2 analysis and visualization, this manual supports evidence-based decision-making that contributes directly to improved service delivery, enhanced accountability and measurable progress toward UHC and SDG targets.

Message from the Chief Minister, Khyber Pakhtunkhwa

It gives me great pleasure to extend my warm regards to all participants and stakeholders of the *Training Module on DHIS-2 Data Analysis and Visualization for Primary Healthcare Settings* under the Khyber Pakhtunkhwa Human Capital Investment Project (KP-HCIP), supported by the World Bank. This initiative marks an important step in strengthening the information systems that underpin our primary healthcare network and guide evidence-based decision-making across the province.

High-quality data is the backbone of an effective health system, particularly in areas critical to maternal and child health. Accurate, timely and complete data enables managers and frontline providers to identify service gaps, track progress, monitor key indicators and implement targeted interventions that save lives. By enhancing our capacity to analyze and visualize DHIS-2 data, we are improving how we understand health trends, allocate resources and evaluate the outcomes of our programs.

I encourage all participants to actively engage in this training and apply the skills learned to strengthen routine health information systems at every level. Together, we can build a more responsive, informed and equitable primary healthcare system for the people of Khyber Pakhtunkhwa.

Thank you.

Mr. Sohail Afridi
Chief Minister, Khyber Pakhtunkhwa.

Message from the Health Minister, Khyber Pakhtunkhwa

It is my privilege to announce the launch of the *DHIS-2 Data Analysis and Visualization for Primary Healthcare Settings* training manual, developed under the World Bank–supported Khyber Pakhtunkhwa Human Capital Investment Project (KP-HCIP). This manual marks an important advancement in strengthening the data systems that guide decision-making and performance improvement across primary healthcare facilities in Khyber Pakhtunkhwa.

High-quality, timely and reliable data is essential for an effective and resilient health system. This manual provides practical guidance, tools and standardized approaches to enable healthcare workers and managers to analyze, interpret and visualize DHIS-2 data—particularly maternal and child health indicators—with greater accuracy and confidence. By promoting data-driven practices, this initiative directly supports our vision of achieving Universal Health Coverage (UHC) and contributes to Pakistan's progress toward the Sustainable Development Goals (SDGs), especially those focused-on health, equity and system strengthening.

We extend our sincere gratitude to the World Bank Pakistan for their continued collaboration and to the technical experts, practitioners and stakeholders who contributed their expertise to this manual. Your commitment ensures that primary healthcare teams across Khyber Pakhtunkhwa are better equipped to use data effectively, strengthen routine monitoring and improve service delivery for the communities they serve.

Mr. Khaliq ur Rehman
Health Minister, Khyber Pakhtunkhwa

Message from the Director General Health Services of Khyber Pakhtunkhwa

Dear Esteemed Health Professionals,

The Khyber Pakhtunkhwa Health Department has made significant strides in strengthening Primary Health Care (PHC), with a strong focus on reducing maternal mortality, as well as neonatal, infant and child mortality across the province. Through improved service delivery, enhanced community outreach and capacity building of frontline health workers, the department continues to advance its commitment to ensuring healthier outcomes for women and children— key priorities aligned with national health goals and global development targets.

Central to sustaining these gains is the availability of high-quality, timely and accurate data to guide planning and action. Reliable DHIS-2 reporting enables managers and healthcare providers to identify service gaps, monitor priority indicators and make informed, evidence-based decisions that directly impact maternal and child health outcomes. In this context, the *DHIS-2 Data Analysis and Visualization for Primary Healthcare Settings* training plays a vital role in strengthening the analytical capacity of our PHC workforce.

By equipping participants with practical skills in data interpretation and visualization, this training supports the broader goal of building a more responsive, accountable and equitable primary healthcare system. I encourage all participants to make full use of this learning opportunity and apply these competencies to enhance routine data use and improve health services for communities across Khyber Pakhtunkhwa.

Dr. Shaheen Afridi
Director General Health Services, Khyber Pakhtunkhwa, Pakistan

Message from Project Director, KP-HCIP

It gives me great pleasure to introduce this training module, developed under the Khyber Pakhtunkhwa Human Capital Investment Project (KP-HCIP), which continues to play a pivotal role in strengthening the skills and capacities of our Primary Health Care (PHC) workforce. Through its sustained focus on competency-based training and system strengthening, HCIP is enabling healthcare providers to deliver more effective, reliable and accountable services—particularly in areas critical to reducing maternal, neonatal, infant and child mortality across the province.

High-quality and timely data reporting is essential for planning, resource allocation and informed decision-making. Strengthening the capacity of PHC staff in DHIS-2 data analysis and visualization ensures that frontline managers and healthcare workers can accurately monitor service delivery, track key maternal and child health indicators and respond proactively to emerging gaps. Effective use of data ultimately leads to improved service quality, better health outcomes and stronger community trust in the public health system.

This module reflects the dedicated efforts of the Technical Advisor, Dr. Imran Marwat, whose expertise and guidance have been instrumental in shaping its content. We also acknowledge the valuable contributions of the DHIS Cell team, particularly the Deputy Director, Dr. Hakim Khan, whose technical support ensured the development of a practical, relevant and user-friendly training resource for our PHC providers.

I encourage all participants to actively engage in this learning process, share their experiences and apply these skills within their respective health facilities. The knowledge you gain from this training is not only essential for reporting—it is a powerful tool for improving health service delivery and advancing the wellbeing of mothers, newborns and children across Khyber Pakhtunkhwa.

Dr. Muhammad Bilal
Project Director, KP-HCIP, Pakista

Glossary:

Accountability

The responsibility of health workers, facility managers and district teams to ensure accurate reporting, explain data-related decisions and accept responsibility for the quality and use of DHIS-2 data.

Community Participation

Engagement of communities in reporting, validating and responding to health information (e.g., identifying barriers to immunization or maternal care) to improve relevance and impact of PHC services.

Data Collection

The structured process of gathering routine health information (e.g., OPD data, maternal and child health indicators, immunization records) from PHC facilities for entry into DHIS-2.

Data Quality

The degree to which health data is accurate, complete, timely, consistent and valid—essential for reliable decision-making in KP's PHC system.

Data Validation

Processes used to check for errors, inconsistencies and missing values before finalizing DHIS-2 reports at facility or district levels.

Data Visualization

The use of charts, maps, dashboards and trend lines in DHIS-2 to present health information in a clear and actionable form for managers and decision-makers.

Decision-Making

Using DHIS-2 data and dashboards to select appropriate actions for improving service delivery, planning, resource allocation and addressing performance gaps.

DHIS-2 (District Health Information Software 2)

A digital platform used by the Government of Khyber Pakhtunkhwa to collect, manage, analyze and visualize routine health data from all PHC facilities.

Evaluation

Periodic assessment of whether health programs—particularly maternal, newborn and child health services—are achieving intended outcomes based on data trends captured in DHIS-2.

Governance (in Health Information Systems)

How data-related decisions are made, implemented and monitored within KP's health system, emphasizing transparency, accountability, quality assurance and routine use of DHIS-2.

Indicators

Specific, measurable variables (e.g., ANC coverage, PNC visits, immunization dropout rates, malnutrition cases) used to track PHC performance in DHIS-2.

Monitoring

Continuous tracking of health service delivery and key indicators through routine DHIS-2 dashboards to ensure activities are on track.

Primary Health Care (PHC)

First-level essential services delivered at BHUs, RHCs and other facilities, including maternal child health, immunization, nutrition and basic curative care—reported monthly in DHIS-2.

Quality of Care

Services that are safe, effective, timely and patient-centered. DHIS-2 helps monitor quality by tracking service availability, coverage and gaps.

Routine Health Information System (RHIS)

The system through which health data is regularly collected, aggregated and reported—DHIS-2 is the main RHIS platform in Khyber Pakhtunkhwa.

Sustainable Development Goals (SDGs)

Global goals that include reducing maternal and child mortality, ensuring healthy lives and strengthening health systems—targets monitored through DHIS-2 indicators.

Teamwork

Collaborative efforts of facility staff, statistical officers and district DHIS coordinators to ensure accurate data entry, timely reporting and effective data use.

Timeliness

Submitting DHIS-2 monthly reports within the specified reporting deadline—critical for district and provincial decision-making.

Transparency

Ensuring openness in data reporting, verification and sharing at facility, district and provincial levels.

Universal Health Coverage (UHC)

Ensuring all people in KP receive quality essential health services without financial hardship—measured partly through routine DHIS-2 indicators.

WHO Health Data Quality Framework

A set of principles and tools recommended by WHO to guide countries like Pakistan in improving the accuracy, completeness and reliability of routine health information.

Zero Reporting

The practice of reporting "zero" when a health event or case does not occur, ensuring completeness in DHIS-2 records.

LIST OF ABBREVIATIONS

ACRONYM	FULL FORM
ANC	Antenatal Care
API	Application Programming Interface
BHU	Basic Health Unit
CDR	Crude Death Rate
CHW	Community Health Worker
CSO	Civil Society Organization
CSV	Comma-Separated Values (Data Format)
DCO	District Coordination Officer
DHIS-2	District Health Information System – Version 2
DHMT	District Health Management Team
DGHS	Directorate General Health Services
DOH	Department of Health
DQ	Data Quality
DQA	Data Quality Assessment
DQI	Data Quality Improvement
EPI	Expanded Program on Immunization
GIS	Geographic Information System
GOKP	Government of Khyber Pakhtunkhwa
HCIP	Human Capital Investment Project
HFR	Health Facility Registry
HIS	Health Information System
HMIS	Health Management Information System
HRH	Human Resources for Health
ICT	Information and Communication Technology
IMR	Infant Mortality Rate
IP	Indicator Protocol
IT	Information Technology
KPI / KPIS	Key Performance Indicator(s)

LHS	Lady Health Supervisor
LHW	Lady Health Worker
LMIS	Logistics Management Information System
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MICS	Multiple Indicator Cluster Survey
MIS	Management Information System
MMR	Maternal Mortality Ratio
MNCH	Maternal, Newborn and Child Health
MONHSR&C	Ministry of National Health Services, Regulations & Coordination
NHIS	National Health Information System
OPD	Outpatient Department
PDSA	Plan–Do–Study–Act Cycle
PHC	Primary Health Care
PMU	Project Management Unit
PPP	Public–Private Partnership
QA	Quality Assurance
QI	Quality Improvement
RHC	Rural Health Centre
RHIS	Routine Health Information System
SDG / SDGS	Sustainable Development Goal(s)
SMR	Stillbirth Mortality Rate
SOP	Standard Operating Procedure
TB	Tuberculosis
TOR	Terms of Reference
UHC	Universal Health Coverage
UNICEF	United Nations Children's Fund
VHC	Village Health Committee
WDF	Weekly Disease Forecasting
WFP	World Food Program
WHO	World Health Organization

"SDG Indicator 17.18.1 emphasizes high-quality, timely and reliable data— DHIS-2 helps achieve this by enabling accurate and actionable health information."

Introduction to the Manual

Health managers, supervisors and frontline service providers must continuously update their skills to meet the growing demands of today's health systems. With rapid population growth, changing disease patterns, limited resources and increasing expectations for transparency and accountability, the role of data in strengthening Primary Health Care (PHC) has become more important than ever. Reliable and timely health information is now a central requirement for planning, monitoring and achieving national and global health priorities.

To respond effectively to these challenges, health workers need strong competencies in data collection, verification, analysis and visualization. Many professionals working in low- and middle-income countries have not received formal training in modern health information systems during their education. As a result, they often rely on incomplete or manual reporting systems that limit the quality of decision-making. With Pakistan's increasing reliance on routine health information platforms such as DHIS-2, it is essential that PHC staff acquire the skills needed to transform raw facility data into meaningful insights.

In many settings, young medical officers, LHVs, technicians and facility managers assume data-related responsibilities without proper preparation. They need practical, easy-to-apply skills to interpret trends, track priority indicators, improve data quality and support evidence-based decision-making. Strengthening these capacities is especially important in a decentralized PHC system, where districts and facilities must monitor performance independently and respond quickly to changes in maternal, newborn, child health and immunization indicators.

The World Health Organization (WHO) identifies Health Information Systems as one of the six core building blocks of a strong health system. Accurate, complete and timely information supports all other components—including service delivery, workforce planning, financing and governance. According to WHO, strong information systems ensure better accountability, clearer policies, efficient resource allocation and improved health outcomes.

Assessments across Pakistan, including in Khyber Pakhtunkhwa, have highlighted significant gaps in data reporting, data quality, analysis and use. Strengthening these capacities can greatly enhance service delivery, resource management, performance monitoring and the implementation of health sector reforms.

This manual has therefore been developed as a practical, user-friendly guide for PHC workers in Khyber Pakhtunkhwa. It aims to build essential skills in DHIS-2 data entry, validation, analysis, dashboard creation and visualization. Through hands-on exercises and real facility data examples, participants will learn how to improve data quality, interpret trends and use data for informed decision-making. Ultimately, this training will enable PHC workers to strengthen performance monitoring, enhance accountability and contribute to a more responsive, equitable and data-driven health system.

Target Audience

The *DHIS-2 Data Analysis and Visualization* module is designed for PHC professionals involved in routine data reporting, monitoring and facility management. These include Medical Officers, Lady Health Visitors (LHVs), Medical Technicians, Health Facility In-Charges, Supervisors, District Statistical Officers and Health Managers from the Department of Health.

These staff play a key role in improving reporting quality, ensuring data accuracy and promoting the use of DHIS-2 for planning and performance review. Medical Officers lead facility teams and oversee verification and submission of DHIS-2 reports. LHVs and technicians provide essential frontline services and feed maternal, newborn, child health, immunization and nutrition indicators into the system. Health Managers and Supervisors guide implementation, ensure timeliness and completeness of reports and support data-driven planning at facility and district levels.

Training Manual Contents

Each module of this manual includes sessions with clear objectives, required materials and step-by-step guidance for hands-on learning. Sessions include demonstrations, dashboard activities, indicator interpretation, data quality exercises and visual analytics. Participants will work with actual DHIS-2 interfaces—including data entry forms, pivot tables, charts and dashboards—to reinforce practical understanding. The training is supported by handouts, PowerPoint presentations, exercises and case studies relevant to PHC settings.

Scope and Implementation Guidelines

This 1-day training program aims to strengthen the capacity of PHC doctors and paramedics in routine data quality assurance, DHIS-2 analysis and visualization techniques. Its scope includes improving reporting timeliness and completeness, enhancing the interpretation of maternal and child health indicators and promoting data-driven planning and decision-making at the PHC level.

The training uses interactive and practical methods—such as live dashboard exercises, group data audits, indicator analysis and case studies—to ensure applied learning. Participants are expected to apply these skills in their routine work by ensuring accurate reporting, validating monthly data, interpreting trends and using dashboards for performance improvement. For sustainability, continuous follow-up, supportive supervision and integration of these practices into routine PHC operations are strongly recommended.

Support and Alignment with National Health Plans

This training aligns closely with the National Health Vision (2016–2025), which emphasizes the strengthening of health information systems at all levels. It supports Pakistan's commitment to Universal Health Coverage (UHC) and contributes directly to the Sustainable Development Goals (SDGs)—especially SDG 3 (health and well-being) and SDG 17.18 (high-quality, timely and reliable data).

By enhancing the skills of PHC teams in data analysis and visualization, this module strengthens routine monitoring, improves accountability and supports the Essential Package of Health Services (EPHS). Better data use leads to improved maternal, newborn and child health outcomes, stronger community trust and more effective system-wide performance.

MODULE ONE

UNDERSTANDING HEALTH DATA – TYPES, SOURCES and IMPORTANCE

<h1 style="text-align:center">MODULE ONE</h1>

Understanding Health Data – Types, Sources and Importance

This module introduces participants to the foundational concepts of data needed for effective use of DHIS-2 in Primary Healthcare settings. Understanding what data is, how it is collected, organized and transformed is essential for making informed decisions that improve service delivery—especially for maternal, newborn and child health indicators. Through this module, participants will learn how to classify different types of data, summarize information using tables and charts, identify trends and patterns and ensure accuracy through basic data quality checks. These core skills form the basis of meaningful data analysis and visualization, enabling healthcare providers and managers to translate routine health information into actionable insights for improved planning and performance.

Learning Objectives:

By the end of this section, participants will be able to:

1. Understand what data is and why it is important in healthcare.
2. Identify different types of data used in DHIS2.
3. Explain the difference between raw, treated and cooked data.
4. Organize and categorize data to make it easy to study and analyze.
5. Summarize and present data using text, tables and charts.
6. Interpret trends and patterns to support health decisions.
7. Check data for errors and maintain quality.

What is Data?

Data is any piece of information about a characteristic that can be:

1. **Measured** – Quantitative data that can be recorded numerically.

   Example: Height, Weight, Blood Pressure.

2. **Judged** – Qualitative assessment based on estimation or categorization.

   Example: Age approximately 50 years, level of education.

3. **Assessed** – Evaluation based on health or clinical criteria.

   Example: Nutritional status (Malnourished, Well-nourished), Disease severity.

4. **Observed** – Information obtained through direct observation of a person or environment.

   Example: Yellowing of skin (jaundice), personal hygiene, lifestyle habits

Data and Information

Data
Data can be defined as a representation of facts, concepts, or instructions in a formalized manner which should be suitable for communication, interpretation, or processing by human or electronic machines.

VS

Information
Information is organized or classified data, which has some meaningful values for the receiver. Information is the processed data on which decisions and actions are based.

Raw, Treated and Cooked Data

1. Raw Data

Definition: Data that is collected directly from the source, without any processing, cleaning, or statistical treatment.

Characteristics:

May contain unnecessary, irrelevant, or duplicate information.

Often disorganized and difficult to interpret.

Example: A health worker records all patient visits without checking for duplicates or errors in age, weight, or diagnosis.

2. Treated Data

Definition: Data that has been cleaned, organized and structured to remove unwanted, irrelevant, or inaccurate information.

Characteristics:

Accurate, meaningful and ready for analysis.

Statistical or logical checks are applied to ensure validity and usability.

Example: Patient visit records are reviewed to remove duplicates, correct errors and summarize counts for reporting.

Key Point: Treated data is the form of data used for decision-making, reporting and planning in health programs.

3. Cooked Data

Definition: Data that has been manipulated, falsified, or altered intentionally to produce desired results.

Characteristics:

Misleading and unreliable.

Can distort health program monitoring and decision-making.

Example: Inflating immunization numbers to show higher coverage than reality.

Summary Table

Type of Data	Definition	Key Characteristics	Example
Raw Data	Data collected directly without cleaning	Unorganized, may have errors, irrelevant information	Patient registers before verification
Treated Data	Cleaned and organized data ready for use	Accurate, meaningful, validated	Verified monthly immunization report
Cooked Data	Manipulated or falsified data	Misleading, unreliable	Inflated disease case counts

Key Takeaway:

For reliable health program management in DHIS2, always aim to work with treated data and avoid using raw or cooked data for reporting or decision-making

Why Organize Data

Organizing data is a critical step in health information management. It transforms raw health records into usable, meaningful information that supports decision-making, planning and monitoring. Proper organization ensures accuracy, clarity and efficiency in handling data.

|	Concise Description
Managing Large Volumes of Records	Health facilities collect thousands of records daily; organizing them ensures smooth storage, retrieval and management of patient registers, immunization cards and OPD logs.
Identifying Trends and Patterns	Structured data helps detect trends, correlations and unusual patterns such as rising disease cases or seasonal changes in service uptake.
Understanding and Familiarizing with Data	Organized data helps staff understand variables, categories and indicators, reducing misinterpretation and improving insight into service delivery and program performance.
Improving Data Accuracy and Detecting Errors	Organized data makes it easier to spot inconsistencies, missing values and duplicates, ensuring reliability in reporting and decision-making (e.g., correct age or dosage entries).
Facilitating Efficient Analysis	Clean data allows quick summarization, indicator calculation and report generation, enabling meaningful conclusions from large datasets.
Enhancing Communication and Reporting	Organized data supports clear communication through tables, charts and dashboards, helping supervisors and stakeholders understand performance and trends.
Supporting Evidence-Based Decision-Making	Well-organized data forms the basis of informed decisions, resource allocation and effective interventions, such as targeting low-coverage areas.
Saving Time and Improving Efficiency	Structured data reduces duplication, speeds up reporting and enables quick retrieval and interpretation, improving daily workflow efficiency.
Promoting Transparency and Accountability	Organized data strengthens verification and compliance, improving trust and accountability in reporting and program management.

How to Organize and Summarize Data

Organizing data transforms raw health information into accurate, meaningful and actionable insights. Proper organization is essential for decision-making, reporting and monitoring health programs at the PHC level. The process involves several systematic steps, beginning with understanding the type of data and ending with effective communication and storage.

1. Identify the Type of Data

The first step is to understand what type of data you are working with. This includes recognizing whether the data is quantitative, such as numerical counts or measurements, or qualitative, such as observations or assessments. It also involves distinguishing raw data from treated or cooked data to ensure that the information used for reporting is clean and reliable. Knowing the nature of the data helps determine how it should be processed, analyzed and presented.
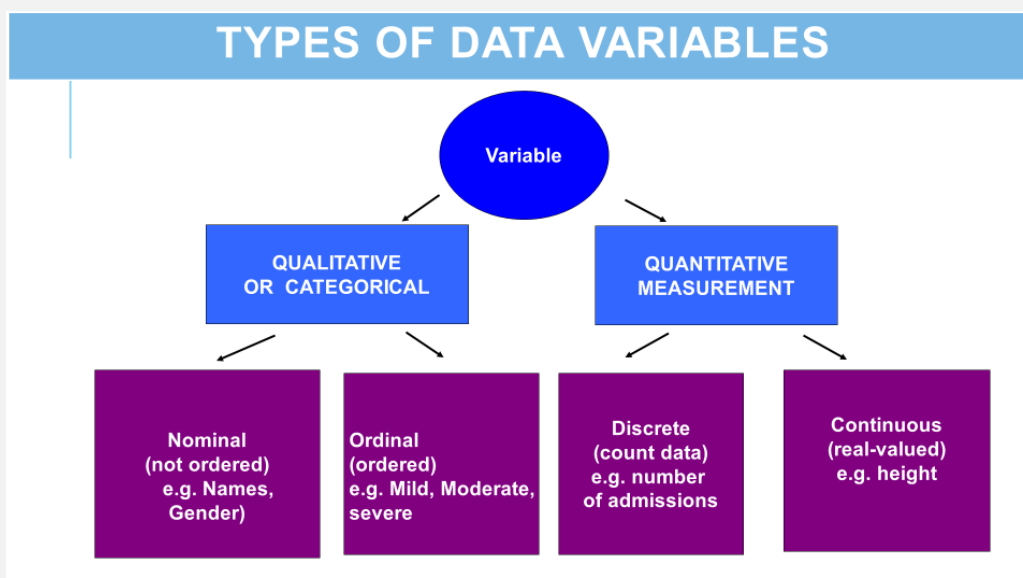
2. Collect and Record Data Systematically

Data should be recorded using standardized forms, registers, or DHIS2 templates to ensure accuracy and consistency. Each field must be completed correctly, including essential elements like age, sex, diagnosis and date of visit. Systematic collection reduces errors and ensures that data is ready for later processing without extensive correction work.

3. Clean and Validate Data

Cleaning involves reviewing data to remove duplicates, correct obvious mistakes and eliminate irrelevant entries. Validation requires cross-checking information with source documents or previous reports and using DHIS2 validation rules to detect inconsistencies. Once data is cleaned and verified, it becomes treated data, which is ready for analysis and reporting.
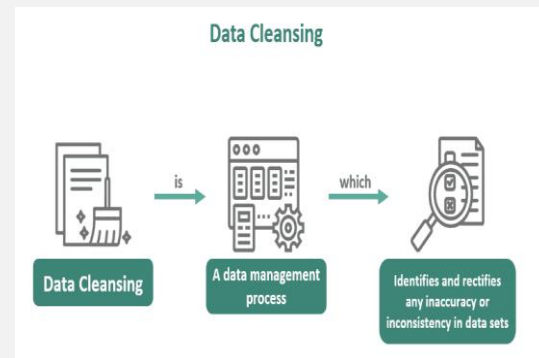
4. Categorize and Organize Data

Organizing data into logical categories makes it easier to understand and analyze. This may include grouping by age, sex, location, disease type, or program area. Categorization reveals patterns and trends that would be difficult to recognize in raw datasets and allows staff to focus on specific areas of interest.
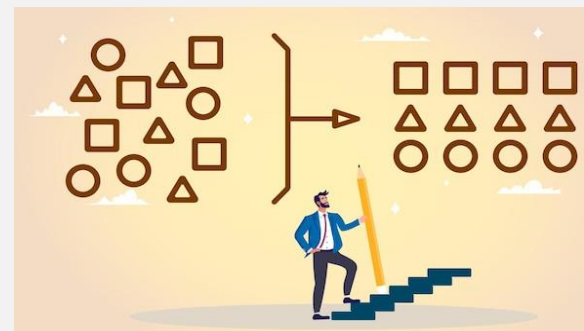

5. Summarize Data

Summarizing involves converting detailed records into meaningful indicators, totals, or proportions. This may include calculating aggregate counts such as total OPD visits or determining percentages such as the proportion of fully immunized children. Summaries provide a clear snapshot of performance and simplify the interpretation of large volumes of information.

6. Visualize Data

Once summarized, data can be presented through tables, charts and graphs to make interpretation easier . Tables provide detailed numeric summaries, while bar and line graphs show trends over time. Pie charts are useful for displaying distributions or proportions. DHIS2 dashboards further enhance visualization by showing real-time performance indicators that support rapid decision-making.
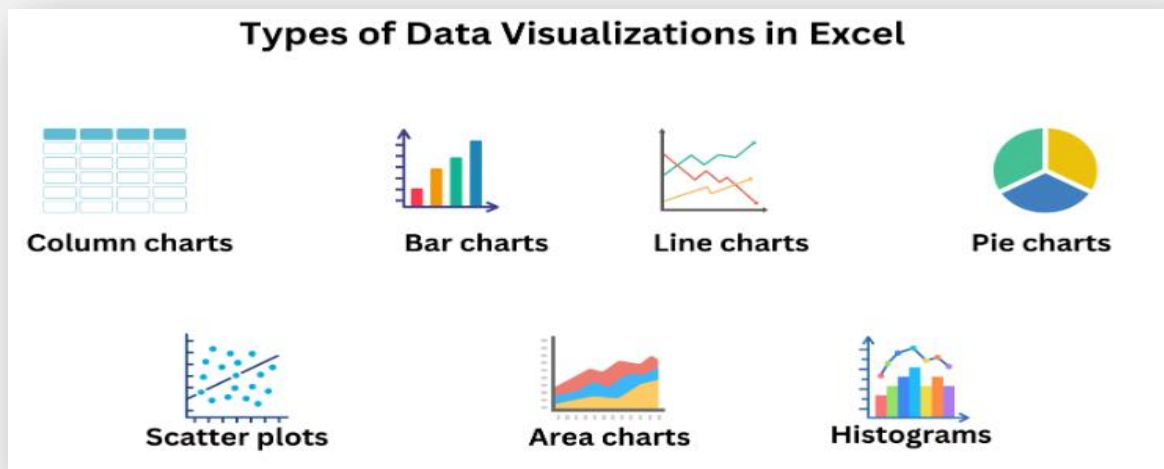
7. Determine What to Communicate

Not all data needs to be shared with every audience. It is important to select the most relevant insights based on the needs of supervisors, program managers, or community stakeholders. Communicating only the essential patterns and trends ensures clarity and prevents confusion caused by unnecessary details.

8. Store, Document and Review

Organized data must be stored securely and systematically so it can be used for future analysis or reporting. Documenting metadata—such as data sources, definitions and categorization rules—ensures that information remains understandable over time. Regular reviews help maintain accuracy and improve the data management process.

9. Key Benefits of Organizing and Summarizing Data

Organizing and summarizing data enables facilities to manage large volumes of information efficiently, identify trends and relationships and detect errors early. It makes data understandable through clear visualization and supports evidence-based decision-making, reporting and resource allocation. A well-organized dataset strengthens the overall quality of health services.

Three Ways of Presenting Data

1. Textual Presentation

Textual presentation involves describing data in words. It is most useful when providing narrative explanations, summaries, or key observations that need to be communicated clearly. This method helps highlight important findings without showing detailed numbers or visuals. For example, a textual statement might read: *"During the month of October, 120 children under 5 were fully immunized in Health Facility A."* Such descriptions are simple, direct and suitable for reports and brief summaries.

Textual Presentation of Data

Example. You are asked to present the performance of your section in the Statistics test. The following are the test scores of your class:

34	42	20	50	17	9	34	43
50	18	35	43	50	23	23	35
37	38	38	39	39	38	38	39
24	29	25	26	28	27	44	44
49	48	46	45	45	46	45	46

2. Tabular Presentation

Tabular presentation organizes data into rows and columns to make comparison easy and patterns more visible. Tables allow large amounts of information to be arranged clearly, helping health workers quickly observe changes, identify gaps and analyze service delivery. For instance, a table showing OPD visits by age group and sex allows immediate comparison across categories and helps in planning and decision-making.

3. Graphical Presentation

Graphical presentation displays data visually using charts, graphs, or diagrams, making trends and relationships easy to understand at a glance. This method is especially helpful for showing changes over time, comparisons among groups, or proportions within a population. Common graphical types include bar graphs for comparing quantities, line graphs for tracking trends over time, pie charts for showing proportions or percentages and maps for illustrating geographic distribution. These visuals are often used in DHIS2 dashboards to support quick interpretation

Types of Graphs
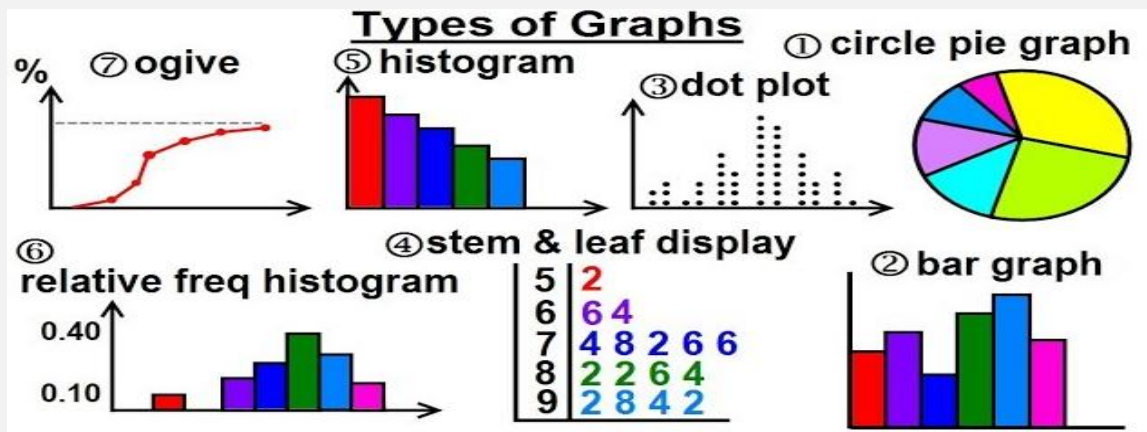
Summary

Understanding health data is the foundation of effective DHIS2 use and primary healthcare reporting. Data can be measured, judged, assessed, or observed and it exists in different forms—raw, treated and cooked—each affecting the quality of information generated. Treated data is essential for accurate reporting and decision-making. Organizing data allows health workers to handle large record volumes, identify trends, improve accuracy, detect errors and enhance communication through tables, charts and dashboards. By systematically collecting, cleaning, validating, categorizing, summarizing and visualizing data, health facilities convert raw information into meaningful insights that guide planning, monitoring and evidence-based interventions. Data can be presented textually, in tables, or through graphs to simplify interpretation and highlight key findings. Ultimately, well-organized and well-presented data ensures transparency, accountability and stronger health service delivery at all levels
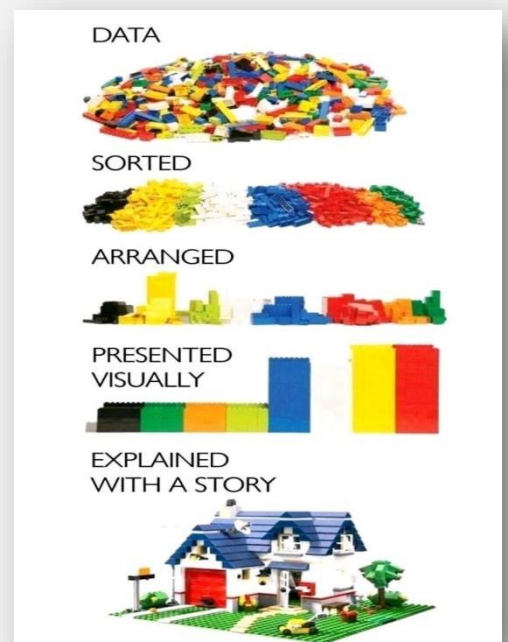
Key Takeaways

- **Data is important** – it tells us about health status and services.
- **Use treated data** – always clean, accurate and organized.
- **Organize data** – makes handling large records easier and reduces errors.
- **Summarize and visualize** – tables, charts and graphs make data understandable.
- **Support decisions** – well-organized data helps plan, monitor and improve health services.

Reflection Questions

1. What types of data do you encounter most often in your health facility and how are they recorded?
2. How can you tell the difference between raw, treated and cooked data in your daily work?
3. Why is it important to organize and summarize data before using it for reporting or decision-making?
4. Which method of data presentation (textual, tabular, graphical) do you find most useful for your work and why?
5. How can organized and visualized data help you identify trends or patterns in health services?
6. What steps can you take to ensure the data you collect and enter into DHIS2 is accurate and reliable.
7. How does well-organized data support evidence-based decision-making at your facility or district level?

MODULE TWO

INTRODUCTION TO DHIS-2

PHC as the cornerstone for achieving UHC and the SDGs
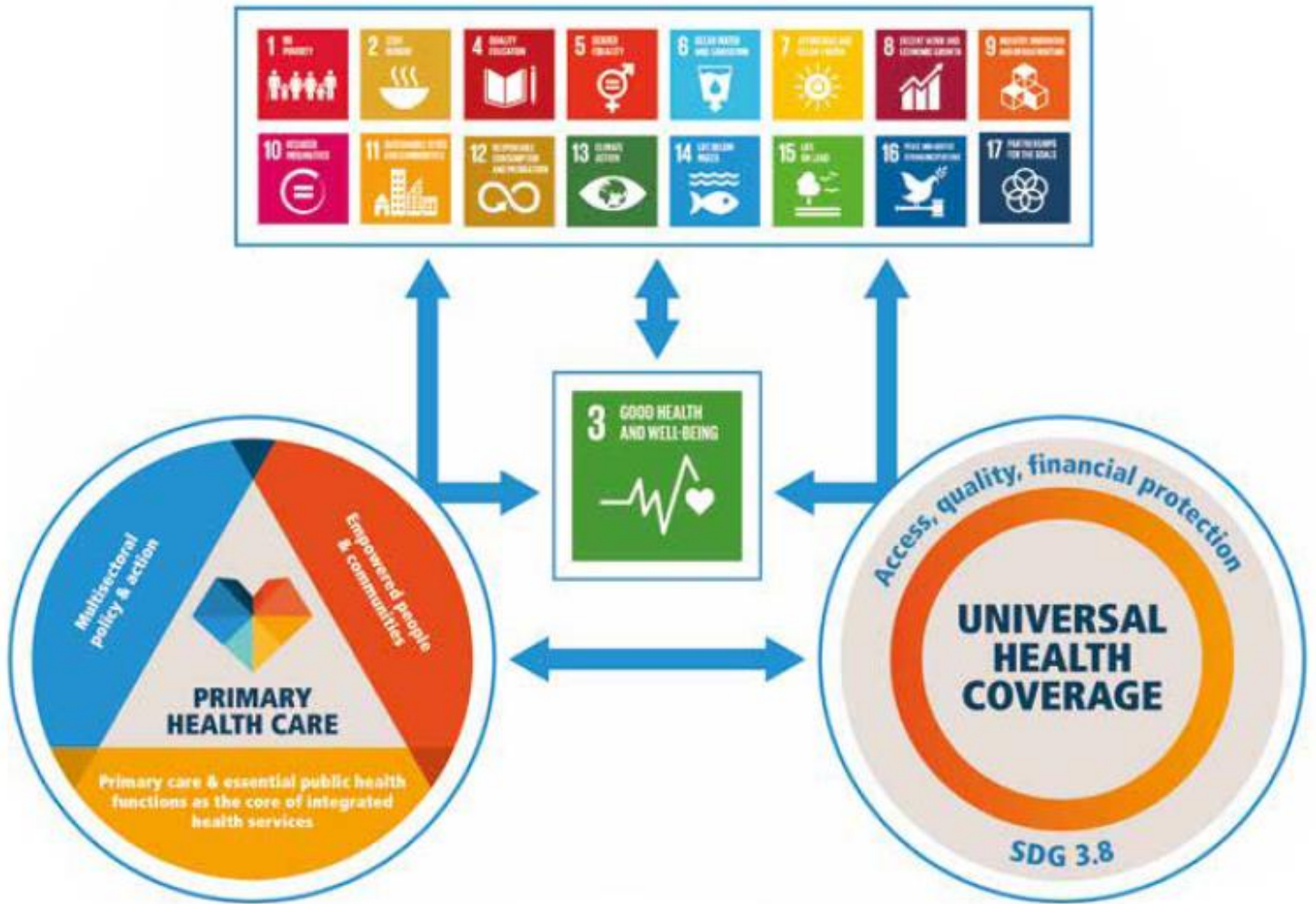
MODULE TWO: INTRODUCTION TO DHIS-2

1. Introduction

DHIS2 (District Health Information Software 2) is an open-source, web-based platform designed for collecting, managing, analyzing and visualizing health data. A strong Health Information System (HIS) is the foundation for effective planning, monitoring and decision-making in any health system. In Pakistan, especially within Primary Healthcare (PHC) facilities, the routine generation of quality data is essential for tracking service delivery, monitoring maternal and child health outcomes, evaluating program performance and allocating resources efficiently.

District Health Information Software 2 (DHIS-2) is the main platform used in Pakistan for collecting, validating, analyzing and visualizing health data. It provides a standardized, digital environment that supports timely reporting and evidence-based decisions at facility, district, provincial and national levels.

This session introduces primary healthcare workers to the background, evolution, purpose and key features of DHIS-2—helping them understand *why* it is used, *how* it functions and *what* roles they play in ensuring good-quality data for action.

2. DHIS-2 Background

2.1 Global Origin and Development

DHIS-2 was originally developed in South Africa in 1994 as part of the Health Information Systems Program (HISP). Its purpose was to strengthen routine district-level reporting after apartheid, when health information systems were fragmented and unreliable. Early versions were desktop-based and could only handle limited, aggregated datasets.

In the early 2000s, HISP and the University of Oslo redesigned the system into a more flexible, open-source, web-based platform—leading to the creation of DHIS-2. It was formally released between 2006–2008 and rapidly gained global acceptance due to its flexibility, low cost and ability to be customized without programming.

Today, DHIS-2 is used in more than 100 countries, including Kenya, Liberia, Tanzania, Uganda, Rwanda, Bangladesh and Pakistan. It is the world's largest digital health information platform used by Ministries of Health, UN agencies, donor programs and global health initiatives such as HIV, TB, Malaria, EPI, Nutrition and IDSR.

2.2 DHIS-2 in Pakistan: Adoption and Expansion

Pakistan initiated a Health Information Management System (HIMS) in 1992, which evolved into a DHIS-based reporting platform in 2005. Over time, provinces adapted DHIS2 based on their needs.

Khyber Pakhtunkhwa (KP) formally shifted to DHIS-2 as its unified digital reporting system in 2024, replacing the old DHIS desktop version. The rollout includes:

- All public PHC facilities (BHU, RHC, CD, MCH centers)
- District and tehsil monitoring units
- Program reporting systems (EPI, MNCH, Nutrition, TB, HIV, Malaria)
- Integration with IDSR and other surveillance mechanisms
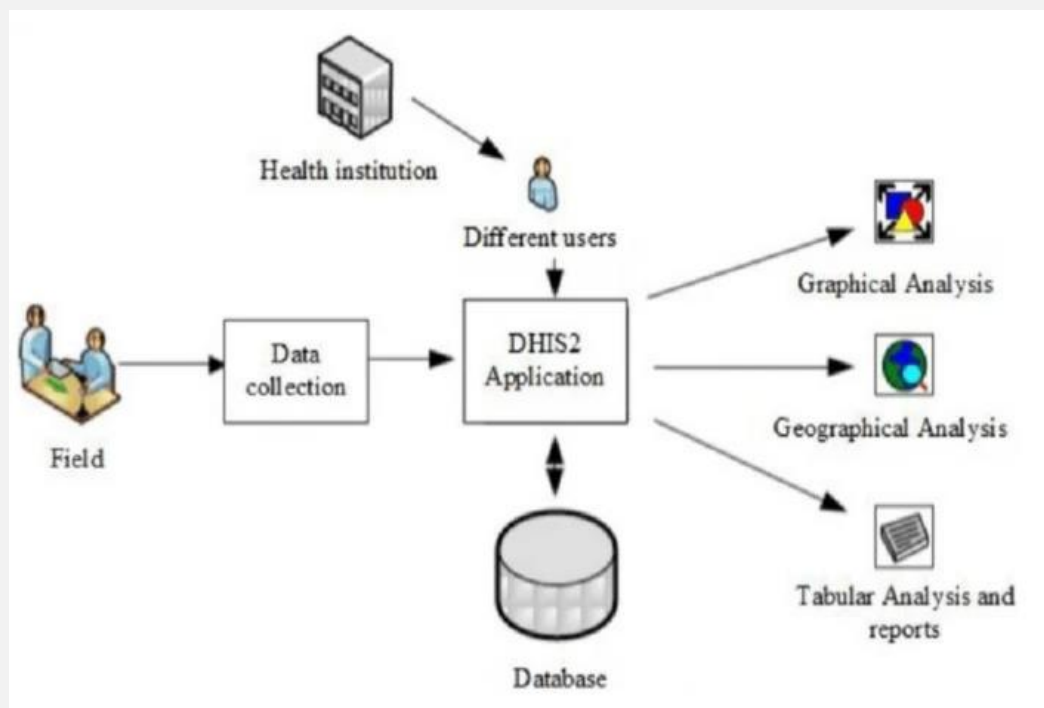
DHIS-2 now supports real-time reporting, automated validation rules, dashboards and dynamic analytics, making it a cornerstone of digital health governance in Pakistan.

3. Comparing Old DHIS and DHIS-2

Old DHIS Version	DHIS-2 (Current Version)
Desktop-based	Web-based, works on browsers
Limited analysis tools	Powerful analytics: Pivot tables, charts, maps
Manual data transfer	Real-time online data entry
No dashboards	Customizable dashboards
No automated validation	Built-in validation rules
Only aggregate data	Aggregate + individual tracker data
Difficult to scale	Scales to national level easily
No metadata management	Fully modular metadata configuration

Why DHIS-2 replaced the old system:

- Need for timely reporting
- Need for stronger data quality checks
- Need for visual dashboards to support decisions
- Need for real-time surveillance in emergencies/outbreaks
- Need for integration across vertical programs

4. Purpose of DHIS-2 in the Health System

DHIS-2 is more than a data-entry system. Its main purpose is to support the entire health information cycle, which includes:

1. Data Collection – through forms, registers and online interfaces
2. Data Processing – cleaning, validation, aggregation
3. Data Analysis – using pivot tables, charts, maps, dashboards
4. Interpretation – identifying trends, gaps and priorities
5. Action – planning, resource allocation, supervision, evaluation

By supporting this full cycle, DHIS-2 becomes a powerful tool for improving health outcomes—especially maternal, newborn and child health indicators, which rely on accurate and timely data.

5. Key Features of DHIS-2 for PHC Workers

5.1 Data Entry and Reporting

- Online and offline data entry
- Aggregate and individual (tracker) forms
- Customizable data entry screens (replica of handwritten forms)
- Automated reminders for missing or delayed reports

5.2 Built-in Validation and Data Quality Tools

- Immediate error notifications
- Range checks, consistency checks, duplication checks
- Real-time data quality monitoring dashboards

5.3 Data Analysis Tools

- Pivot Tables for summaries and comparisons
- Data Visualizer for charts and graphs
- GIS Maps for geographic analysis
- Event Reports and Line Lists for detailed case tracking

5.4 Dashboards

User-specific dashboards allow:

- Monitoring immunization coverage
- Tracking ANC/PNC trends
- Reviewing RMNCH indicators
- Observing disease surveillance alerts
- Comparing facility performance

5.5 Metadata Management

Users can configure:

- Datasets
- Data elements
- Indicators
- Facilities
- Organizational hierarchy

5.6 Interoperability

DHIS-2 can integrate with:

- LMIS
- EPI systems
- Nutrition databases
- IDSR surveillance
- Lab and hospital systems

5.7 Security and User Management

- Role-based access
- Password protection
- Audit trails

5.8 Communication Features

- Messaging
- Notification alerts
- Interpretation and discussions

6. Why DHIS-2 Matters for Primary Healthcare Workers

At the PHC level, health workers are the first source of routine data entered into DHIS-2. Their accuracy, completeness and timeliness determine the quality of information available at district and provincial levels.

DHIS-2 helps PHC staff:

- Identify trends in OPD, maternal and child health, immunization
- Detect stock-outs, outbreaks and service gaps early
- Compare performance across months or facilities
- Visualize results through dashboards
- Support supervision and planning
- Ensure accountability and transparency

Reliable data from PHC facilities strengthens health outcomes across Pakistan.

The Health Information Cycle and DHIS-2

The Information Cycle

- Essential data set
- Definitions
- Tools

- Information culture
- Feedback
- Actions

- Quality
- Reporting
- Target populations

Collect

Use

Process

Interpret

Analyse

- Comparison
- Trends
- Epidemiological thinking

Present

- Self-assessment
- Indicators
- Targets

- Tables
- Graphs
- Population
- Maps

The health information cycle
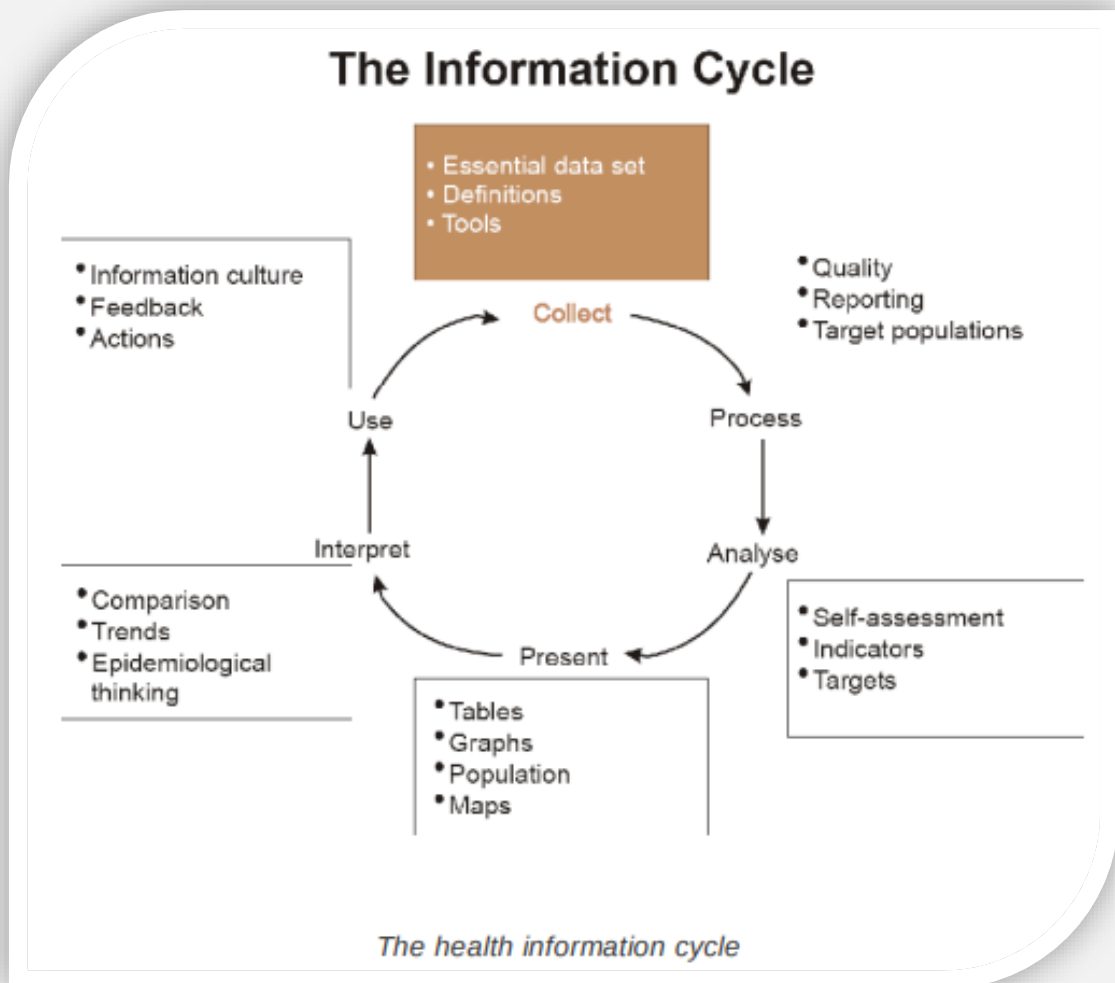
The information cycle includes:

1. Data Collection
2. Data Transmission
3. Data Processing
4. Data Analysis
5. Data Interpretation
6. Dissemination
7. Decision-making and Action

DHIS-2 supports each stage by providing digital tools that replace manual, fragmented processes. Understanding this cycle helps PHC workers see how their daily work contributes to the larger health system.

8. Summary of the Session

- DHIS-2 is a powerful digital platform for collecting, analyzing and visualizing health data.
- It evolved from a desktop tool (old DHIS) into a global-standard, web-based HIS.
- Pakistan has formally adopted DHIS-2 for nationwide PHC reporting, surveillance and monitoring.
- DHIS-2 enables real-time data entry, validation, dashboards, pivot tables and maps.
- It supports decision-making for improving maternal, newborn and child health outcomes.
- PHC workers play a critical role as frontline data providers whose accuracy ensures system-wide reliability.

9. Reflection Questions for Participants

1. What challenges do you face when reporting PHC data?
2. How can DHIS-2 help you reduce mistakes in monthly reporting?
3. Which DHIS-2 feature do you think will benefit your facility the most?
4. How does better data quality improve health outcomes in your community?
5. What steps can your facility take to ensure timely and accurate DHIS-2 reporting?

MODULE THREE

DATA ENTRY, ANALYSIS & VISUALIZATION

A. Data Entry in DHIS-2 – Forms, Validation and Submission

Session Objective:

By the end of this session, participants will be able to correctly enter data into DHIS-2, apply validation rules, complete datasets and understand offline/online data synchronization.

Session Overview

Accurate data entry is the foundation of reliable data analysis and visualization in DHIS-2. This session introduces participants to the Data Entry App, explains how to select the correct data entry form, enter values properly, validate data and submit completed datasets. Participants will also learn how DHIS-2 supports data entry in areas with limited internet connectivity, ensuring continuity of reporting from Primary Healthcare facilities.

1. Introduction to the Data Entry App

- ✓ Purpose of the Data Entry App in DHIS-2
- ✓ Relationship between paper-based forms and DHIS-2 datasets
- ✓ Selecting Data Entry from the Application Menu

2. Selecting the Correct Data Entry Form

✓ Choosing the appropriate **Data Set** from the dropdown list

✓ Selecting the correct **Reporting Period** (Daily, monthly and quarterly)
✓ Navigating across reporting periods using forward/backward tabs

✓ Display of the selected form on the screen
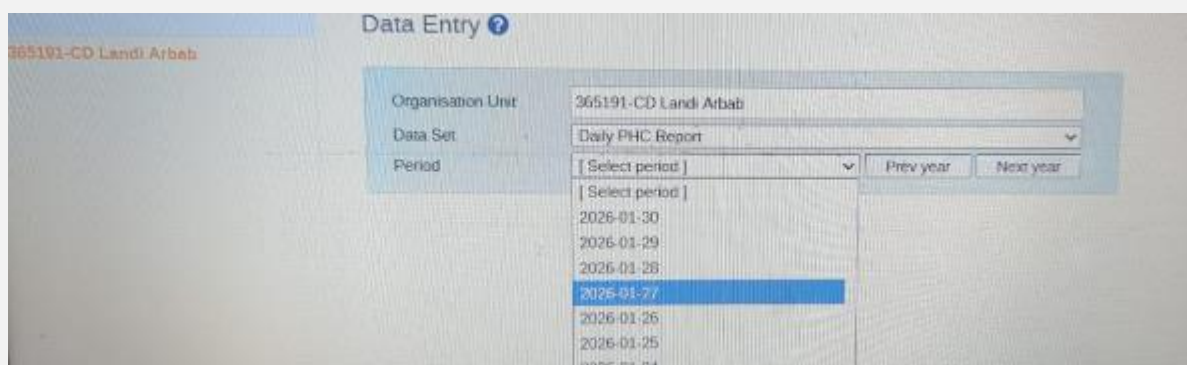
3. Entering Data Correctly

- Entering numeric values in input fields
- Using **Tab** and **Shift + Tab** for smooth navigation
- Understanding field color indicators:
  - **Green:** Value saved successfully
  - **Yellow:** Invalid value (not saved)
  - **Grey:** Disabled field

	Speciality	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total	Transgender	Follow UP	Referred IN	Referred OUT	Total
		Male								**Female**												
1	Acute (upper) respiratory infections		2	1					3		1	2	1	1			5					8
2	Suspected Pneumonia								0								0					0
3	No of Pneumonia patients received antibiotics								0								0					0
4	Cough more than two weeks (TB Suspects)								0								0					0

29

Speciality	Male								Female								Transgender	Follow UP	Referred IN	Referred OUT	Total
	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total					
New Cases																					
Respiratory Diseases																					
1 Acute (upper) respiratory infections			2	1				3	1	2	1	1				5					8
2 Suspected Pneumonia					7			7								0					7
3 No of Pneumonia patients received antibiotics								0								0					0
4 Cough more than two weeks (TB Suspects)								0								0					0
5 Chronic Obstructive Pulmonary Disease								0								0					0
6 Asthma								0								0					0
7 Allergies								0								0					0
8 No of patients whose oxygen saturation is measured								0								0					0
9 No's of Hypoxemic patients identified (SPO2<94%)								0								0					0

Activate Windows

4. Input Validation and Error Handling

After Completion of the form, click Run validation in the top right corner or below the data entry form. All validation rules involving data elements in the current data entry form (data set) are then run against the new data. If there are no violations of the validation rules, you will see a message saying the data entry screen successfully passed validation.

Validation

Validation Result ✔

The data entry screen successfully passed validation
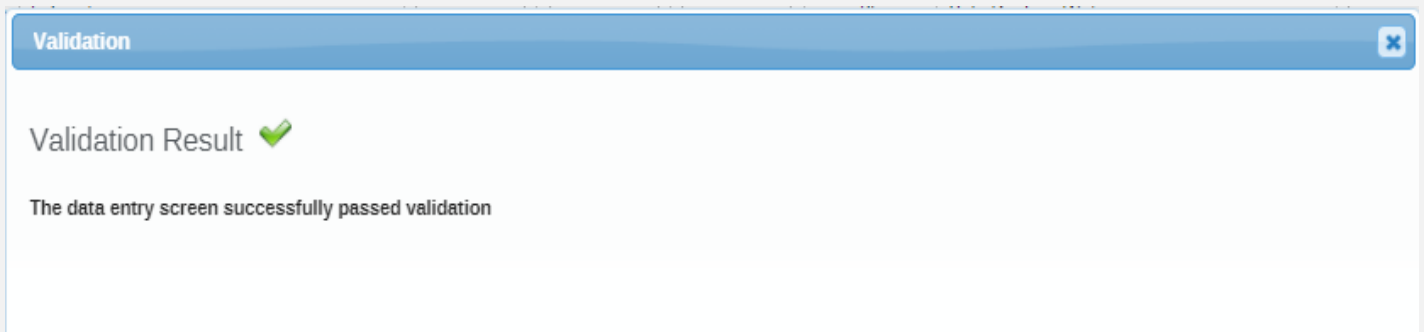
If there are validation violations, they will be presented in a list.

Validation

Validation Result ⚠

The data entry screen has the following validation errors, please correct

Validation rule	Left side	Operator	Right side
Slept under LLIN at measles (fixed < 1y) cannot be higher than measles doses given (fixed < 1y)	7.0	<=	4.0

    i.   Correct Validation errors, if any.

   ii.   Click 'Complete.' The system uses this information when generating completeness reports for

district, county, province or the national level.

5. Using Data History

- Accessing data history by double-clicking a field
- Viewing the last 12 reported values in bar-chart format
- Understanding minimum and maximum value ranges
- Using data history to detect unusual trends or errors

The Data Entry app works even if you don't have a stable Internet connection during data entry. When you don't have an internet connection, the data you enter is saved to your local computer. When the Internet connection is back, the app will push the data to the server. The total bandwidth usage is reduced since data entry forms no longer are retrieved from the server for each rendering. To use this functionality, you must login to the server while you've an Internet connection.

When you're connected to the Internet, the app displays this message at the top of the data entry form:
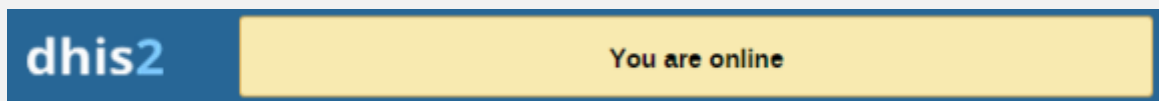
If your Internet connection breaks during data entry, the app detects it and displays this message:
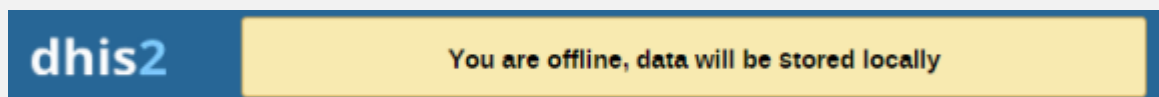
Now your data will be stored locally. You can continue to enter data as normal. Once you have entered all necessary data and the app detects that the Internet connection is back, you'll see this message:

Click **Upload** to synchronize data with the server. When the data has successfully synchronized with the server, you'll see this confirmation message:
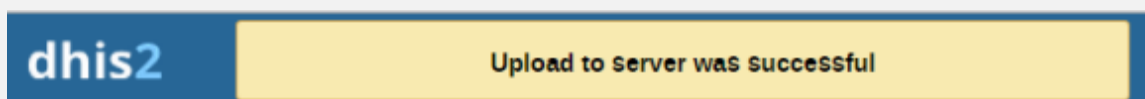
6. Validating and Submitting Data

- Running validation rules after completing the form
- Reviewing validation violations, if any
- Correcting errors before submission
- Clicking Complete to finalize the dataset
- Importance of dataset completion for reporting completeness at district, provincial and national levels

7. Offline and Online Data Entry

- Functionality of DHIS-2 during unstable or unavailable internet connection
- Local data storage during offline mode
- Automatic detection of restored internet connectivity
- Uploading locally saved data to the server
- Confirmation of successful synchronization

Key Takeaways

- Correct data entry ensures accurate analysis and visualization.
- Validation rules help detect and correct errors early.
- Completing datasets is essential for reporting completeness.
- DHIS-2 supports offline data entry, ensuring uninterrupted reporting from PHC facilities.

Session 3.2: Using Dashboards in DHIS-2 for Data Analysis and Monitoring

Session Introduction

Dashboards in DHIS-2 provide a visual summary of key health information, allowing users to quickly understand performance, trends and gaps in service delivery. Instead of reviewing multiple reports or data tables, dashboards present important indicators, charts, maps and summaries in one place. For primary healthcare workers and managers, dashboards are powerful tools for monitoring routine services such as maternal and child health, OPD attendance and program performance. This session introduces participants to the concept of dashboards in DHIS-2, their components and how to use available dashboards effectively for analysis and decision-making.

Session Objectives

By the end of this session, participants will be able to:

- Understand what a dashboard is and its purpose in DHIS-2
- Identify different components of a DHIS-2 dashboard
- Navigate available dashboards and search for relevant ones
- Interpret indicator-based, MCH and OPD dashboards
- Use dashboards for routine monitoring and performance review

Session Content

1. What is a Dashboard in DHIS-2?

A dashboard is a graphical user interface that provides at-a-glance views of key performance indicators (KPIs) related to health services. Dashboards allow users to access multiple analytical objects from a single screen, including charts, maps, tables and reports. In DHIS-2, dashboards are user-specific but can also be shared with user groups, enabling consistent monitoring across facilities and districts.

Dashboards help transform large volumes of data into clear visual information that supports faster interpretation and evidence-based decision-making.

2. Available Dashboards in DHIS-2

Each dashboard in DHIS-2 has:

- A title that reflects its purpose
- A description explaining what it contains
- Multiple dashboard items, which may include:
    - Charts and graphs
    - GIS maps
    - Reports and tables
    - Text items and key messages
    - Resources and links

At the top of the screen is the dashboard control bar, which displays all dashboards available to the user. A search field allows users to quickly locate a specific dashboard by name.
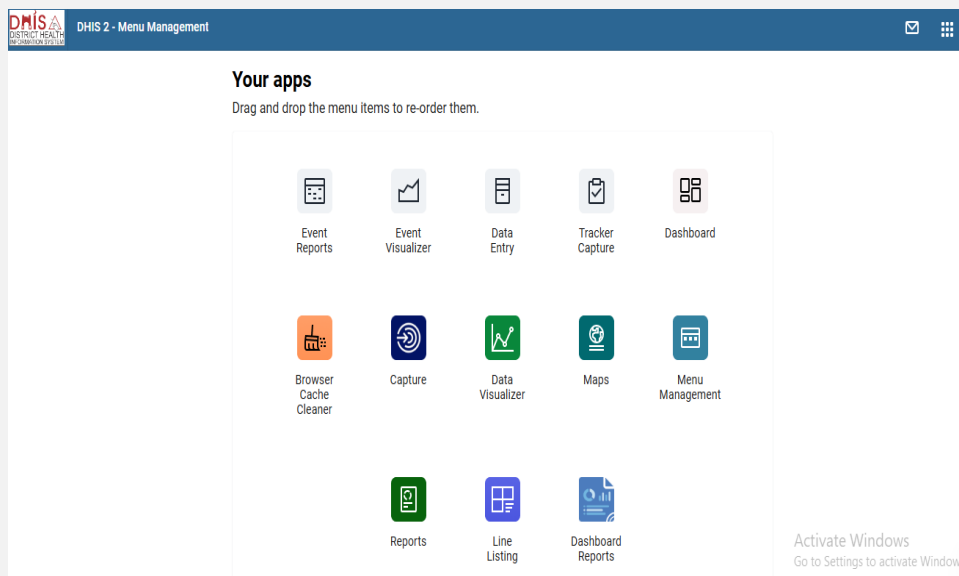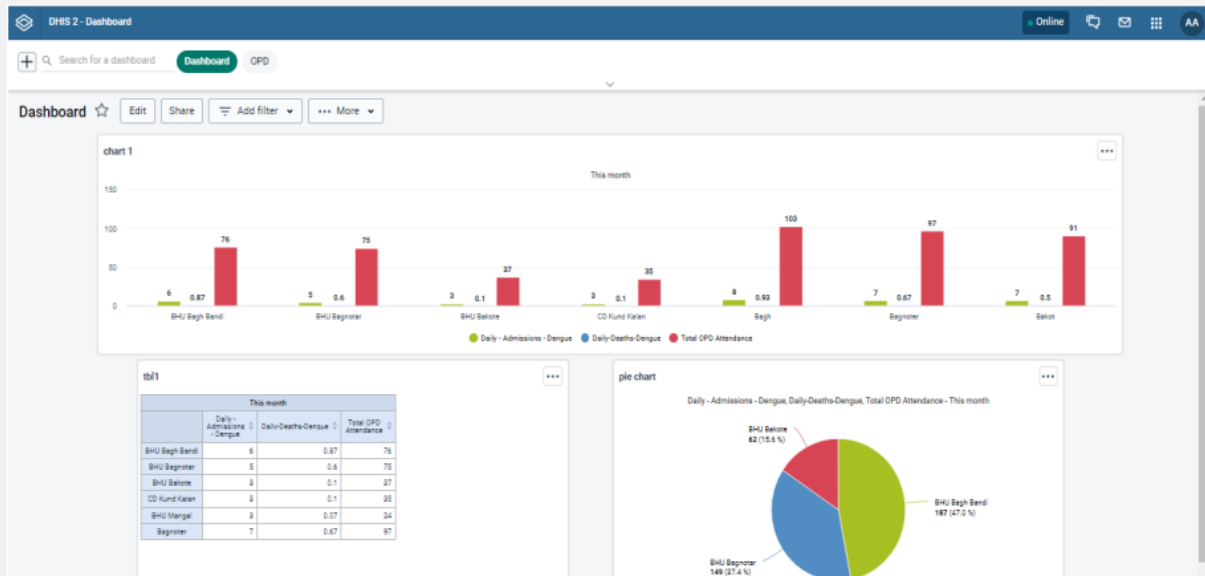
3. Indicator-Based Dashboards

Indicator-based dashboards display information calculated from DHIS-2 indicators. These dashboards present performance measures such as coverage rates, service utilization and trends over time. Examples include:

- Immunization coverage indicators
- ANC and PNC coverage rates
- Disease incidence or service delivery indicators

Percentage Utilization of OPD by Age and Gender Wise (Male) (SHC)

Last 12 months

	Hyderabad 21	Karachi 22	Larkana 23	Mirpurkhas 25	Shaheed Benazirabad 26	Sukkur 24
<1 year	55.5	51.1	52.4	53.6	51.4	48.1
1-4 year	47.3		44.6	34.4		52
5-14 year						
50+ year	46.4	37.6		54.3	42.2	48
15-49 year	0.02	0.29	0.44	0.14	0.09	0.08

- Percentage Utilization of OPD by Age and Gender Wise (Male in <1 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 1-4 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 5-14 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 15-49 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 50+ year (SHC)

Percentage Utilization of OPD by Age and Gender Wise (Female)(SHC)

Last 12 months

	Hyderabad 21	Karachi 22	Larkana 23	Mirpurkhas 25	Shaheed Benazirabad 26	Sukkur 24
<1 year	44.5	52.5	47.6	46.4	49.9	51.9
1-4 year	51.3			34.4		48
5-14 year	53.6	62.4	55.4 55.8	47.4 45.7	57.8	52
15-49 year	0.02	0.45	0.83	0.18	0.12	0.11

- Percentage Utilization of OPD by Age and Gender Wise (Female in <1 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 1-4 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 5-14 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 15-49 year (SHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 50+ year (SHC)

Percentage Utilization of OPD by Age and Gender Wise (Male)(PHC)

Last 12 months

	Hyderabad 21	Karachi 22	Larkana 23	Mirpurkhas 25	Shaheed Benazirabad 26	Sukkur 24
	53.7					
	47.3					

- Percentage Utilization of OPD by Age and Gender Wise (Male in <1 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 1-4 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 5-14 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 15-49 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Male in 50+ year (PHC)

Percentage Utilization of OPD by Age and Gender Wise (Female)(PHC)

Last 12 months

	Hyderabad 21	Karachi 22	Larkana 23	Mirpurkhas 25	Shaheed Benazirabad 26	Sukkur 24
	50					
	53.6					

- Percentage Utilization of OPD by Age and Gender Wise (Female in <1 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 1-4 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 5-14 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 15-49 year (PHC)
- Percentage Utilization of OPD by Age and Gender Wise (Female in 50+ year (PHC)

These dashboards help users monitor progress toward targets, compare performance across periods and identify areas needing improvement.

4. Maternal and Child Health (MCH) Dashboards

MCH dashboards focus on antenatal, postnatal and maternal health services. They provide visual summaries of:

- ANC visits
- PNC follow-ups
- Maternal service utilization
- Key maternal health indicators
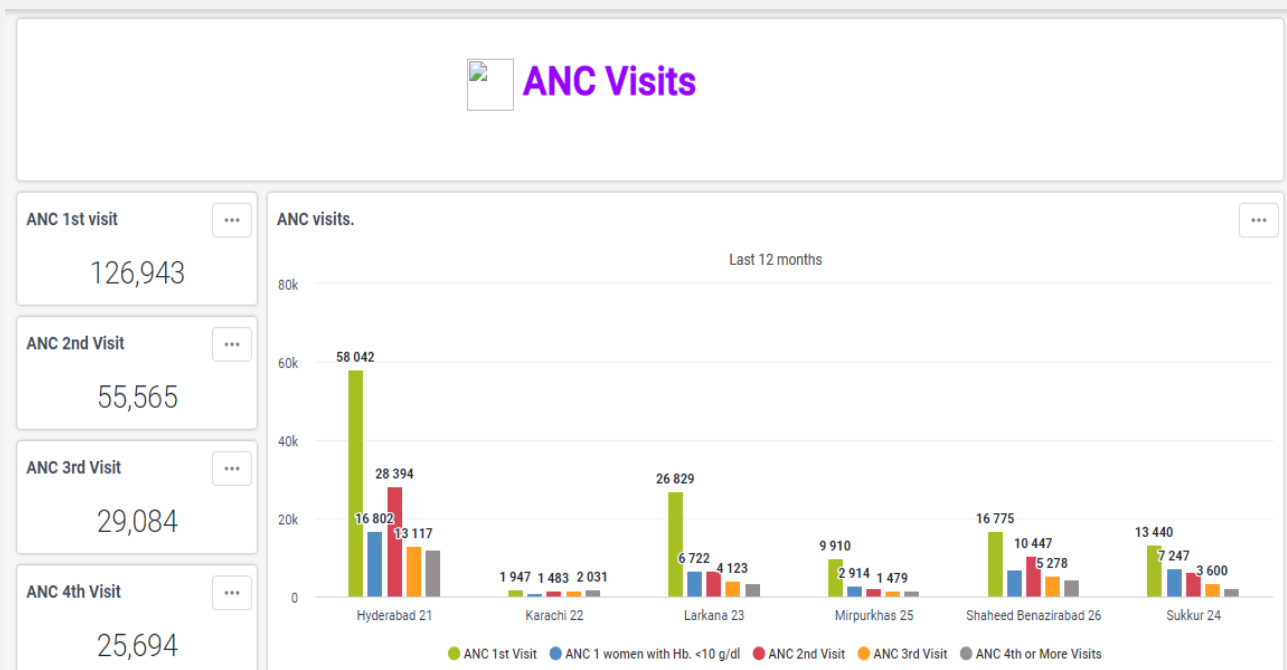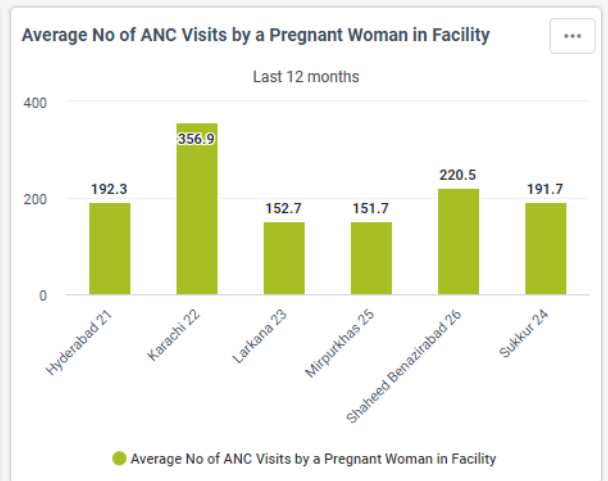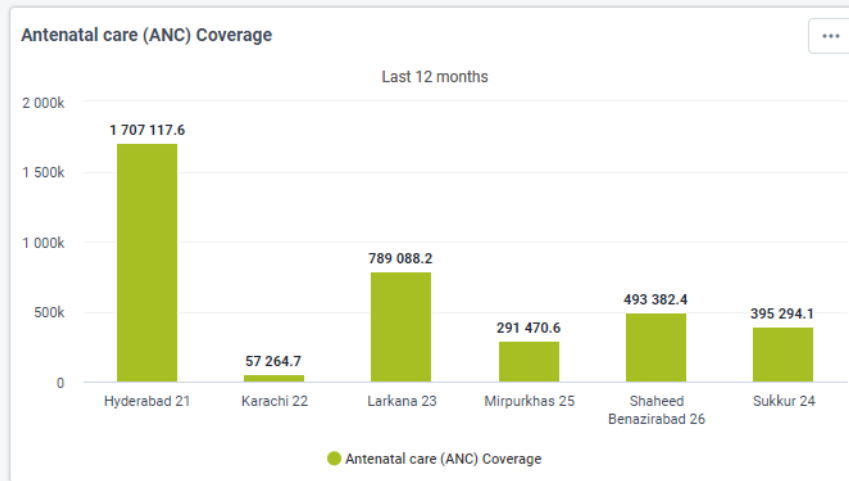
By reviewing MCH dashboards, PHC staff and managers can quickly identify service gaps, trends and priority areas requiring intervention to improve maternal and newborn outcomes.

5. OPD Dashboards

OPD dashboards present information related to outpatient department services, including:

- Total OPD attendance
- New and follow-up cases
- Referred cases
- Trends in OPD service utilization

OPD Attendance New Cases

December 2020

District Wise Out Patient Department (OPD)

This year
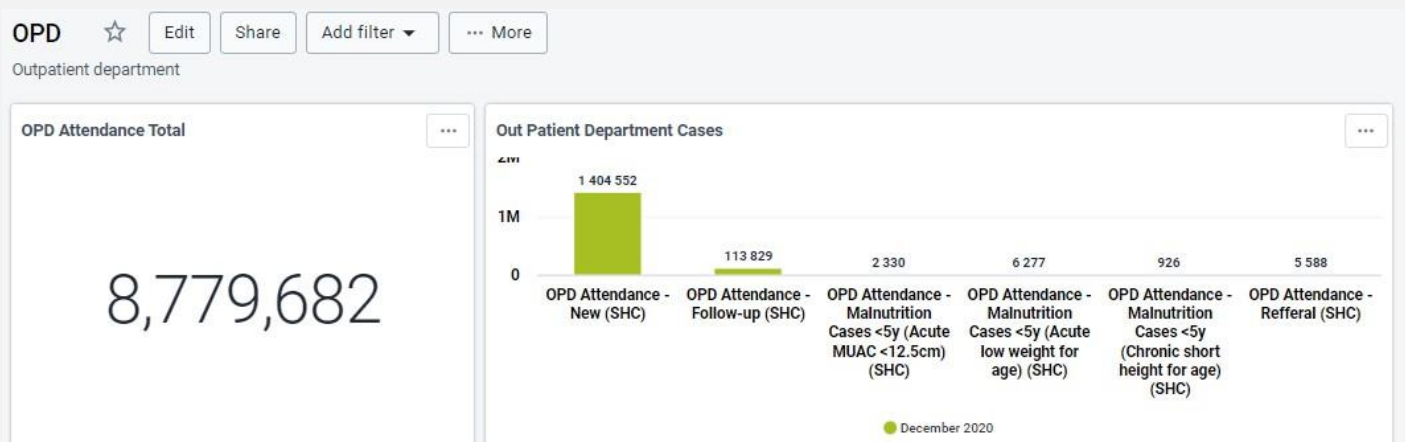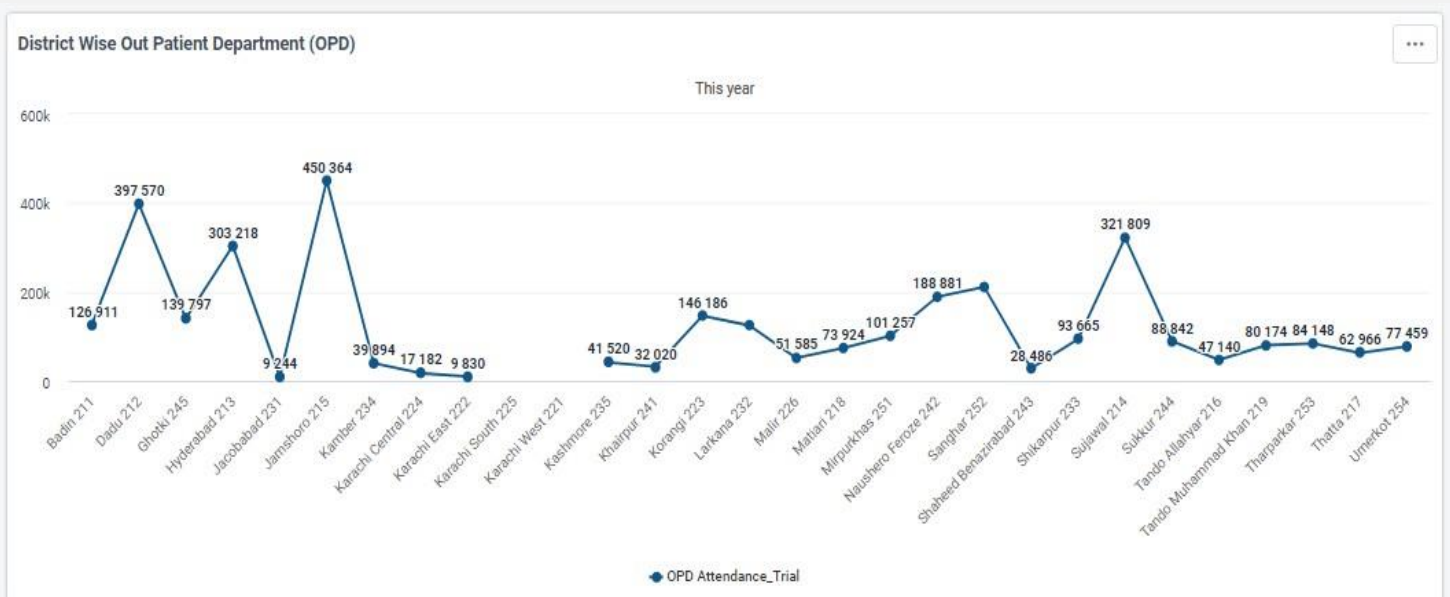
These dashboards help facilities monitor patient flow, workload and service demand, supporting better planning, staffing and resource allocation.

Key Takeaways

- Dashboards provide quick, visual summaries of key health indicators.
- DHIS-2 dashboards combine charts, maps, tables and reports in one place.
- Indicator-based dashboards support performance monitoring and target tracking.
- MCH dashboards help assess maternal and child health service delivery.
- OPD dashboards assist in monitoring service utilization and workload.
- Regular use of dashboards improves data use, accountability and decision-making at the PHC level.

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Session 3.3: Generating and Using Reports in DHIS-2

Session Introduction

Reports in DHIS-2 play a critical role in transforming routine health data into structured information that supports monitoring, supervision, reporting and decision-making. While dashboards provide quick visual summaries, the Reports App allows users to generate detailed, standardized reports based on specific datasets, organization units and reporting periods. These reports are commonly used for monthly reviews, supervisory visits, performance assessments and official reporting at district, provincial and national levels.

This session introduces participants to the Reports App in DHIS-2, focusing on how to generate Data Set Reports, interpret the outputs and export reports in Excel and PDF formats for further analysis and documentation.

Session Objectives

By the end of this session, participants will be able to:

- Understand the purpose of the Reports App in DHIS-2
- Navigate the Reports App from the application menu
- Generate a Data Set Report correctly
- Select appropriate organization units, datasets and reporting periods
- Download reports in Excel and PDF formats
- Use reports for monitoring, supervision and decision-making

Session Content

1. Overview of the Reports App

The Reports App **in** DHIS-2 is used to generate structured, predefined reports based on datasets submitted by health facilities. These reports reflect the same structure as paper-based forms and provide a consolidated view of data for a selected facility and time period.

To access the Reports App:

1. Open the Application Menu in DHIS-2

2. Click on Reports
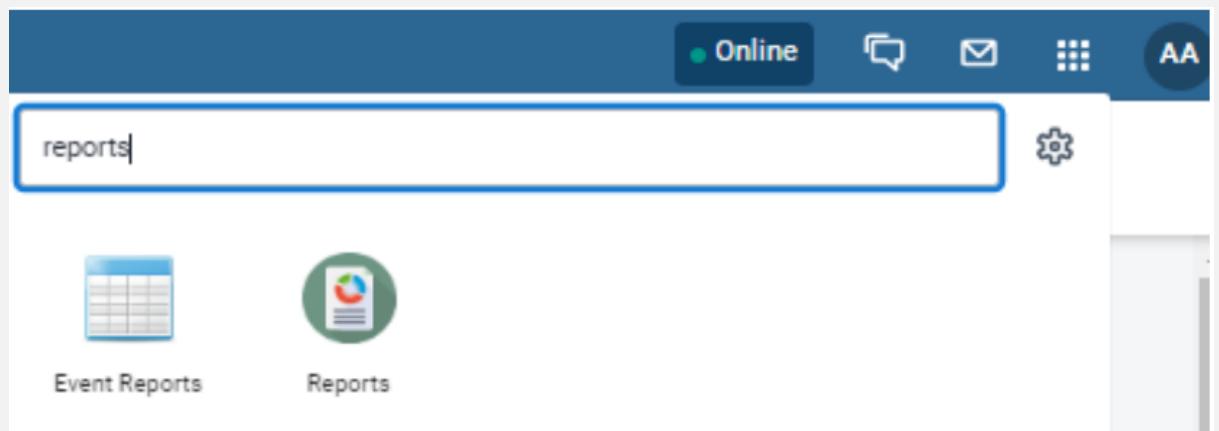
Once opened, a list of available reports will appear on the screen.

2. Selecting the Required Report

After opening the Reports App, users must select the appropriate report from the available
list. Reports are usually named according to:

- Program area (e.g., OPD, MCH, EPI)
- Dataset name
- Reporting purpose
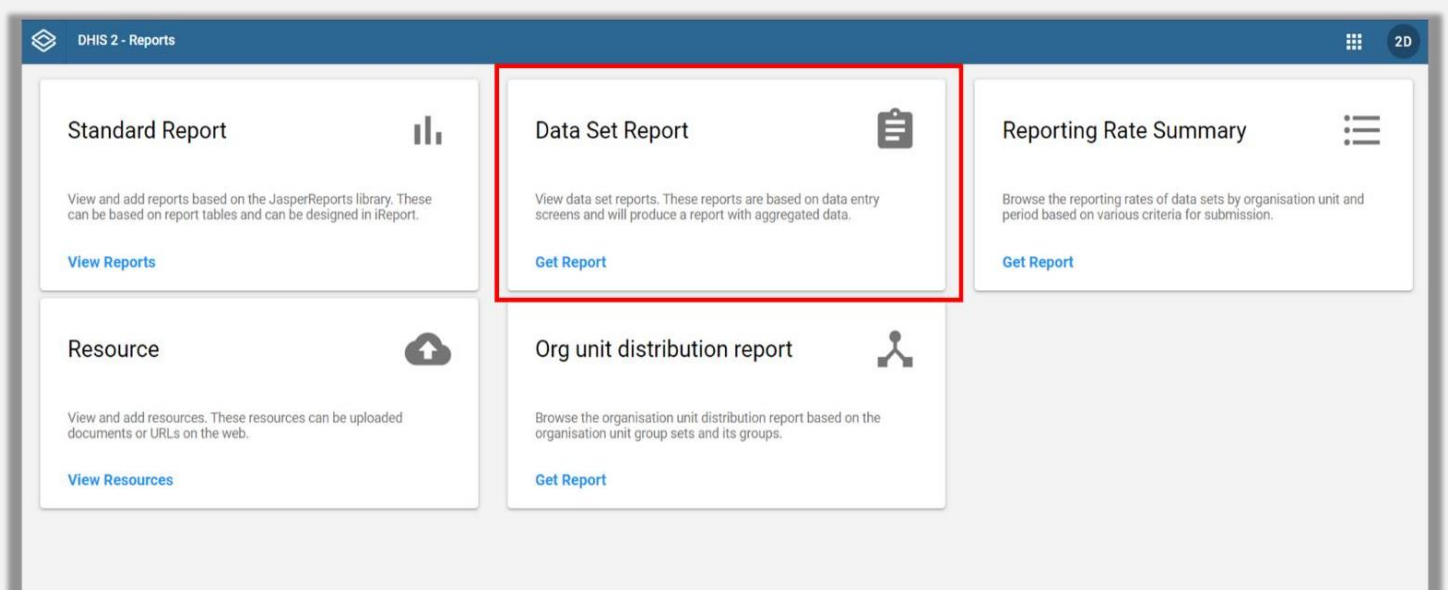
Selecting the correct report ensures that the displayed data matches the intended service area and reporting format.

3. Generating a Data Set Report

A **Data Set Report** displays data exactly as it was entered in the Data Entry App for a specific dataset and reporting period. Follow these steps:

Step 1: Select Organization Unit

- Choose the health facility, tehsil, or district for which the report is required
- Ensure the correct organization unit is selected to avoid incorrect reporting

Step 2: Select Data Set

- From the dropdown list, select the relevant dataset (e.g., OPD, MCH, ANC, EPI)
- The dataset should correspond to the form used for data entry

Step 3: Select Reporting Period

- Choose the appropriate reporting period
- Select Month and Year for monthly reports
- Ensure consistency with the reporting timeline

Step 4: Generate Report

- Click on **Get Report**

- The system will display the completed dataset for the selected organization unit and period

The report will show all data elements in a structured format, similar to the original paper-based form.

4. Reviewing and Interpreting Reports

Once the report is displayed:

- Review completeness of data
- Check for unusual values or inconsistencies
- Compare figures with previous months or facility registers

- Use the report for verification during supervision and review meetings

Reports help ensure accountability and provide documented evidence of service delivery.

5. Downloading Reports

DHIS-2 allows users to download reports in multiple formats:

- *Excel Format:*
  Useful for further analysis, calculations and trend comparisons
- *PDF Format:*
  Useful for printing, sharing and official documentation

Downloading reports supports offline review, record keeping and reporting to higher authorities.

Training Methodology

- PowerPoint presentation
- Live demonstration of the Reports App
- Guided hands-on practice (generating a sample dataset report)
- Group discussion on report use and interpretation

Key Takeaways

- The Reports App provides structured, dataset-based reports in DHIS-2
- Data Set Reports reflect actual submitted data for a facility and period
- Correct selection of organization unit, dataset and period is essential
- Reports can be downloaded in Excel and PDF formats
- Reports support supervision, monitoring, accountability and decision-making
- Regular use of reports improves data utilization at the PHC level

6.1 PHC Report Form

Organisation Unit	365191-CD Landi Arbab
Data Set	Daily PHC Report
Period	2026-01-30 Prev year Next year

Run validation
Print form
Print blank form

DAILY PHC REPORT

Export PDF Export Excel

Section I : Identification				
1	Facility ID		5	DDO Code
2	Category Type	Primary Health Care	6	Name of Faciltity Incharge
3	No of Allocated Beds as Per Category		7	Designation
4	No of Functional Beds			

Section II : Outpatients Attendance (From OPD Register)

Export to Excel

Speciality	New Cases															Transgender	Follow UP	Referred IN	Referred OUT	Total
	Male								Female											
	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total					
									Respiratory Diseases												
1 Acute (upper) respiratory infections			2	1		1		4			2	2	1	1		6					10

No	Speciality	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total	<1 Month	1-11 Months	1-4 Years	5-14 Years	15-49 Years	50-59 Years	60+ Years	Total	Transgender	Follow UP	Referred IN	Referred OUT	Total
1	Acute (upper) respiratory infections			2	1		1		4			2	2	1	1		6					10
2	Suspected Pneumonia								0								0					0
3	No of Pneumonia patients received antibiotics								0								0					0
4	Cough more than two weeks (TB Suspects)								0								0					0
5	Chronic Obstructive Pulmonary Disease								0								0					0
6	Asthma								0								0					0
7	Allergies								0								0					0
8	No of patients whose oxygen saturation is measured								0								0					0
9	No's of Hypoxemic patients identified (SPO2<94%)								0								0					0
10	No of Hypoxemic patients given oxygen (SPO2<94%)								0								0					0
							Skin Diseases															
11	Scabies								0								0					0
12	Dermatitis (seborrheic, contact)								0								0					0
13	Cutaneous Leishmaniasis								0								0					0
14	Other skin Disease								0								0					0
							Gastrointestinal Diseases															
15	Diarrhea / Gastroenteritis								0								0					0
16	Dysentery/Bloody Diarrhea								0								0					0
17	No of Diarrhea (all types) patients received ORS & Zinc								0								0					0
18	Suspected Enteric/Typhoid Fever								0								0					0
19	Worm Infestation								0								0					0
20	Peptic Ulcer Disease								0				1				1					1

Section VI : Maternal & Newborn Health (From Maternal & Obstetric Registers)

Export to Excel

		Deliveries In The Facility		Neonatal Deaths In The Facility (Complications)	
1 First Antenatal Care Visits (ANC-1)		16 Normal Vaginal Deliveries		32 Birth Trauma (Death)	
2 ANC-1 Women with HB <10 g/dl		17 Vacuum/Forceps Deliveries (Assisted Deliveries)		33 Birth Asphyxia	
3 Second Antenatal Care Visit (ANC-2)		18 Cesarean Section		34 Bacterial sepsis	
4 Third Antenatal Care Visit (ANC-3)		19 No of deliveries among Afghan Refugees		35 Congenital Abnormalities	
5 Fourth & Above Antenatal Care Visit (ANC-4 & Above)		20 Number of Abortions		36 Prematurity	
6 Pregnant ladies counselled on Maternal diet / Nutrition & early initiation of Breast Feeding		21 Dilation and curettage (D&C)		37 Hypothermia	
7 Number of women with Proteinuria		22 Live Births in the Facility			
8 Number of women with Hypertension		23 Live birth with LBW < 2.5 kg			
9 Number of women with STIs		24 Number of Premature Births			
10 Number of women with high risk /complicated Pregnancies Referred		25 Stillbirths in the Facility			
11 Number of pregnant women who received Iron/Folic Acid Supplementation		26 Maternal Death			
12 First Postnatal Care visit (PNC-I) in the Facility		27 Intra Uterine death (IUD)			
13 Postnatal Care Revisit		28 Birth Trauma (Delivery)			
14 Number of women with Postnatal complications (Postpartum Hemorrhage, Postpartum Sepsis etc) referred		29 Neonates received skin to skin contact			
15 Malnourished Lactating women (PNC-I)		30 Neonates initiated Breast Feeding within First Hour			
		31 Neonates received Chlorohexidine (CHX) for umbilical cord care			

Section VII : Family Planning Services (From FP Register)

Export to Excel

1 Total FP Visits	Below 25 Years	Above 25 Years	2 New Visits	Below 25 Years	Above 25 Years	3 No of Counseling		4 Clients Referred by LHW	
5 Total PPFP	Below 25 Years	Above 25 Years	6 Total PAFP	Below 25 Years	Above 25 Years				

Section VIII : Family Planning Services (Controceptive Methods)

Export to Excel

Methods	Old Clients	New Clients					No of Discontinued Specific Method	Methods	Removal	Insertion					
		Routine	Post Partum		Post Abortion					Routine	Post Partum		Post Abortion		Below 25 Years
			<48 hrs	>48 hrs	<48 hrs	>48 hrs					<48 hrs	>48 hrs	<48 hrs	>48 hrs	
1 POP Cycles								6 IUCD							
2 COC Cycles								7 Implant							
3 DMPA INJ								8 Tubal Ligation							
4 Condom Pieces								9 Vasectomy							

a. 6.2   PHC Monthly Report Form

Monthly PHC & SHC REPORT

Export PDF   Export Excel

	Section I : Identification					
1	Facility ID		5	DDO Code	
2	Category Type	Montlhy Report	6	Name of Faciltity Incharge	
3	No of Allocated Beds as Per Category		7	Designation	
4	No of Functional Beds				

Section II: Community Meetings

Export to Excel

No of Community Health Sessions	S#	Indicator	No of Meetings	Participants		
				Male	Female	Total
	1	Community Meeting	2	31	3	34
	2	Health Education System	4	1	11	12

Section III : Community Based Data (LHW REPORT)

Export to Excel

S#	Indicator	Total	S#	Indicator	Total
1	Pregnant Women Newly Registered by LHW	8	5	Neonatal Deaths	
2	Delivery by Skilled Persons Reported		6	No.of Modern FP Method Users	516

| 3 | Maternal Deaths Reported | | 7 | <5yearDiarrheaCasesReported | 72 |
| 4 | Infant Deaths Reported | | 8 | <5yearARICasesReported | 68 |

Section IV: Immunization (From EPI Register) Interfaced from EPI MIS

Export to Excel

	Antigen	Dose					Antigen	Dose				
		0	1	2	3			1	2	3	4	5
1	BCG					7	IPV					
2	Hepatitis B Birth Dose					8	MR					
3	OPV					9	Typhoid					
4	Pentavalent					10	Children under 1 year fully immunized					
5	Rota					11	TT/TD					
6	Pneumococcal (PCV1-3)											

Section V: Diagnostic Services (From Laboratory Register/ TB Lab Register/ Radiology Register)

Export to Excel

	Services Provided	OPD Patient	Indoor Patient		Services Provided	OPD Patient	Indoor Patient
1	Total CT Scan			17	Total ECGs		
2	Total X-Rays			18	Total Echo-cardiography		
3	Dental X-Ray			19	Total Ultrasonography's		
4	Total Mammography			20	Total ETT		
5	Mammogram Current Functional Status	○ Yes ○ No		21	Total Elisa		

S#	Indicator			S#	Indicator		
6	Average No of Screening Conducted			22	LFTs		
7	Patients with finding of Mammography			23	COVID-19 (Rapid Diagnostic Test RDT)		
8	Patients Malignant Findings Identified			24	Other Lab Investigation		
9	OPG			25	PCR Hepatitis C		
10	Total Number of MRI's			26	Other PCR		
11	CBC's						
12	Lipid Profile						
13	RFTs						
14	Dengue (Rapid Diagnostic Test RDTs)						
15	PCR COVID						
16	PCR Dengue						

Section VI: Laboratory Investigation for Communicable Diseases

Export to Excel

	TB (From NTP Website);			Viral Hepatitis & HIV			Malaria	
S#	Indicator	Number	S#	Indicator	Number	S#	Indicator	Number
1	Slides for AFB Diagnosis		1	Total Screened Patients (Hepatitis)		1	RDTs	
2	Diagnosed with AFB +iv		2	Hepatitis B +iv		2	Slides Prepared	
3	Follow up for AFB		3	Hepatitis C +iv		3	Slides Examined	
4	Follow up for AFB +iv		4	Total Screened Patients (HIV)		4	Slides MP +iv	
5	Total number of cases for GeneXpert		5	HIV Screened +iv		5	Slides Falciparum +iv	
6	MTB Detected							
7	MTB not Detected							
8	RR Detected (Rifampicin Resistant)							

Section VII: TB-DOTS Data During A Month (From TB DHIS-2)

Export to Excel

S#	Indicator	Number
1	Case Detection Rate (CDR)	
2	Lost to Follow up	
3	Treatment Success Rate(TSR) (TSR=Cure Rate+ Treatment Completed)	

Section VIII: Physiotherapy Services Provision

Export to Excel

S#	Indicator	Cases
1	Number of Patient	
2	Number of Session	
3	Number of Orthotic Devices Delivered	
4	Number of Wheel Chair Delivered	
5	Number of Prosthetic Devices Delivered	
6	Number of Toilet and Shower Chair Delivered	

Section IX: Stock Reports :Stock Position of Drugs(From Stock Register For Medicine/Supplies)

Export to Excel

S#	Medicine/drugs	Opening Balance	Received From Any Source	Closing Balance
1	Tab. Acetylsalicylic Acid (75mg)			
2	Tab. Amlodipine (5mg or 10mg)			
3	Tab. Aluminum hydroxide + Magnesium hydroxide Oral liquid			
4	Tab. Artemether + Lumefantrine (40mg + 240mg)			
5	Tab. Ciprofloxacin (250mg or 500mg)			
6	Pheniramine Maleate			
7	Tab. Clotrimazole (500mg)			
8	Tab. Diclofenac Sodium (50mg)			
9	Tab Diazepam 2-10MG			
10	Tab. Glibenclamide (5mg)			
11	Tab. Ibuprofen (200mg)			
12	Tab. Metoclopramide HCL (10mg)			
13	Tab. Metronidazole (200mg or 400mg)			
14	Tab. Metformin (500mg)			
15	Tab. Methyldopa (250mg or 500mg)			
16	Tab. Paracetamol (500mg)			
17	Tab. Tinidazole (500mg)			
18	Inj. Snake Venom Antiserum (10ml)			
19	Inj. Ceftriaxone (250mg or 500mg or 1g)			
20	Inj. Diclofenac Sodium (25mg/ml or 75mg/3ml)			
21	Inj. Dexamethasone (4mg/ml)			
22	Inj. Hydrocortisone (100mg or 250mg)			

23	Inj. Adrenaline (Epinephrine) (1mg/ml)			
24	Inj. Magnesium Sulphate (500mg/ml)			
25	Inj. Misoprotosol			
26	Inj. Oxytocin (5 I.U. or 10 I.U.)			
27	Cap. Tranexamic Acid (500mg)			
28	Cap. Amoxicillin (250mg or 500mg)			
29	Cap. Ferrous Fumarate + Folic Acid (150 mg + 0.5 mg)			
30	Syp. Amoxicillin (125mg/5ml or 250mg/5ml)			
31	Syp. Albendazole (100mg/5ml or 200mg/5ml)			
32	Syp. Chlorphenermine mealate 2mg/5ml 120 ml			
33	Syp. Dimenhydrinate (12.5mg/4ml)			
34	Syp. Ibuprofen (100mg/5ml or 200mg/5ml)			
35	Syp. Metronidazole (200mg/5ml)			
36	Syp. Paracetamol (120mg/5ml)			
37	Syrup Salbutamol (2mg/5ml)			
38	Syp. Zinc Sulphate (20mg/5ml)			
39	Expectorant Syp. (Ammonium Chloride + CPM/Diphenhydramine + Menthol and others) (32mg + 8mg + 30mg/5ml)			
40	Disposable syringe (3ml or 5ml or 60ml)			
41	I/V Cannula (20g, 22g, 24g)			
42	Chlorhexidine Gel (4% or 7.1%)			
43	Ampule Dextrose Water 25% (10ml or 20ml)			
44	I/V fluid administration sets			
45	Methylated Spirit (450 ml)			
46	Permethrin 5% lotion			
47	Sol. Povidone Iodine (10%)			
48	Catgut Chromic size 10mm, 1/2 circle round bodied taper point needle, strand length 75 cm, USP size 2			
49	Cord clamp (Packet of 10)			

50	Cotton Roll (200mg)			
51	Face Mask (3 ply surgical)			
52	Hand Sanitizer			
53	ORS Packet			
54	Sterile gauze or Surgical gauze or gauze cloth (20m)			
55	Surgical Tape or Adhesive Tape			
56	Surgical Gloves/ examination Gloves			
57	Urine Bag			
58	Foley's Catheter (Silicon Coated) (any size as per requirement)			
59	Bandages (any size as per requirement)			
60	Cap. Omeprazole (20mg)			
61	Drops Moxifloxacin (0.5% w/v, 5ml)			
62	Epiziotomy Suture with needle 2-0/3-0			
63	Eye Drops. Moxifloxacin (0.5%)			
64	Clotrimazole cream / Gel (vaginal) 1 %			
65	Hepatitis B (whole blood) test			
66	Hepatitis C (whole blood) test			
67	Inf. Normal Saline (100ml or 500ml)			
68	Inf. Polygeline (3.5%) or Inf. Gelatine Polypeptide (3.5% or 4%)			
69	Inf. Ringer's Lactate Soln. (500ml)			
70	Inhaler Salbutamol + steroid			
71	Inj. Diazepam (2mg or 10mg)			
72	Inj. Metoclopramide (5mg/ml)			
73	Sol Isopropium Bromide + Salbutamol (0.5mg+2.5mg / 2.5mL)			
74	Sterile Nasogastric Tube (any size as per requirement)			
75	Susp. Cefixime (100mg/5ml)			
76	Syp. Aluminum hydroxide + Magnesium hydroxide (200mg + 200mg/5ml or 400mg + 400mg/5ml)			

77	Syp. Artemether + Lumefantrine (30mg + 180mg)			
78	Tab. Domperidone (10mg)			
79	Tab. Drotaverine (40mg)			
80	Tab. Escitalopram (10mg)			
81	Tab. Loratadine (10mg)			
82	Tab. Losartan (25mg or 50mg)			
83	Tab. Misoprostol (200mcg or 800mcg)			
84	Tab. Pantoprazole (20 mg)			
85	Tab. Salbutamol (2mg)			
86	Urine Pregnancy Test			
87	Inj. Lignocaine HCl + Adrenaline (20mg/ml)			
88	Inj. Anti Rabies vaccine			

Section X: Stock Reports: Vaccines (Stock Position of Vaccines)

Export to Excel

S#	Vaccine (Doses)	Opening Balance	Received From Any Source	Closing Balance
1	BCG vaccine			
2	Hepatitis-B Vaccine			
3	Pentavalent vaccine			
4	PCV-13/PCV-10			
5	MR vaccine			
6	Rota Virus vaccine			
7	COVID-19			
8	Tetanus Toxoid /Td			

9	OPV Vaccine			
10	IPV Vaccine			
11	Typhoid vaccine			
12	Vitamin A capsule			
13	Vaccine Syringes			
14	Reconstitution Syringes (2 ml)			
15	Reconstitution Syringes (5 ml)			
16	AD Syringes (0.5ml)			
17	AD Syringes (0.05ml)			

Section XI: Family Planning Commodities (From FP Register)

Export to Excel

S#	FP Commodities	Opening Balance	Received From Any Source	Closing Balance
1	POP cycles (Progesterone oral pills)			
2	COC cycles (Combine Oral Contraceptive)			
3	DMPA Inj. (Depot Medroxyprogesterone Acetate)			
4	Condom Pieces			
5	IUCD			
6	Implants			
7	Tubal Ligation			
8	Vasectomy			

Section XII: PCMC/HMC Account Details

S#	Indicator	Number	
1	PCMC/HMC Committee notified	○ Yes ○ No💬	
2	PCMC/HMC Bank Account Opened	○ Yes ○ No💬	
3	PCMC/HMC Account Opened in Bank of Khyber	○ Yes ○ No💬	
4	Meeting of PCMC/HMC held during last month	○ Yes ○ No💬	
		Opening Balance	Closing Balance
5	Bank Account Details (Amount)		

Section XIII: Revenue Generated (From Receipt Register)

Export to Excel

S#	Indicator	Total Receipt (amount)	Total Deposited (10% of receipt)	S#	Indicator	Total Receipt (amount)	Total Deposited (10% of receipt)
1	OPD/Dental OPD			10	Dental Procedures		
2	Indoor			11	Echocardiography		
3	A&E/Casualty			12	ETT		
4	Laboratory			13	Nursing Colleges		
5	ECG			14	Medical Colleges		
6	X-Ray			15	Parking Lots		
7	MRI			16	Canteens		
8	CT Scan			17	Sehat Card		
9	Ultrasound			18	Others		
					Grand Total	0	0

Section XIV : Expenditure

Export to Excel

S#	Indicator	Value
1	Infrastructure	
2	Purchase of Equipments	
3	Repair of Equipments	
4	Emergency Medicines	
5	Daily Wage Workers	
6	Stationery	
7	Other Items/Services	
	Grand Total	0

Section XV : Reconciliation Statement

Export to Excel

S#	Indicator	Value
1	Reconciliation Statement	○ Yes ○ No
2	Reason for No Reconciliation Statement	

Complete   Incomplete | Run validation

Completed by: compliance at: 2026-01-02 See details

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