No.

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF HEALTH, ISLAMIC REPUBLIC OF PAKISTAN

THE STUDY ON IMPROVEMENT OF MANAGEMENT INFORMATION SYSTEMS IN HEALTH SECTOR IN THE ISLAMIC REPUBLIC OF PAKISTAN

FINAL REPORT
DATA BOOK/SUPPORTING REPORT

FEBRUARY 2007

SYSTEM SCIENCE CONSULTANTS INC.

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Japan International Cooperation Agency
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ABBREVIATIONS

ACD	Active Case Detection
ADHO	Assistant District Health Officer
ADP	Annual Development Plan
AFB	Acid Fast Bacilli
AFP	Acute Flaccid Paralysis
AIDS	Acquired Immune Deficiency Syndrome
AJK	Azad Jammu and Kashmir
ANC	Antenatal Care
API	Annual Parasite Incidence
ARI	Acute Respiratory Infection
BHS	Basic Health Service
BHU	Basic Health Unit
BOD	Board of Directors
BOR	Bed Occupancy Rate
BPS	Basic Pay Scales
C&W	Communication and Works Department
C/P	Counterpart
CA	Catchment Area
CBA	Child Bearing Age (Woman)
CD	Civil Dispensary
CD	Communicable Disease
CDC	Communicable Diseases Control
CDD	Control of Diarrhoeal Diseases
CHW	Community Health Worker
CIDA	Canadian International Development Agency
COs	Commanding Officers
CRP	Central Registration Point
CT	Computerized Tomography
DALY	Disability-Adjusted Life Years
DCC	District Citizen Committee
DCO	District Coordination Officer

DCP	District Coverage Plan
DDOH	Deputy District Officer Health
DEWS	Disease Early Warning System
DG	Director General
DGHS	Director General Health Services
DHA	District Health Administrator
DHDC	District Health Development Center
DHMS	Director Health & Medical Services
DHMT	District Health Management Team
DHO	District Health Officer
DHQ	District Headquarter
DHQH	District Headquarter Hospital
DISCO	Distribution (electricity) Company
DMS	Deputy Medical Superintendent
DOA	Data Oriented Approach
DOH	District Office of Health
DOTS	Directly Observed Treatment Short-course
DPT	Diphtheria Pertusis Tetanus
DQCB	District Quality Control Board
ECG	Electrocardiogram
ED	Executive Director
EDD	Expected Data of Delivery
EDO	Executive District Officer
EDOH	Executive District Officer of Health
EMIS	Education Management Information System
EMRO	Eastern Mediterranean Regional Office - WHO
ENT	Ear, Nose and Throat
EPI	Expanded Programme on Immunization
ETT	Exercise Tolerance Test
F&P	Financial and Planning
FAP	First Aid Post
FATA	Federally Administered Tribal Area
FGD	Focus Group Discussion
FHP	Family Health Project

FHT	Female Health Technician
FLCF	First Level Care Facility
FMT	Female Medical Technician
FP	Family Planning
FWC	Family Welfare Center
GIS	Geographic Information System
GOP	Government of Pakistan
HEM	Health Equipment Maintenance
HG	Hemoglobin
HID	Health Institution Database
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HRA	Health Regulatory Authorities
HT	Health Technician
I/C	Incharge
ICT	Information and Communication Technology
IDD	Iodine Deficiency Diseases
INJ	Injuries
IT	Information Technology
IUCD	Intra Uterine Contraceptive Device
JICA	Japan International Cooperation Agency
LBWB	Low Birth Weight Baby
LC	Leprosy Centre
LHS	Lady Health Worker’s Supervisor
LHV	Lady Health Visitor
LHW	Lady Health Worker
LMP	Last Menstrual Period
LQAS	Lot Quality Assurance Sampling
M&R	Maintenance and Repair
MCBA	Married Woman of Child Bearing Age
MCC	Medical Coordination Cell
MCH	Maternal & Child Health
MCP	Malaria Control Program

MDG	Millennium Development Goals
MIS	Management Information System
MO	Medical Officer
MOH	Ministry of Health
MOIC	Medical Officer Incharge
MOPW	Ministry of Population Welfare
MS	Medical Superintendent
MSD	Medical Store Department
MW	Midwife
n/a	Not Available
NA	Northern Areas
NCD	Non-Communicable Disease
NCHS	National Center for Health Statistics (USA)
NGO	Non-Governmental Organization
NHIRC	National Health Information Resource Centre
NIH	National Institute of Health
NP	National Plan
NWFP	North West Frontier Province
OPD	Out-Patient Department
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
OT	Operation Theatre
P & D	Planning and Development
PCD	Passive Case Detection
PCSP	Pakistan Child Survival Project
PESSI	Punjab Employees Social Security Institution
PHC	Primary Health Care
PHD	Provincial Health Department
PHDC	Provincial Health Development Center
PIA	Pakistan International Airlines
PIC	Punjab Institute of Cardiology
PLD	Provincial Line Departments
PM	Proportional Morbidity
PMA	Pakistan Medical Association

PMDC	Pakistan Medical and Dental Council
PPA	Program Manager Assistant
PPM	Provincial Program Manager
PQCB	Provincial Quality Control Board
PR/R	Progress Report
PRSP	Poverty Reduction Strategy Paper
PUO	Pyrexia of Uncertain Origin
RBM	Roll Back Malaria
RHC	Rural Health Center
RHS	Reproductive Health Services
RLCF	Referral Level Care Facility
RMO	Resident Medical Officer
S/W	Scope of Work
SD	Standard Deviation
SDO	Sub-divisional Officer
SHC	Sub-Health Centre
SMB	Special Medical Board
SOs/ SAs	Statistical Officers/ Statistical Assistants
SPSS	Statistical Package of Social Sector
SSC	System Science Consultants Inc.
SSHF	Social Security Health Facilities
STL	Survey Team Leader
STM	Survey Team Manager
SWOT	Strength, Weakness, Opportunity, Threat
TAG	Technical Advisory Group
TB	Tuberculosis
TB1	Thiacetazone
TBA	Traditional Birth Attendant
TBC	Tuberculosis Centre
TBCP	Tuberculosis Control Programme
TGI	Target Group Institution
THQ	Taluka Headquarter
THQH	Tehsil Headquarter Hospital
TOR	Terms of Reference

TT	Tetanus Toxoid
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
VHF	Viral Hemorrhagic Fever
WAPDA	Water and Power Development Authority
WFP	World Food Programme
WHO	World Health Organization
WHP	Women Health Project
WMO	Woman Medical Officer
YR	Yearly Report

1. Introduction

Health management information system (HMIS[1]) in Pakistan was established in 1992 with the assistance of USAID. The implementation of HMIS for first level care facilities (HMIS-FLCF) was completed in August 2000. However, several issues were pointed out with regard to existing systems. There is renewed interest in health information system which should not only meet the needs of districts after the occurrence of devolution but also could satisfy the requisite needs of provincial and federal level as well as donors. This should address the monitoring aspect of global priority disease initiatives and broader development initiatives like the Millennium Development Goals (MDGs) and Poverty Reduction Strategy Paper (PRSP) targets.

With this perspective, the Government of Pakistan requested JICA for a study on improvement of HMIS. Based on this request, Japan International Cooperation Agency (JICA) dispatched a preliminary survey team in July 2003 and the Scope of Work (S/W) for the "Study on Improvement of Management Information Systems in Health Sector in the Islamic Republic of Pakistan" (the Study) was signed on August 7, 2003. In accordance with the S/W, JICA dispatched a study team (JICA Study Team) to Pakistan on 21 January 2004 to start the activities of the Study.

The study team initiated the study in consultation and collaboration with all stakeholders including the Ministry of Health /National Health Information Resource Centre (NHIRC) and provincial governments. Study period is 32 months starting from January 2004 to August 2006. Overall objective of the Study is to formulate a national action plan for the improvement of management information systems (MIS) in health sector to respond to the information needs at each level of the public health service management. The study has been devised in phased manner. As a first step situation analysis has been done which has come up with a number of findings. On the basis of these findings, the study team aims at designing of technical, behavioral and organizational interventions for the improvement of information systems.

[1] In Pakistan, the term "HMIS" had widely perceived as an expression Health Management Information System exclusively for FLCF. According to this perception, the term HMIS has been used only for HMIS-FLCF in this report. For general meaning of HMIS, the expression *"MIS" in health sector* was used instead.

2. Situation Analysis Framework

2.1 Objectives

The objectives of activities by the JICA Study team in 2004 were:

1) to carry out a situation analysis on the existing health information systems and relevant health service delivery systems in Pakistan for appropriately addressing the information needs for improvement of Pakistan's health management and health services delivery, and

2) to develop a conceptual framework of the MIS in health sector and the basic design of a model MIS based on the findings of situation analysis.

Another way of saying, what will be improved overall performance of management information system (MIS) in health sector? In terms of MIS's overall performances are;

- Availability and quality of data produced, and
- Continued use of these data for improvement of health systems operations and health status

2.2 Prism approach

The Study places its emphasis on the close links between the information system and management process which reflects the current institutional needs of all tiers of the Government particularly the district. It also reflects international best practices for improving routine health information systems. International experience also provides a conceptual framework for continuous quality improvement of routine health information systems. It is called the Prism approach.[2] It includes a practical standard for measuring the performance of health information systems and practical guidelines for improving routine health information systems.

The Study team has adopted this conceptual framework and presented it to the national and provincial counterpart groups who have approved its use. If adopted by the MOH itself in

[2] PRISM paper. Introducing on Analytical Framework for Understanding Performance of Routine Health Information System in Development Countries, September 2003, Dr. Theo Lippeveld, et al.

a process of continuing quality improvement of information, it may lead to an organizational culture that values and uses information. Hence this conceptual framework is an excellent vehicle for knowledge and technology transfer, as well as capacity building.

This framework's definition of improvement emphasizes on action-oriented use of information. "[The] ultimate objective of a routine health information system is to produce information for taking action in the health sector. Performance of a routine health information system should, therefore, be measured not only on the basis of the quality of data produced but on evidence of the continued use of these data for improving health system operations and health status."[3]

2.2.1 Application of the prism approach in situation analysis and intervention

Health information systems are designed mainly to meet predictable information needs at various levels of the health sector. This is true also for routine health information system that includes systems for collecting and using health services statistics, administrative and financial data, epidemiological and surveillance data, data on community-based health actions, and vital events data. Despite the potential benefits of health information, in many developing countries, performance of routine health information systems falls consistently shorts of expectations.

There is a preference among information experts and public health professionals to narrowly defined performance of routine health information system as the production of good-quality data. But the ultimate objective of a health information system is to produce information for taking action in the health sector. Therefore, improving routine health information systems in terms of data availability, quality, and use often requires interventions that address a wide range of possible "determinants of performance." These determinants are explained in the three-point framework- "The Prism".

The Prism approach provides an analytical framework for understanding and improving performance of routine health information systems, and is based on the assumption that improving capacity in health information system (and, subsequently performance) requires interventions that address the environmental and behavioral determinants of performance

[3] PRISM paper, p.1.

as well as the technical determinants.

Technical determinants: The classic approach

In many cases, the chosen path to improving performance of health information system at district level focuses mainly on introducing or upgrading technical skills, changing the design of the system, or revamping the technology used to improve the availability and quality of data. While technical rigor is clearly needed in information systems, in practice technical interventions alone do not always result in appropriate action on the ground. Even the availability of accurate and timely health data cannot guarantee that evidence becomes the basis of decision-making. The entire health system must be geared to the use of information and value information use for data to be used consistently.

Environmental and behavioral determinants

The two other dimensions of the framework—the environment (health system or organizational context) and the actions and behavior of data collectors and users—help in considering strategies to maximize the impact of technical interventions.

At the macro level, structural constraints, such as lack of telecommunications capacity, and insufficient quantities of appropriate human resources, present very real obstacles to timely and complete reporting of information. The internal organization and culture of the health system also matters. A health system structured around vertical disease control programs, for instance, is often at odds with an integrated district level health information system.

Organizational factors such as lack of clarity about roles and responsibilities for information management at district-level; failure to actively distribute or introduce policies, norms , and standards; and ambiguity surrounding the flow of information throughout the system, have a distinct influence on performance of the health information system. Many environmental or organizational factors may appear to be outside the scope of health information system. Yet, without the environment that supports and values data collection and use, it is nearly impossible to make that critical link between data and health action.

Finally, the behavioral aspects of performance are often the most difficult to identify and confront in a meaningful way. They involve intangible concepts such as motivation, attitudes, hierarchy and explain the way in which health workers collect and use data (or fail to do so). Influencing many of these behavioral factors will require interventions that

go beyond simple training that improves knowledge and skills in data collection and use. On the other hand, any intervention to strengthen the health information system that does not address behavioral factors such as attitudes toward the collection and use of health information, motivation, and incentives for making decisions based on data will result in poor quality data, underreporting, infrequent data use, and poor decision making.

The technical, environmental and behavioral determinants of health information system performance rarely stand alone as the single cause of poor performance. They are often connected with each other by a continuum.

The Study adopted this “Prism” approach to identify areas and options for improvement of the health information system in public health sector. Assessment of technical, organizational and behavioral factors related to or influencing the health information system in Pakistan were taken into consideration in the design of the situation analysis.

3. Methodology

During the situation analysis both quantitative and qualitative methodologies were applied to assess the performance of the existing health management information system (HMIS) in terms of quality and use and to investigate the technical, organizational and behavioral factors that influence performance. During the situation analysis, existing information systems at various levels of the public health sector, the context in which they operate and the information needs at various levels of public health sector management were reviewed.

3.1 Objectives situation analysis

The broad objectives of situation analysis were to identify

1) unused, unreliable, and inappropriate information currently generated through various health information systems, and the duplications among various information systems
2) met and unmet information needs at various levels of public health sector
3) enablers of, and barriers to, information use, and
4) opportunities to improve both the supply and use of information

3.2 Strategic approaches to situation analysis

First strategic approach related to the HMIS itself. The HMIS should be an action-oriented, evidence-based decision support system. In a setting like Pakistan, where authority and accountability for resource allocation has devolved to the district, the focus was on information required for integrated service management at the District Office of Health (DOH).

Each district has an HMIS coordinator, who has responsibility for collecting, analyzing, and forwarding information. These cells create the backbone of the HMIS nationwide. Currently the HMIS cell receives information from Ministry of Health (MOH) first level care facilities (FLCF). This system is known as the HMIS-FLCF. The HMIS-FLCF information is forwarded to the province, and thence to the national HMIS (NHMIS) cell. The HMIS-FLCF is more than 10 years old, and the NHMIS cell has proposed ways to revise it to respond to changing primary care priorities, particularly those addressed by priority vertical programs.

The vision for the HMIS has always been broader than its FLCF component. This broader HMIS would include information on hospital inpatient care and from the private sector, as well as health sector support systems such as finance, drugs and supplies, equipment and facilities, and human resources.

While the NHMIS has proposed changes to the HMIS/-FLCF to cater to the needs of these programs, no indications have been found that these programs are ready to actually adopt the HMIS-FLCF reporting line. This duplication of reporting can lead to significant discrepancies. For example, a study commissioned by NHMIS and WHO indicates that EPI and HMIS-FLCF use different population denominators. Therefore report substantially different doses given.[4]

Therefore, the potential of integrating information systems at each level of service delivery will be thoroughly examined, and the focus of investigation was mainly at the district level due to the governmental devolution policy.

The second strategic approach relates to assessing the current performance of the HMIS as an action-oriented, evidence-based decision support system for integrated service management. HMIS performance may be measured by evidence of continued use of data to improve health systems operations and health status. A holistic approach examined following three determinants of HMIS performance that called "the PRISM approach"[5].

- Technical determinants
  - System design, data collection and reporting forms, technology, skills and knowledge of personnel
- Environmental determinants
  - Leadership, structure, culture, roles & responsibilities, resources
- Behavioral determinants
  - Attitudes, motivation, values

Objectives of situation analysis were to provide quantitative and qualitative measure of current performance of HMIS in order to identify based on the above-mentioned three determinants.

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[4] *Study to look at the impediments and disparities in information collection and use at operational and strategic levels, including national programmes, April 2003.*

[5] *see the page I-2, Chapter 2.1 Prism approach.*

In the situation analysis this three pronged holistic approach was used to assess the performance of health sector information systems that lead to action-oriented decision support at the district level.

3.3 Situation analysis – domain of investigation

The topics to be investigated fall into following three main categories and each topic was investigated at each level at which the health system operates. The domain of investigation is focused to i) Health issues, health systems and programs, ii) Health sector information systems and linkages, and iii) Information use.

(1) Health issues, health systems and programs

The domain of investigation for health issues, health systems and programs is shown in following figure.

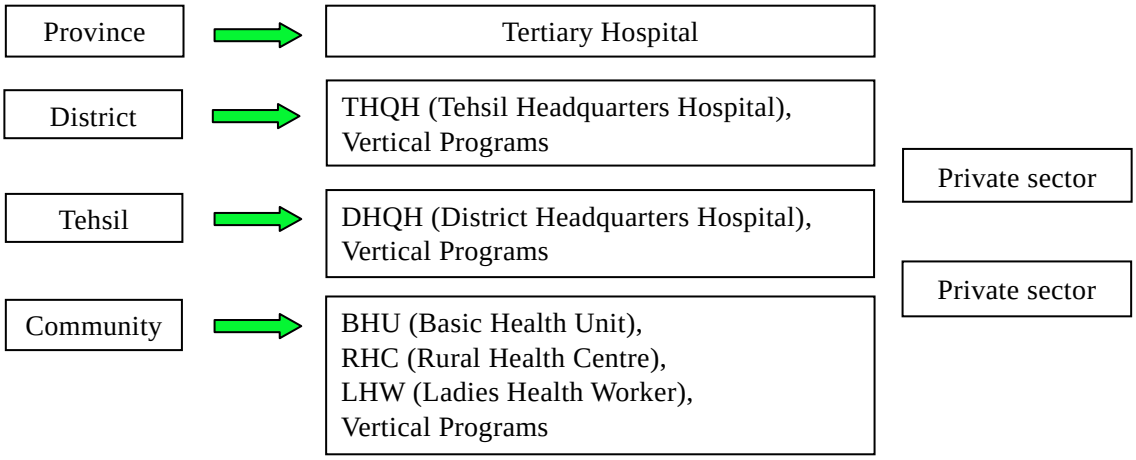

Figure 3-3-1 Domain of health issues, health systems and program

The items of situation analysis for health issues, health systems and programs are shown in below.

- Cross-cutting health systems issues; particularly, the effect of broad government policies like devolution
- Health problems
- Public sector health service delivery systems and programs at all levels
- Private sector
- Vertical programs
- Other government entities with health systems

- Support systems – human, physical, financial
- Service delivery network management

(2) Health sector information systems and linkages

The domain of investigation for information systems and linkage in health sector is shown in following figure.

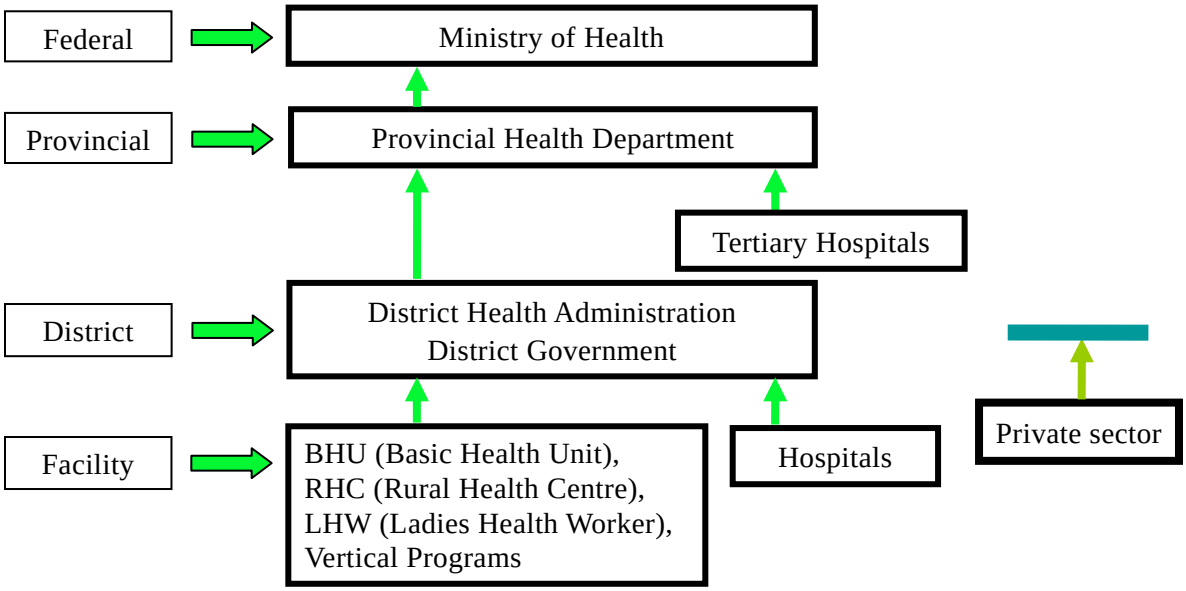

Figure 3-3-2 Domain of health information systems and linkage

Also, the items of situation analysis for information systems and linkage in health sector are shown in below.

- Existing health information systems (HIS) – Routine data collection, HMIS-FLCF, HMIS-Hospitals, HMIS-LHW, HMIS-Vertical , MIS-Private, Vital events registration
- Information requirements (indicator and population denominator)
- Information systems (data collection, data transfer and processing, data quality, completeness, regularity)
- HIS resources requirements (staff workload, motivation/incentives for staffs, feedbacks to staffs, training, physical resources, computerization, issues felt by staffs for data collections/reports, etc.)
- HIS procedures and standards (case definitions, procedure for data transmission and quality assurance)
- Non-routine data collection

(3) Information use

The domain of investigation for information use is shown in following figure.

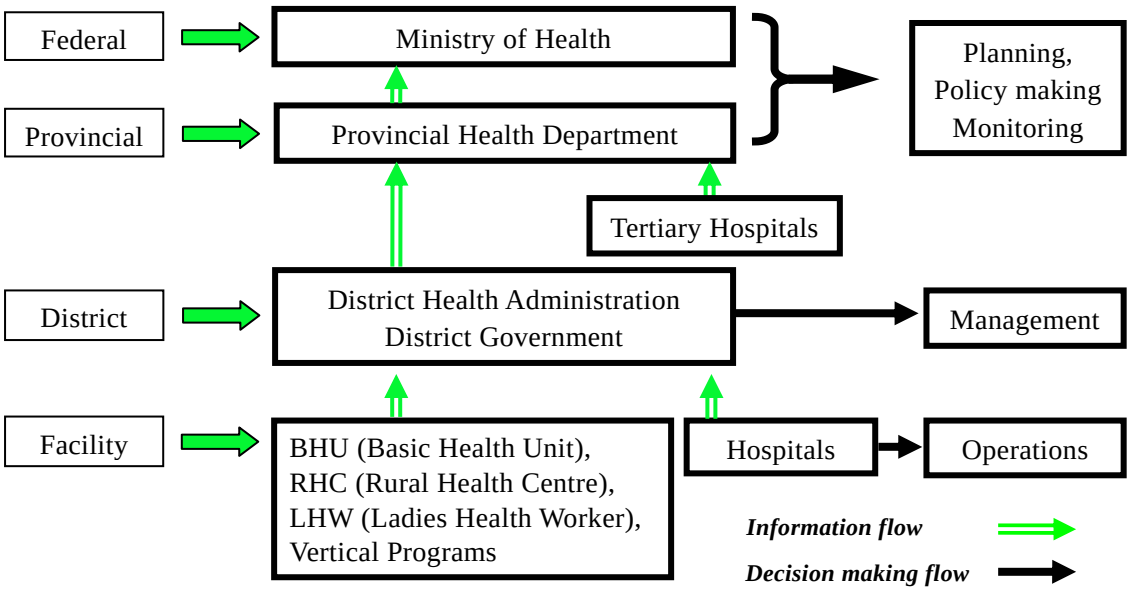

Figure 3-3-3 Domain of investigation for health information use

The items of situation analysis for information use are shown in below.

- Information requirements to support operations and improvement of health systems
  – Demand side
  – Supply side
  – Denominators both demands and supply side
- Information use for operations and management, planning, policy making at each level of facility and organization, especially, evidenced based decision makings, and continued use of health data for improving health system operations and health status

3.4 Situation analysis – methodologies of investigation

During the situation analysis, both quantitative and qualitative methodologies were applied for the investigation.

1) Quantitative methodologies:

i. Structured record review of data collection tools and data aggregation and transfer

ii. Structured self-administered questionnaire for health staff, particularly at facility level

iii. Observational checklist at FLCF

2) Qualitative methodologies

a. At FLCF

a. At Federal and Provincial health department levels

a. At District health authority and District government level

a. At secondary care facility (District Hospital and Tehsil/Taloqua hospital) level

v At tertiary care facility level

vi At community level

vii Private sector

viii Desk review of relevant documents, and computerized MIS (LHW MIS/GIS)

Each methodology addresses one or more of the determinants of HMIS performance: technical, organizational, and behavioral.

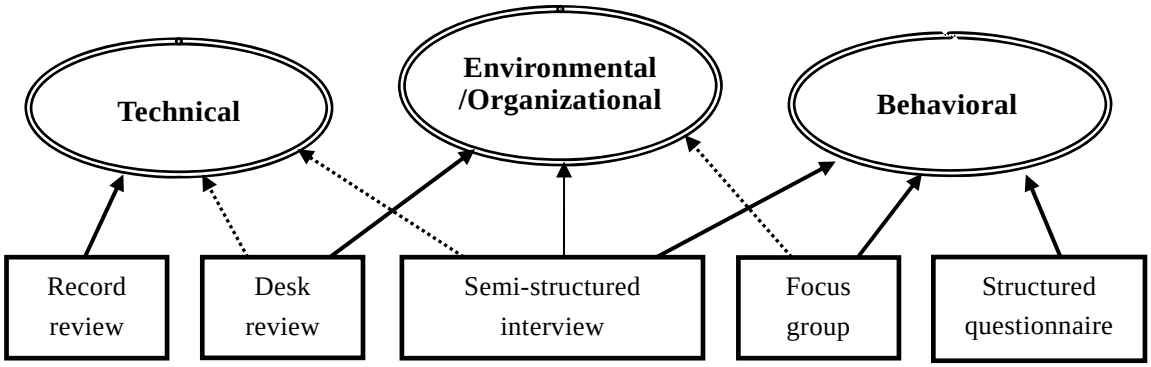

Figure 3-4-1 Methodology for situation analysis for the holistic approach

3.4.1 Qualitative methodologies

(1) At FLCF - Focus Group Discussions and process view

To gather the factors attributable to intentionally filling incorrect data in HMIS-FLCF monthly report, if any, Focus Group Discussions (FGDs) were conducted. A FGD was composed of seven or eight BHU/RHC staff in charge of filling data per province and managed by a skilled local moderator. In FGDs, open-ended questions were asked in local languages. The contents of FGDs were tape-recorded and then transcribed with

participants' verbal agreement. HMIS-FLCF process review at a BHU was also implemented how the system operates and how many used times for reporting. One BHU from each province was conducted HMIS process review.

(2) Semi-structured interview with key informants at Federal, Provincial, District, community and facility levels and in private sector

Due to rapid decentralization and devolution process, District health ddministration (DHA) offices are required to play a core role in collecting data from health facilities and utilizing data to decision-making. Semi-structures interviews were carried out with the key informants to understand in details the context in which the existing health information systems operate, how useful these information systems were in meeting the information needs of health managers, planner and policy makers, and what their unmet information needs are that HMISs should cater to. Therefore, the key informants included

1) District level managers (EDOH, HMIS Coordinators, vertical program managers, medical superintendents of DHQH/THQH), and Nazims /union council chairs
2) Provincial health managers and planners
3) Federal level health managers, policy makers and donors;

The main areas of investigation during the key informant interviews were:

1) Crosscutting health systems issues

a. Position of health sector in government administrative structure: policy and practice
b. Impact of devolution
c. Macroeconomic status of health sector
d. Educational system of medical / non-medical personnel

2) Health problem

3) Health System – Public Sector health service delivery

a. Integrated service delivery
b. Vertical programs – priority
    i) EPI
    ii) Rollback Malaria
    iii) TB – DOTS
    iv) MoPW RH Services
    v) HIV / AIDS
    vi) Nutrition interventions
    vii) LHW program MIS
c. Support systems
    i) Human resources
    ii) Finances
    iii) Medical supplies
    iv) Capital
d. Other governmental entities with health systems
    i) Ministry of Local Government
e. Service delivery network management
    i) Supportive supervision
    ii) Operational management
    iii) Planning
    iv) Policy formulation (national)

4) Information requirements to support operation and improvement of health systems

a. Indicators
    i) Demand
    ii) Supply
b. Denominators, vital events registration

5) Information use (addressed in many of the sections above)

a. Operational management and planning
b. Planning and support
c. Policy, planning, and support

6) Resources for HMIS

a. Staff workload
b. Stationery, IT
c. Training
d. Finance

7) Procedures and standards

a. Case definitions
b. Procedures for data transmission
c. Procedures for data quality assurance

(3) Process review - Documentation of record keeping and reporting systems in selected district and sub-district hospitals

In general, the information system in public sector hospitals is not standardized and uniformly operational. Many lacunae, overlaps and inconsistencies exist in the hospital-based information system[6]. During the situation analysis, the record keeping and reporting systems in DHQH and selected THQH in the 12 target districts were reviewed and documented. One BHU from each province was included in the HMIS process review.

Similarly, one tertiary hospital from each province (total four) was selected for process review. It may be noted that a situation analysis of existing MIS at Secondary and Tertiary Hospitals was carried out by the National HMIS Cell, Ministry of Health, Government of Pakistan in 2001.

The areas of investigation during the process review were included the study of the various HMIS sub-systems (e.g., disease surveillance, routine service reporting, special program reporting, personnel information system, logistics information system, etc.). During the process review, how the data was analyzed and used and for what purposes were investigated.

(4) Private Sector - Key informant Interview and process view

The private sector forms a very important and large part of health service delivery in Pakistan. However, this sector is not well defined and is mostly unregulated. It comprises of a spectrum of very well organized health care institutions, the general practitioners and traditional or alternative health care providers. Therefore, trying to investigate into the whole spectrum of private sector is far beyond the purview of this study.

In the context of Pakistan, where regulatory mechanism for private sector is still to come, the private sector can be integrated in two important HMIS sub-systems, i.e., the epidemiological surveillance and special program (like TB, AIDS, Maternal care) reporting. In NWFP, the provincial government is in the process of setting a private sector regulatory authority. Once set, information flow from the private may become mandatory. Thus,

6 *NHMIS: Development of Training Material / Manual for Hospital MIS. End of Assignment Report. Page 1.*

the situation analysis was investigating the information needs of the government from private sector, but it was also investigating the willingness and motivation of the private sector to provide the relevant information to the government. Thus, interviews with key informants, particularly the provincial representatives of Pakistan Medical Association, was carried out during the situation analysis. One tertiary level hospital at ICT, one second or tertiary level hospital and one first level health facility in each Province was also included in the process review of existing information and reporting system at private health facilities.

(5) Desk review of relevant documents

A lot of work has been done in the field of health information system. Relevant documents were reviewed to collate and analyze the data on HMIS assessments already done and the context in which various health information systems operate in Pakistan. Similarly, the LHW Program in collaboration with UNFPA has developed a computerized system which is in the very initial stages of pilot testing. This computerized LHW-MIS/GIS will also be studied in details during the situation analysis. Particularly, assessment for MHIS-FLCS already done by National HMIS Cell in collaboration with Provincial counterparts was reviewed and analyzed. Through the desk review, best practices and constraints of the existing information systems were studied effectively.

(6) Sample size

The district level key informants were selected basically from the three target districts in each province (total 12 districts). The method for selection of the target districts is given under “section 3.4.2 Quantitative Methodologies (4) Sampling methods” (page I-21).

Structures review of HMIS data collection and reporting tools was done in 62 BHUs and RHCs. These First Level Care Facilities (FLCFs) were randomly selected out of four districts in Punjab, 3 districts each from NWFP and Sindh and 2 districts in Balochistan. These districts were selected purposefully using set criteria and agreed upon with the respective Provincial Health Departments.

A structures record review form was used to review the monthly HMIS/FLCF reporting form. The objective of this exercise was to investigate:

i. whether data is completely filled out in the respective reporting form

ii. whether the data is derived from the appropriate data source prescribed in the HMIS Manual.
iii. whether the data is correctly transcribed or calculated when the report is filled

An observation checklist was also used in those faculties to explore the availability of HMIS instruments at the BHU/RHC and the utilization of those instruments. A self-administered questionnaire was also filled up by the staff of the first level care facilities under investigation.

Preliminary results of the above study revealed the issue that needed further investigation, particularly in the attitude, practices and skills of health workers and managers towards data collection and use. Over 150 first level care facilities and District Health Offices in 16 districts of four provinces were included in this supplementary investigation.

3.4.2. Quantitative methodologies

It is essential to precisely assess the existing HMISs in order to redesign an effective and efficient HMIS by modifying, simplifying, and/or integrating those currently being implemented. Therefore, a particular emphasis would be placed on analyzing the operation situation of HMIS-FLCF since it was the mainstream HMIS of those currently on-going. This package of surveys attempts to assess following three aspects.

i. Data quality in HMIS-FLCF
ii. Health workers' perception and behavior toward HMIS-FLCF
iii. Information utilization and organizational settings of HMIS-FLCF

Table 3-4-1 Package of survey tools proposed

Type of survey	Components corresponding to PRISM			Target
	Data quality	Perception and behavior	Information utilization and environmental settings	
Observational checklist	✓		✓	BHU RHC
Structured record reviewing	✓			BHU RHC
Structured self-administered questionnaire		✓	✓	BHU RHC
Focus Group Discussions (FGDs)		✓		BHU RHC

(1) Observational checklist at FLCF

There are 36 recording/registration forms as original data sources that are used for filling data in the HMIS-FLCF report forms. Availability and utilization of those 36 recording/registration forms were checked by using an observational checklist. This checking process was conducted in the following manner:

1) Request health worker(s) in charge of record/registration keeping present all the forms available at BHU/RHC;
2) Check if respective forms are available at the BHU/RHC[7]; and
3) Check if respective forms are currently used by referring the page most recently used.

Table 3-4-2 Number of reporting items in HMIS-FLCF monthly report form

Category of items	Page no in form	Number of items	Number of items that require calculation
Report month	1	1	-
1. Institution identification	1	8	-
2. Population data	1	8	4 (50.0%)
3. Meeting / health education sessions / home visits	1	8	-
4. Essential drugs / vaccine / supplies	1	72	-
5. Comments / recommendations / achievements	1	1	-
6. Transmission	1	6	-
7. Curative care	2		-
A. New cases	2	24	9 (37.5%)
B. Health problems	2	95	38 (40.0%)
C. Diarrhoea	2	9	5 (55.6%)
D. Dysentery	2	9	5 (55.6%)
E. Acute respiratory infections	3	11	6 (54.5%)
F. Malaria	3	19	10 (52.6%)
G. Tuberculosis	3	23	10 (43.8%)
H. Immunization	3	30	10 (33.3%)
I. Distribution of iodine caps	3		(Not applied)
J. Malnutrition	3	7	3 (42.9%)
8. Mother and child care preventive activities	4		
A. Pre-natal care	4	9	4 (44.4%)
B. Deliveries	4	8	2 (25.0%)
C. Post-natal care	4	3	1 (33.3%)
D. Maternal deaths	4	1	-
E. Family planning	4	18	1 (0.06%)
F. Growth monitoring	4	6	4 (66.7%)
G. Vaccinations	4	70	15 (21.4%)
Total		446	127 (28.5%)

The number of BHUs/RHCs covered by the structured record reviewing (52) was applied as the sample size of the observational checklist (see following section " (2) Structured

[7] We assume that the forms presented to the survey team by health worker(s) are all those currently available at the health facilities.

record reviewing at FLCF"). This was because observational checklist was conducted as an introductory part of structured record reviewing process.

(2) Structured record reviewing at FLCF

Data collected through HMIS are utilized for: (i) smooth daily operation at health facility level; (ii) efficient management at local health administration level; and (iii) policy and strategies development at federal MOH level. Inclusion of incorrect data in HMIS possibly misguides operation, management, and policy making. Therefore, the level of correctness of the data reported in HMIS-FLCF needed to be carefully examined. There are 446 reporting items in the current HMIS-FLCF monthly form. 127 (28.5%) are those requiring calculation using basic arithmetic (Table 3). Furthermore, to complete the form at BHU, it is necessary to aggregate routine data recorded in 36 types of recording forms. In the light of this substantial number of reporting items and complexity of forms, incorrect data, if any, generally could be attributed to four possible types of reasons (Figure 3-4-2).

We measure the level of data correctness at BHUs and RHCs where primary data are generated, regardless of whether causes of incorrect data are intentional or unintentional, by matching and comparing the forms submitted to district officers with original data source maintained at BHUs or RHCs. By matching a sampled HMIS-FLCF monthly report and record/registration as data source available at BHU/RHC, we checked whether:

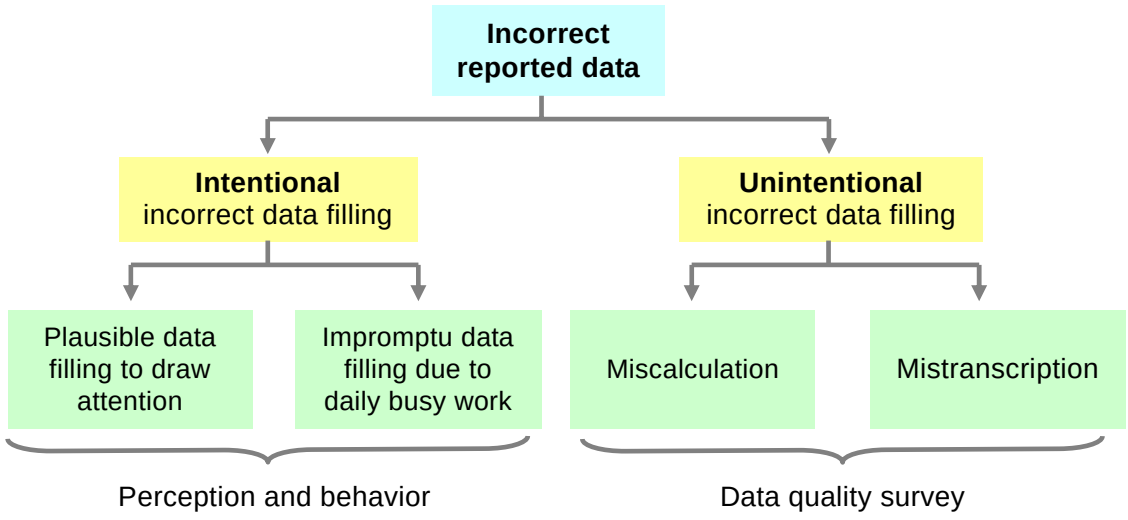

Figure 3-4-2 Possible causes for erroneous data in HMIS-FLCF

1) Any data has been filled out in respective reporting item;
2) It is correctly transcribed or calculated, if any data has been filled; and

3) It has been derived from the right data source(s) designated by the Manual[8] if any data has been filled.

The results of the pretest of structured record reviewing indicated that 30% (P = 0.3) of the target health facilities filled correct data for the reporting item "total number of outpatient visits per month" were correct. Therefore, applying the figure, the required sample size for the descriptive study with 0.1 of standard error and at 95% of confidence level was computed as follows[9]:

$$n_o = \frac{z^2_{1-\alpha/2} P(1-P)}{d^2}$$
$$= \frac{1.96^2 \times (0.30) \times (1-0.30)}{0.1^2} = 81$$

Where, n: number of samples; α: standard error; P: estimated proportion of correctly reported cases; and d: confidence level (desired precision)

Since three districts were selected from each province using convenience sampling, it was necessary to adjust the above sample size to consider the sample design effect. Therefore, it was multiplied by an estimated design effect of 1.3 as follows[10]:

$$n_0' = n_0 \times 1.3 = 81 \times 1.3 = 105$$

Due to possible closedown, absence of staff, and refusal to participate in the study, 90% of the target BHUs/RHCs are estimated to be covered. Therefore, the final sample size was computed as follows:

$$n = n_0' / 0.90 = 105 / 0.90 = 116$$

For seasonality consideration, all the 446 reporting items in two HMIS-FLCF monthly reports (as two samples), namely of August 2003 and February 2003, were examined. This was because in health services are utilized most frequently in August[11] and least frequently in February[12].[13] Therefore, to cover 116 samples of HMIS-FLCF monthly report forms, 58 BHUs/RHCs (=116/2), are required to be visited.

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8 Ministry of Health, Special Education, and Social Welfare. (2004) *Health management information system for first level care facilities: instructional manual for first level care facility staff.* (Revised edition)

9 Lu Ann Aday. (1996) *Designing and conducting health surveys* (2nd ed.). Jossey-Bass. San Francisco. 143-176.

10 In February a least number of outpatients visit BHUs due to their reluctance to go out the coldest month and possible lack of medicine at BHUs

11 In August, a most number of outpatients visit BHUs probably due to the highest incidence of diarrheal diseases and malaria.

12 In February, a least number of outpatients visit BHUs due to their reluctance to go out the coldest month and possible lack of medicine at BHUs.

13 National HMIS Cell, Ministry of Health. (2003).*Utilization of public health facilities in Pakistan.* 7.

(3) Structured self-administered questionnaire

Utilization of information generated for HMIS-FLCF at BHUs and RHCs importantly characterized the level of evidence-based decision making within the health facilities. Additionally, availability of drugs, supplies, indicators, and equipment largely affect on health workers' confidence on and quality of data as an environmental factors.

Structured self-administered questionnaire survey was aimed at measuring: (i) the level of confidence in creating data to be filled out in the HMIS-FLCF monthly report through diagnosis, laboratory examination, and stock check-up; and (ii) possible attributable factors for intentionally filling incorrect data. To measure the level of their confidence in creating data, structured self-administered questionnaire survey was conducted.

The results of the pretest of structured self-administered questionnaire indicated that 80% of the staff responsible for data generation perceived filling a HMIS-FLCF monthly report form accompanied substantially heavy workload. Therefore, applying the figure, the required sample size for the descriptive study with 0.1 of standard error and at 95% of confidence level was computed as follows[14]:

$$n = \frac{z^2_{1-\alpha/2} P(1-P)}{d^2}$$
$$= \frac{1.96^2 \times (0.80) \times (1-0.80)}{0.1^2} = 61$$

Where, n: number of samples; α: standard error; P: estimated proportion of correctly reported cases; and d: confidence level (desired precision)

Since three districts were selected from each province using convenience sampling, it was necessary to adjust the above sample size to consider the sample design effect. Therefore, it was multiplied by an estimated design effect of 1.3 as follows[5]:

$$n = n_0 \times 1.3 = 61 \times 1.3 = 80$$

To capture the sample size (= 61 staff responsible for data generation for HMIS-FLCF), 1.38 staff at BHUs/RHCs (= 80/58) needed to be covered by the structured self-administered questionnaire. For this reason, 1-5 staff at respective target BHUs/RHCs was requested to take part in the structured self-administered questionnaire[15].

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14 Lu Ann Aday. (1996) *Designing and conducting health surveys* (2nd ed.). Jossey-Bass. San Francisco. 143-176.

15 Medical Officer, Lady Health Visitor, Health Technician, dispenser, and Vaccinator are the major possible target staff, who are responsible for data generation for HMIS-FLCF report forms, for the structured self-administered questionnaire.

(4) Sampling methods

Of all the 5,039 BHUs/RHCs (100%) in the target provinces, 4,482 (88.9%) and 557 (11.1%) are respectively BHUs and RHCs. Therefore, we computed 52 BHUs and 6 RHCs in proportion to the ratio between the numbers of BHUs (88.9%) and RHCs (11.1%). We furthermore select target BHUs/RHCs in proportion to the number of BHUs/RHCs among the provinces. The results of computation of the numbers of samples are presented in Table 3-4-3.

Table 3-4-3 Stratified sampling of target BHUs and RHCs

	BHU			RHC			Total		
	No	(%)	Samples	No	(%)	Samples	No	(%)	Samples
Punjab	2485	49.3	29	303	6.0	3	2788	55.3	32
Sindh	789	15.7	9	119	2.4	1	908	18.1	10
NWFP	775	15.4	9	78	1.5	1	853	16.9	10
Balochistan	433	8.6	5	57	1.1	1	490	9.7	6
Total	4482	88.9	52	557	11.1	6	5039	100.0	58

Source: Planning Commission Islamabad (2002) [16]

First, we selected three districts from the respective target provinces employing HMIS-FLCF performance level as a criterion, i.e. (i) a well-performing district; (ii) a fairly-performing district; and (iii) a poorly-performing district. When selecting three districts, a careful attention was paid to the following seven background factors:

1) Health service performance (e.g., child immunization coverage, LHW coverage);
2) Population density (person/km^2);
3) Locality (urban/rural);
4) Donors' involvement;
5) Industrial structure (e.g. industrial/agricultural);
6) Socio-economic level (e.g. household income); and
7) Access (distance, security level)

[16] Pakistan Planning Commission (2002) *Pakistan Health & Population Welfare Facilities Atlas.* Islamabad, Pakistan Planning Commission

(5) Selection of target Districts (areas) for situation analysis

Situation analysis investigation was carried out four Provinces (Punjab, NWFP, Sindh, Balochistan). The following eight criteria for selection of target areas for conduction HMIS situation analysis investigation were set.

i. HMIS-FLCF performance (motivated District to use HMIS, submission rate)
ii. Logistic accessibility (distance and security)
iii. Economic level (District with high and low income, household income)
iv. Industrial structure (District with industry/agriculture bases)
v. Population density (high density and low density area, person/km^2)
vi. Donor involvement (District not involved in integrated strengthening donor programmes
vii. Locality (urban or rural, District should be rural based)
viii. Health services performance (well performing and poor performing districts according to:- EPI coverage (EPI programme reports), - LHW coverage (LHW programme), etc.)

Provincial meetings and C/P meetings were held and selected following 12 Districts (areas).

- Punjab : Bahawalpur Sargodha, Rawalpindi,, Kasur
- NWFP : Abbotabad, Swabi, surrounding area of Peshawar
- Sindh : Karachi, surrounding area of Peshawar, Hyderabad,
- Balochistan : Quetta, surrounding area of Peshawar

(6) Sample size

Second, we select the target BHUs/RHCs in the above-selected by systematic sampling based on the list of health facilities.

At FLCF level, Focus Group Discussions with the staff of the facilities investigated were carried out to capture the staff's views on the record keeping and reporting tools and quality of data including ability to make proper diagnosis.

At district level, semi-structured interviews with key informants, i.e., Executive District Officers Health (EDOH), District Nazims, Union Council Nazims, HMIS Coordinators, the

managers/coordinators of the programs e.g. LHW, EPI, Malaria, AIDS, T.B, Nutrition and Population Welfare Programme were carried out in 10 districts (3 in Sindh, 3 in NWFP, 2 in Punjab and 2 in Balochistan).

In total, 81 district level key-informants were interviewed. The focus of these interviews was to understand in details the context in which the existing health information systems operate, how useful these information systems are in meeting the information needs of health managers, and what their unmet information needs are that the health information system should cater to.

Semi-structured interviews with the Medical Superintendents of 5 Tehsil/Taluka Hospitals (THQH), 3 secondary level District HQ Hospitals (DHQH) and 4 tertiary level hospitals were carried out along with process review of record keeping and reporting systems in those hospitals.

At Provincial level, individual interviews with Director General Health, Provincial HMIS Coordinators and Provincial Mangers of various vertical programs were carried out. Focus Group Discussions were conducted with key provincial level managers in all the four provinces. Meetings with Provincial Secretaries of Health were also carried out to understand their view on improvement of information system in the health sector.

Review of information systems and interview with Managers/Administrators of Health Departments of parastatal organizations, like Punjab Employees Social Security Institution (PESSI), Pakistan International Airlines (PIA), Pakistan Railways, and Water and Power Development Authority (WAPDA) were carried out during the situation analysis.

In order to understand the opportunities/complexities of bringing the private sector within the scope of the health information system, interviews with key informants from Pakistan Medical Association (PMA), Pakistan Medical and Dental Council (PMDC), Health Regulatory Authority in NWFP, Provincial Director Generals (Health) and other officials concerned with regulation of private hospitals/clinics or drug control were carried out.

At Federal level, managers of the programs (LHW, EPI, Malaria, AIDS/HIV AFP Surveillance), and Directorate of Population Welfare were interviewed.

Desk review of published reports and documents was an important element of the situation analysis.

4. Results and findings

4.1 Organizational structure

The Public Health Sector in Pakistan is organized in three tiers – Federation, Province and District. After devolution, health is largely a district subject. The Federal Ministry of Health (MOH) is mostly responsible for policy matters, planning and donor coordination. Implementation of a number of vertical programs and management of Federal hospitals/health institutions are also under the Federal MOH. Provincial Health Departments provide overall technical guidance and supervision and formulation of province-specific policies, while implementation of health activities is the responsibility of the districts. Since devolution, the districts are also responsible for their own planning and budgeting.

4.1.1 Federal/provincial/district

At Federal level there is a Ministry of Health and a Ministry of Population Welfare. Organization and functions of these two ministries are detailed below.

(1) Ministry of health

The Ministry of Health is headed by the Health Minister. Currently there is also a Minister of State for Health. On the bureaucratic side, Federal Secretary (Health) is in-charge who is assisted by Director General (Health), Chief (Health), one Senior Joint Secretary for finance and development and a Joint Secretary for administration. Organization chart of the Ministry of Health is at Annex Figure 1. Major functions of the Ministry of Health are also in Annex Table 1.

(2) Core federal health programs

National programs managed by the Ministry of Health are:

1) National Program for Family Planning and Primary Health Care
2) Expanded Program on Immunization
3) Malaria Control Program

4) National AIDS Control Program
5) T.B Control Program
6) Nutrition Program

All above programs are directly under the supervision/control of the Ministry of Health except Expanded Program on Immunization and National AIDS Control Program, which are based at National Institute of Health (NIH) and are coordinated by the Executive Director, NIH. All these Programs look forward to the Ministry of Health for important policy decisions. Technical guidance is sought from Director General (Health). For planning and development budget, they come to the Senior Joint Secretary (F&D) while for administrative matters they approach administration in the Ministry of Health. In charge of each Program is a National Program Manager /Coordinator.

1) National program for family planning and primary health care

This program aims to deliver basic health services at the door steps of the under-privileged segments of the society through deployment of Lady Health Workers (LHWs) living in their own localities. The Program is currently being implemented in all the districts of the country with the strength of 72,000 LHWs (likely to increase to 100,000 by 2005) nationwide, mainly in rural areas and urban slums of the country. These workers are providing child health, nutrition, and family planning services and treatment of minor ailments. At present, the National Program is covering 60% target population, mainly in the rural areas and urban slums.

2) Expanded program of immunization

This program is providing vaccination against seven vaccine preventable diseases to 4.5 million children annually. National Immunization Days and supplementary campaigns are being conducted for making Pakistan free of polio. Vaccine for Hepatitis B has been introduced in the EPI regime with effect from July 2001 with the help of grant assistance from Global Alliance for Vaccines and Immunization. Pakistan is the first country in the EMRO selected for such assistance.

3) Malaria control program

The goal of the Program is to improve the health status of the Pakistani population by effectively controlling malaria through implementation of Roll Back Malaria (RBM) strategies. The Five Year Plan is a step towards achieving the WHO global RBM target of 50 % reduction in the malaria burden by the year 2010. The overall objective of the project is to coordinate countrywide efforts for implementation of RBM initiative in Pakistan so that the disease no longer poses potential public health threat. Annual parasite incidence (API) during the Year 2002 has decreased to 0.69 cases per 1000 population as compared to API during 2001 which was 0.74 cases /1000 population.

4) National AIDS control program

The Program aims to control AIDS/HIV cases by creating awareness and promote blood safety by strengthening safe blood transfusion services. A new project costing Rs. 2.8 billion has been launched to enhance efforts for control of HIV/AIDS. As on 31st December 2003, total HIV seropositive and AIDS cases in Pakistan stand at 2,197 and 246 cases respectively. WHO/UNAIDS epidemic models estimate that currently there are 70,000–80,000 HIV positive cases in the country. The Provincial Blood Transfusion Authorities have been notified and operationalized to regulate the private bloods banks.

5) T.B control program

The Program aims to control T.B through Directly Observed Treatment Short Course Strategy (DOTS) The Program plans for provision of DOTS coverage all over the country by the Year 2005. Ninety four districts have been covered so far raising the current DOTS coverage to 63%. Efforts are being made to achieve the target of 70% detection rate and 85% cure rate by the time. A major target of TB Control Program is to ensure that morbidity and mortality by T.B is reduced by 50 % by the year 2010.

6) Nutrition program:

The prevalence of low birth weight babies (25 %), anemia in women of childbearing age (60%) and anemia in children under 5 years of age (42%) is extremely high. In view of the situation, the Ministry of Health has taken measures for the improvement of

nutritional status of the masses through launching a Nutrition Programme titled "Improvement of Nutrition through Primary Health Care (PHC) and Nutrition Education/ Public Awareness" at the cost of Rs 302.7 million. The Programme aims at reduction of infant mortality and low birth weight babies; better child and maternal health care; promotion of breast feeding; and prevention of night blindness, iron deficiency anemia, as well as iodine deficiency disease.

Secretary (Health) enjoys full financial powers for Federal Budget. He is Principal Accounting Officer. Appointments from BPS 1-15 are made by the Ministry of Health while BPS-16 and above are made by the Federal Public Service Commission. There is two types of staff in the Ministry of Health i.e. technical staff of the Ministry of Health (this is its own staff) and the administrative staff. Transfers of technical staff are made by the Ministry of Health while the transfers of administrative staff are made by Establishment Division.

Health Policy is formulated at federal level by the Ministry of Health in consultation with provinces and all other stakeholders. The Policy is approved by the Cabinet. Current Health Policy was approved in 2001which enshrines a number of priority areas. Follow up of the implementation of the Policy is continuously watched by the Ministry of Health and a Progress Report from time to time is submitted at different fora.

Planning at federal level is done through formulation of plans. Three types of plans are formulated i.e. Perspective Plans, Medium Term Plans and Rolling Plans. Pakistan is experiencing a perspective plan of 2000-2010. Recently preparations have been made for 10th Five Year Plan. PSDP allocations are made through Annual Development Plan. There is a high powered Planning Commission in Pakistan which formulates plans in consultation with the concerned technical ministries. Plans are transformed into projects. Ministry can approve projects up to Rs.40 million at the forum of Departmental Development Party (DDWP) represented by Planning and Development Division and Finance Division. However, the projects involving 25% or more of the total cost in foreign exchange or foreign assistance will be presented to CDWP/ECNEC. Projects up to Rs.200 million can be approved by Central Development Working Party (CDWP), while the projects above Rs.200 million will be approved by Executive Committee of National Economic Council (ECNEC). DDWP is chaired by the Secretary concerned of the Ministry, while CDWP and ECNEC are chaired by Deputy Chairman, Planning Commission/Secretary P&D Division,

and Finance Minister respectively.

Human Resource Development is the weak area. There is no clear cut National Policy on Human Resource Development. HRD Planning is done on adhoc basis. There is no HRD unit established at the Ministry of Health to care about future planning. As a result, imbalances occur in the production of medical/para-medical staff. Nurses versus doctors ratio (1:3) is not appreciable. However, at federal level, Health Services Academy is existent which caters to the training needs of medical professionals.

Drugs Control System works at Federal Ministry of Health. The system ensures safe, effective and quality drugs at reasonable and affordable prices under Drugs Act, 1976. The system has established licensing, registration, quality control, Research and Development, clinical trials, and publication units. Licensing and registration is done through Drugs Licensing Broad and Drugs Registration Board respectively. For quality assurance, Drug Inspectors are working at federal, provincial and district level to monitor compliance of Good Manufacturing Practices and post marketing surveillance. There are five Drugs Testing laboratories in the country. Sale is a provincial subject and each province has a Provincial Quality Control Board for monitoring quality of drugs.

(3) Ministry of population welfare

The Ministry of Population Welfare with the help of line departments is responsible for the delivery of family planning services in the country. In Pakistan, Family Planning is a separate subject from Health and enjoys separate Ministry which is also bureaucratically headed by the Secretary. Under this Ministry, the Population Welfare Program is being run throughout the country.

Family Planning Program started in Pakistan in 60s and has reached the present form of Population Welfare Program after passing through different stages of evolution. Population Welfare Program has been de-federalized. Funds are transferred to provinces in lump sum. Provinces make their own plans. However, policy, macro planning and monitoring remains with the Ministry of Population Welfare. Service Delivery Infrastructure spreads over program outlets and service units of Provincial Line Departments (PLDs) and target group institutions. The entire network consists of 1,911 Family Welfare Centers (FWCs), 106 Reproductive Health Services (RHS) “A” Centers, 151 Mobile Service Units, 500 outlets of

Target Group Institutions (TGIs) 7584 outlets of Provincial Line Departments (PLDs) including those of Provincial Health Departments. Through these service delivery outlets, Population Welfare Program offers wide range of family planning services including motivation, counseling, full choice of contraceptives and contraceptive surgery. The responsibility to involve males in family planning at grass root level is promoted through the existing network of 1343 male village based family planning workers.

(4) Provincial level

There are four provinces in Pakistan namely Punjab, Sindh, NWFP and Balochistan. Each province has its own Provincial department of health.

1) Departments of Health

Political head of the Provincial Health Department (PHD) is the provincial Health Minister. Secretary is the overall administrative in-charge of the Department. Director General is the technical head who reports to the Secretary. Organogram of each PHD is given in Annex Figure 2 to Annex Figure 7. The situation in each province is elaborated as under:

Punjab

Provincial Health Department has its own budget for provincial institutions. Provincial Government (Finance Department) transfers one line budget to district government which is further distributed to district departments including health. Tied grants are also given to districts by provincial government (Finance Department) which are spent in accordance with the agreed guidelines and protocols.

Secretary (Health) is Principal Accounting Officer for provincial budget. Provincial government can approve the development schemes up to Rs.40 million by Departmental Development Working Party (DDWP) chaired by Secretary (Health) and represented by Finance Department, and Planning & Development Department. Schemes Rs.40+ to Rs.1000 million are approved through Provincial Development Working Party (PDWP) chaired by chairman, P&D Board

Placement of staff of BPS-17 and above in district is made by Provincial Health Department while the administrative control of the staff lies with district. However,

disciplinary action is taken by the provincial government on the recommendations of district government. External transfers i.e. from one district to other are made by provincial government while internal transfers are made by district government.

Foreign training is managed by provincial government while in service training is carried out at district level. HRD planning lacks. No clear cut policy and direction is available in this regard. No separate health policy for the province, national health policy has been adopted. Quality standards of health care services lack at the provincial level.

Sindh

The province faces the problem of lack of strategies in the light of devolution. A committee was to be formulated for the implementation of devolution which could not be formed due to certain reasons. There is less degree of supervision and monitoring to see the regular activities and performance of the provincial institutions lacks. There is lack of clarity of powers with regard to transfers in districts. No funds are available to undertake health system research. No initiative has been taken for the development of minimum standards of service delivery. Provincial government has given indicators to districts but analysis and feed back is weak.

Provincial institutions are financed by provincial government. The provincial government can approve the development schemes up to Rs.40 million by Departmental Development Working Party (DDWP) chaired by Secretary (Health) and represented by Finance Department, and Planning & Development Department. Schemes of Rs.40+ to Rs.1000 million are approved through Provincial Development Working Party (PDWP) chaired by Additional Chief Secretary, P&D Department. The power of Provincial Development Working Party to approve development projects fully financed out of the provincial funds has been enhanced up to Rs.1000 million.

No HRD unit is operational in the province to care for human resource development. National Health Policy is being implemented through development of schemes. National Health Policy has been explained to districts at workshops. It appears that no targets have been given to the districts to implement national health policy by the provincial government. Provincial staff was also found ignorant of any goals and targets established at federal level. Provincial Quality Control Board is headed by Secretary, Drugs Quality Control. Chief Inspector is under DG. Drugs Inspectors work at district level.

Balochistan

In the province of Balochistan, Secretary (Health) is Principal Accounting Officer/Chief Purchase Officer. DG (Health) enjoys full financial powers of category-I officer. Recruitment/service matters up to grade 9 are with district government while 10-15 with provincial government, and 16+ with Provincial Public Service Commission. Intra district transfers up to grade 17 are made by Minister while 18+ by Chief Minister.

Provincial government can approve the development schemes up to Rs.40 million by Departmental Development Working Party (DDWP) chaired by Secretary (Health) and represented by Finance Department, and Planning & Development Department. Schemes of Rs.40+ to Rs.1000 million are approved through Provincial Development Working Party (PDWP) chaired by Additional Chief Secretary, P&D Department.

Balochistan has one plus point that it has a Directorate of HRD in functional position which cares about training needs of paramedics and nurses. Postgraduate institutions do not fall under the purview of HRD Directorate. This Directorate also makes some projections/planning with respect to human resource development.

Provincial Drugs Quality Control Board works under Chief Drugs Inspector while Drugs Inspectors at district level. Chief Drugs Inspector looks after the matter of licensing and quality both. He is also assisted by Drugs Inspectors based at provincial level.

The province has no separate provincial policy and guidelines. It has also been felt that no targets and objectives, guidelines and specific directions are given to districts. The provincial authorities were also found unaware of any goals/targets set by federal government.

NWFP

Though first function of the province of NWFP is stated to make health policy for the province but in practice no separate health policy is developed by the province. As of other provinces, the NWFP provides its inputs to National Health Policy. Moreover, the province plans, implements, supervises and monitors provincial level ADP projects. Health Sector Research and Reformed Unit has been established to carry out health system research.

Provincial Health Department enjoys its own budget for provincial institutions. Secretary (Health) is Principal Accounting Officer who is category-I officer. He is also the chairman of Departmental Development Working Party (DDWP) which has Finance Department and Planning and Development Department as permanent members, and can approve the development projects up to Rs.40 million. Like other provinces, the Provincial Development Working Party (PDWP) has power of approving development projects/schemes up to Rs.1000 million. This is chaired by Additional Chief Secretary (ACS), Planning and Development Department. Projects over Rs.1000 million are sent to Planning Commission, Islamabad which are approved by Executive Committee of National Economic Council (ECNEC) on the recommendation of Central Development Working Party (CDWP). ECNEC is chaired by Finance Minister.

Placement/appointment of staff BPS16 and above in district is made by provincial government while district government can make appointments from BPS I-15. Service matters of BPS 16 and above of district are dealt by provincial government. For the staff, if some disciplinary action is required, district government is just recommending authority, while the action will be taken by the provincial government. Transfers up to BPS 15 within the district are made by district while transfers of BPS 16 and above and intra district transfers of all staff are made by provincial government. Provincial Secretary (Health) his appointing authority of provincial staff up to BPS 16, Chief Secretary for BPS 17 while Chief Minister for 18+ through submission of summary by the Secretary Health.

As regards Human Development, there is no Human Resource Development (HRD) Unit in the Health Department. However, two projects regarding midwifery training and the training of multipurpose workers have been approved by provincial government. Action regarding training has been initiated by the Provincial Health Services Academy. Nursing Schools (9), Public Health Schools (4), District Development Health Centres (5) and Provincial Health Services Academy caters to the needs of training. However, no proper future planning/projections of HRD is done.

Different instructions with particular reference to preventive services like EPI, T.B, Malaria and HIV/AIDS are sent form province to districts. However, it is observed that no policy guidelines, objective and targets are trickled down to districts.

To ensure quality of drugs, there is a Provincial Quality Control Board headed by

Additional Secretary. There is Chief Drugs Inspector under whom Drugs Inspectors are working at district level. There is also Section Officer (Drugs).
Quality standards of health care services lack but being improved under the standardization policy of the Provincial Health Department.

(5) District level

Devolution has taken place in Pakistan on 14th August 2001. District Governments have been created. In the new system, Nazim is the head of the District Government assisted by District Coordination Officer (DCO).

1) District health departments

Each district has separate entity of District Health Department. Executive District Officer (Health) is the in-charge of Health Department of district who is further assisted by District Officers (Health) and DO(H) is further assisted by Deputy District Officers (Health). Districts Organizational Charts are in Annex Figure 8 to Annex Figure 12. Districts are responsible for primary and secondary level health care services. District Health Departments` responsibilities for each province are shown in Annex Table 2. The situation regarding district system of each province is narrated as under:

Punjab

In Punjab district health system after devolution is working well. Most of the activities given in the notification are being done. However, nutrition surveys/activities are not being conducted yet. This may be attributed to infancy of nutrition project at federal level where strategies/guidelines are being prepared. Nutritional activities in the district are expected after the finalization of the guidelines. Clinical audit is also not being done. Moreover, the authority of the district government for preparation of development schemes has been enhanced from Rs. 5 million to Rs. 20 million. District medico legal officer has been appointed.

District government receives one line budget from provincial government which is further allocated to district departments. EDO (Health) is empowered for making expenditure as category-I officer.

EDO (Health) enjoys administrative powers over the staff under him. Selection is done up to specialist under the chairmanship of DCO. Disciplinary action up to Grade16 can be taken by district government while action against grade 17+ can be taken by Government of Punjab. However, it has been observed that there is some times less clear vision of demarcation of duties among the authorities at district level. This may be attributed to new experience of devolution.

There is a District Development Committee under the chairmanship of DCO which can approve the district development schemes up to Rs. 20 million. Annual demands are made by EDO (Health) to EDO (Finance and Planning). Then there is a meeting to discuss the demands at DCO level which are ultimately approved/decided at District Assembly.

There is a District Human Development Centre which caters to the training needs of the district decided by the provincial government.

Policy guidelines are received from provincial level. This is noted with concern that National Health Policy is seldom known/seen by District Health authorities. If it is the case, achievement of objectives and goals given in the National Health Policy are myth and difficult to achieve. National Health Policy, goals & targets set at national level need wide circulation to districts, which are real implementers.

Sindh

District Health Department enjoys planning office with the Position of Deputy District Officer and Planning Officer. The district government can make appointments up to BPS-17 while the provincial Government makes appointments above BPS-17. All intra district transfers are made by provincial government. However, Executive District Officer (Health) can exercise administrative, financial and technical control over and guidance to all medical, paramedical and auxiliary staff in all the Government Health Institutions working under him in the district and have powers of transfer of staff up to BPS-11 including nursing cadre.

District Development Working Party under the chairmanship of DCO and with the approval of finance, planning and development, and works department (if applicable) can advise the health schemes up to Rs. 20 million (enhanced later from Rs.5 million to Rs.20 million) to district Nazim for approval.

No human resource development planning is done at district level. However, training is conducted at District Health Development Centre by the provincial government. Policy guidelines are received from provinces.

Monitoring and supervision of health facilities is weak due to shortage of vehicles. Procurement of medicines is not independently done but in accordance with contract rate system. Provincial Government approves rate and firms for procurement of medicines while the District Health Department out of their allocation makes payment.

District Quality Control Broad could not be established. All nursing matters are dealt by provincial government and not by District Government District Health Authorities are less aware of National Health Policy as of Punjab.

Baluchistan

District government can approve health schemes up to Rs. 20 million. All service matters of BPS 1-9 are dealt by district government and BPS-10+ by provincial government. Intra district transfers of BPS 1-17 employees are made by Minister while BPS 18+ are dealt by Chief Minister.

District Health Department appears to be facing the problems like ambiguity with regard to responsibilities between provincial and district government, less priority to health, donors dominant EPI activities, shortage of vehicles for field activities, absence of the position of Government Public Analyst, lack of funds for a number of health activities, absence of planning office and District Quality Control Board. MSD is not under district government. No user charges are levied at district level hospitals/facilities. No training is conducted by district government. District health authorities are less aware of National Health Policy/goals and targets.

NWFP

No nutritional activities are being conducted at the district level. Reasons may be attributed to non development/issuance of guidelines at federal level. Levy of fees by Medical Officers is not existent. In NWFP, District Development Committee can approve district schemes up to Rs.40 million. District government is empowered of hiring and firing the staff up to BPS 15.

. District has no separate health policy. Drugs Inspectors at district level ensure the quality of drugs. For the purpose they visit drugs stores in the market. Moreover quality of medicine is controlled by Medicine Coordination Cell (MCC) of Provincial Department. Rates and firms are decided by provincial government through MCC while payment is made by district government out of their own budget.

No HRD planning at district level. However, 5 District Health Development Centers are working in the province for the training of district level staff. District Health Development Centres cares about the needs of training of district staff. Earlier these Centres were established at divisional level but on the abolishment of divisional tier of the government, these Centres remained at the same place but converted into District Health Development Centres instead of Divisional Health Development Centres.

Planning capacity at EDO (Health) office is weak as there is no Planning Officer in the office.

4.1.2 Health delivery service system

(1) First level health care facilities

1) Health House

This is a first contact point for health based in community. Health for All at door steps is the goal of the Government. Lady Health Workers (LHWs) are the milestone in achieving this goal. Lady Health Workers Programme (LHWs) was started in 1994. 77,000 LHWs have been deployed in the country with the target of 100,000 in 2005. These LHWs belong to the local community and remain in the community 24 hours. Their own house is known as Health House. These workers are providing services to their communities in the field of child health, nutrition, family planning and treatment of minor ailments.

2) Civil Dispensary

This is a primary health care first level care facility (FLCF). Total dispensaries in the country are 4,554. In general, Medical Officer/Dispenser is the in-charge along with Dai and a peon. However, the staffing position varies from province to province. In Sindh, the dispensary is well equipped comprising male Medical Officer in-charge, WMO, dispenser, vaccinator, LHV and Chowkidar Primary function of the dispensary is to provide first aid treatment to the ailing persons of the community.

3) Basic Health Unit (BHU)

Each union council is equipped with BHU. This covers the population ranging 5,000 – 10,000. Total number of Basic Health Units/Sub-health Centres is 5,290. This enjoys at least a Medical Officer along with paramedical staff like an LHV/FMT. In Punjab, a BHU has a Medical Officer (MO) and other staff of 8 peopl , which include paramedics and support staff along with an outreach Team (CDC Supervisor and Vaccinator)for an average population of 22,000. In Balochistan, BHU staff strength in general is MO (In-charge), LMO, Dental Surgeon, Medical Technician (Male and Female), LHV, Vaccinator (One for Centre and two for out reach services), two midwifes, Nursing Orderly, Peon and Chowkidar. In Sindh, this has better staff strength like Senior Medical Officer (In-charge), MO, WMO, Dental Surgeon, Dispenser, LHV, Vaccinator, Ward Servant, Aya, Chowkidar (3). Functions of a BHU are:

- Provision of :
  - Medical care for minor ailments and referral of complicated cases.
  - Preventive care to mother and child.
  - Reproductive health services.
  - Dental Services (In Sindh and Balochistan).

- Management of facility resources like personnel, drugs, supplies and equipment.

BHU in-charge has neither financial powers (As he has no budget to handle at his disposal) nor administrative powers over the staff. He can grant only three days casual to the staff, but cannot take any disciplinary action against any employee. Neither he can stop pay, nor he can serve explanation call to a defaulter. He can just recommend any

action to the EDO office. He has no role to play in planning, every thing is decided at EDO (Health) level.

In Punjab, emergency services are available at BHU with two beds. BHU in-charges are called in EDO Office on 10th of every month to discuss any problem or issues. Guidelines/instructions particularly with reference to preventive care like EPI/outbreaks of diseases are issued to BHUs from time to time by EDO (Health) Office.

In Sindh, it has been ascertained that policy guidelines received from town/district health office are discussed with concerned staff for implementation. Community meetings are also held. Moreover, staff training/meetings are held at BHU level.

In Balochistan, LHWs attend a BHU for five days for reporting. At BHU, training of LHWs and supervisors is conducted. It sounds that there is lack of regular meetings of BHU staff at EDO Office for discussing issues and problems.

In NWFP, health education is also provided at BHU. Guidelines/instructions regarding preventive services EPI, Malaria, T.B are issued to BHUs by EDO (Health Office). Then these are discussed among the concerned staff at BHU. Community meetings are held. LHWs are attached with BHU who attend the BHU at least 5 days in a month for reporting. Training of LHWs and supervisors is conducted at BHU. No regular monthly meetings of BHU staff are held in EDO (Health) but on need bases. Quality of medicines is ensured by safe storage. Cold chain equipment are maintained. EPI targets are given to the BHUs by EDO (Health).

In a nutshell, the role of BHU in-charge is dominant with curative care. He is just care provider and not manager. BHU staff is not aware of any National Health Policy/goals and targets set for national level.

4) Rural Health Centers (RHCs)

The next to BHU is a Rural Health Centre. This covers population ranging 40,000-50,000. Total number of RHCs is 552. In rural settings, RHC is a more developed facility. It also acts as a first referral centre. This has 2-4 Medical Officers (one lady), a dental surgeon and sufficient paramedical staff. In addition to the functions of a BHU, this has some

more services like surgical services, inpatient care (with 20-30 beds), diagnostic services, laboratory services, natal care, emergency and ambulance services.

The position of RHC in-charges is almost same as of BHU in-charges. They don't have administrative and financial powers. They have little role in planning and policy translation. They also are less aware of National Health Policy/goals and targets set for national level. RHCs like BHUs have no separate budget.

In Punjab, however, Rural Health Centres are allocated separate budget. Senior Medical Officer in-charge acts as DDO. One clerk is available to deal with budget. Medico-legal certificates are issued by RHC. Meeting of SMOs of RHCs is held each and every month at EDO (Health) office to discuss budget position, reconciliation information and other issues. For annual budget RHC makes demand of medicines, equipment and staff etc. to EDO (Health) office. In a meeting in EDO office (Health), budget requirements are discussed and recommended to DCO which further go to District Assembly for approval Rs.15-16 lac budget is allocated to RHC annually. Senior Medical Officer enjoys powers of category-3 officer with contingency power of Rs. 50,000. RHC enjoys the strength as SMO/MO (in-charge), Medical Officer, Woman Medical Officer, Dental Surgeon, Dispenser (3-4), LHV, Sanitary Inspector, Dental Assistant, X-Ray Assistant, Laboratory Assistant, Ward Servant, (1 male and 2 Female), Midwife, Peon, Chwokidar and Driver etc.

In Sindh RHC enjoys MS (in-charge), DMS, SMO, SWMO, Child Specialist, Chest Specialist, Eye Specialist, Dental Surgeon, WMO (2-3), MOS (3-4), Staff Nurse (2-3) and complete para-medical staff. 24 hours services are available at RHC. There is no separate budget allocation for RHC in Sindh, EDO (Health) is the DDO for RHC.

In Balochistan, RHC has SMO (in-charge), MO (2) LMO (1), Dental Surgeon, Medical Technician, Dispenser, LHV/FMT, X-Ray Assistant, Laboratory Assistant, Dental Technician, EPI Vaccinator, Ambulance Driver, Peon, Chwokidar. No separate budget for RHC.

In NWFP, RHC enjoys the staff as :Senior Medical Officer,Women Medical Office, Medical Officer(2),Dental Surgeon, Dental Technician(4),Medical Technician (4),,Lady Health Visitor, Radio Grapher, Lab. Attendant, X-Ray Technician , Operation Theater

Attendant, X-Ray Attendant, Dental Attendant, Driver, Dai, Ward Orderly, Behishti, Chowkidar, Cook, Mali, and Sweeper.

5) Special centers

Some special centers like MCH Centers (907),T.B Centers (289) also exist in rural/ urban areas. MCH Centers provide health care only to women and children while T.B Centers to T.B patients. T.B is now being managed through DOTS strategy with 78 % cure rate.

6) OPDs of Hospitals

Hospitals in urban localities are comparatively better equipped with modern equipment and staff. Due to the availability of specialized doctors, there is tendency to approach them directly for first level care. This on one hand makes them over burdened for first level care and on the other this leaves them out of their real specialized work. This all happens because of non-existence of an established referral system in practice. 906 hospitals are spread over the country.

(2) Referral level health care facilities:

1) Tehsil/Civil hospital

The hospital is headed by a Medical Superintendent or Civil Surgeon. At least four specialists like physician, surgeon, gynecologist, and pediatrician are available in the hospital. Function of the hospital is provision of:

- ambulatory referral care.
- surgical and obstetrical emergency services.
- diagnostic tests (laboratory and X-Ray).
- in patient care.
- MCH services.
- Family planning services.
- Preventive care.

2) District headquarters hospital

It is headed by a Medical Superintendent with 20-30 Medical Officers. In addition to the functions mentioned above, this hospital provides a variety of other specialized services like Medical Specialist, ENT, ophthalmology orthopedic and urology, pathology and anesthesia etc.

3) Teaching hospitals

Teaching hospitals attached therewith medical colleges are located in major cities. Medical Superintendent is the head of the Hospital while Principal is the head of Medical College. Major functions of these institutions are provision of specialized/ tertiary care services to the patients as well as training of doctors and paramedics /nurses. In Punjab in all teaching hospitals, Government has constituted a Board of Management and the Principal Medical College is the principal accounting officer of medical college as well as allied hospital. Medical Superintendent is working under the administrative control of the principal.

Above discussion concludes that Pakistan's Health System comprises three tiers i.e. Federal, Provincial and District level. The center of activities is district after devolution. At Federal level Ministry of Health is primarily responsible for policy, planning and coordination. Provinces take care of macro planning and technical guidance to districts. The delivery of services basically lies with districts. In the new system Nazim is the head of the district assisted by District coordination Officer (DCO). He is administrative head of group of Officers for different district departments including health. Executive District Officer (Health) is the in-charge of health department. He is responsible for all health activities in the district.

After devolution though districts are considered independent enough in their decisions but devolution could not find sound footing. roles and authority are not clear enough between provinces and districts. Provinces have strong clutch over districts. Districts lack planning management, financial and administrative capacity. On the other hand districts enjoy one line budget from provinces which is further distributed by District Governments among the District Departments but health appears to be less priority. In the situation, the need of a strong HMIS increases manifold to convince District Authorities for having its good share in the district budget.

Financial and administrative power basically rests with District Nazim and DCO. EDO (Health) has less authority and in most of the cases recommending authority. He enjoys powers of transfer over the staff up to BPS – 11. District Governments can approve the projects up to 20 million. Human Resource Development (HRD) planning is weak area at all levels particularly at district level. No projections of staffing requirements are done at any level. Ad-hoc planning is done for HRD. There is serious lack of policy at district level. It is a point of concern that most of the district authorities who are real implementers are not aware of National Health Policy document and targets set in the policy. The same position is at RHC and BHU level. If they do not know the goals and targets set for the nation, what about any outcome thereof. This implies the need of wide circulation of National objectives and targets up to grass root level and effective monitoring of these targets.

Devolution is strong and successful with the variation of degree at different provinces. This is most successful in Punjab, then in Sindh but weak in Balochistan. NWFP is in between.

RHC and BHU levels have no financial and administrative power and look forward to district health office for even nitty gritty things. They do not have any funds at the their disposal even for minor repairs. Health activities are fragmented and isolated in the community. Curative role of health facility in-charges is dominant and they are least bothered about other health activities in their catchment area. Comprehensive primary health care is needed at community level by giving leadership role to the facility in-charges. They must have targets to achieve with effective monitoring. But this will need enhancement of their authority to have proper control over the staff working under them so that the objectives and targets set for the catchment area could be achieved.

In a summary form the position is as under:

i. Role of federal and provincial level in health delivery is very limited as a result of devolution.
ii. Devolution in different provinces is passing through at different stages. Punjab and Sindh are in better position.
iii. There is lack of clarity of duties and authorities between district and provincial level.

iv. Planning, management, administrative and financial capacity of districts is weak.
v. EDO (Health) has less authority. Real power lies with district Nazim and DCO.
vi. Health is less priority at district.
vii. Human Resource Development area is weak at all levels.
viii. Monitoring and supervision of health facilities is weak due to a variety of reasons.
ix. National Health Policy, goals and targets are less known to district and facility level.
x. The role of health facility in-charges is curative oriented. Health activities in his catchment area takes place in isolation.
xi. BHUs/RHCs have no role to play in policy, planning and targets setting. BHUs/RHCs in-charges enjoy no financial and administrative powers.

What required is:

i. Goals and targets must be set at all levels and effective mechanism needs for implementation.
ii. Devolution must be made successful by creation of an oversight committee for the implementation of devolved responsibilities.
iii. There must be clear cut demarcation of duties and authorities at all levels which should be respected by every government.
iv. Capacity building is direly needed at district level to make the devolution a success story.
v. EDO (Health) powers need to be enhanced to have meaningful authority over the staff.
vi. Strong HMIS system is required for getting its due share from district budget and deal with all management problems.
vii. Human Resource Development Cells are required at all levels. There should be some clear policy for HRD.
viii. Comprehensive Primary Health Care needs to be introduced to have less stress over scarce resources. For that health facility in-charges should be given leadership role.

(3) District health management

As per the definition of WHO "Health district" is a self-contained segment of the national health system, comprised of a well-defined population living in a clearly delineated administrative and geographical area, whether urban or rural. It includes all institutions and individuals providing health care in the district, whether governmental, social security, non-governmental, private or traditional". (WHO Global Programme Committee, 1986)[17]. The main functions of the management team at district level, according to WHO document are to:

- Analyze the health situation, priority problems and network of health services delivery in the district
- Co-ordinate and evaluate health services delivery and co-ordinate institutions providing health care
- Implement health policies and program defined by the national and intermediate levels
- Ensure quality, quantity and opportunity of services to individuals and environment
- Promote and facilitate community participation in health care delivery
- Develop the human resources required
- Develop and maintain a district information system for decision making at district, regional and central level.
- Interact with non-government organizations, the private sector, traditional healers, etc. to ensure that common goals are achieved.

1) Health sector and the local government ordinance and devolution plan

Since 14 August 2001, the Government of Pakistan has devolved or decentralized its administrative and financial authority for the management of specific offices of the Provincial Government to the Local Government. The Ordinance, called the Local Government Ordinance 2001, for the above purpose, makes District Government responsible to the people and the Provincial Government for improvement of governance and delivery of services within the ambit of the authority decentralized to it under the Ordinance.[18] [Local Government Ordinance 2001, section 16 (3)]. The devolution of the

[17] The Use of Indicators for Communicable Disease Control at District Level; WHO/CDS/TB 2001.289. WHO, Geneva

[18] Local Government Ordinance 2001, section 16 (3)

political power and decentralization of administrative and financial authority to accountable local governments was done to establish good governance, effective delivery of services and transparent decision-making through institutionalized participation of the people at grass-root level[19].

2) District government and health sector

The District Government is headed by the Zila Nazim and Deputy Zila Nazim, who is the convener of the District Council (Assembly). All government departments except police, taxation and a few federally controlled public sector departments are under the authority of the District Nazim. Thus, the district Health Department is also under the control of the District Nazim who exerts his powers through the District Coordinating Officer (DCO), the EDOH and the District Health Committee. As such, the Nazim is responsible for ensuring proper working of the health department, monitoring the services, funds allocation and re-appropriation of funds within specific heads of budget lines (with the approval of the District Assembly) as deemed necessary. He also has the authority to decide on expansion of health services to the communities, extension of health facilities or opening a new health facility, or putting extra money for drugs or maintenance of buildings through the approval of the District Assembly. The Zila Nazim does not has the power to recruit the health staff on contract basis. The Government has constituted a district recruitment committee at district level which does only recommendations and the Government issues appointment orders. Zila Nazim has only transfer powers up to grade 18.

Regarding budget allocation for the health sector, the Provincial Government allocates budget en-block to the District Government. There is a District Finance Committee that recommends the budget share for each department. After getting approval of the District Assembly, the District Government then distributes this budget to different departments through EDO (Finance & Planning). The EDO (F&P) makes the budgetary allocations under the supervision of the District Nazim, which is then approved by the District Assembly. Financial allocation for the health department (the non-salary portion) is decided based on the service data, indoor data, community needs expressed by the health committee, the public representatives (e.g., Union Council Nazims) or the community

[19] Local Government Ordinance, 2001: Page 1

itself. The Nazim in Ziarat, Balochistan strongly expressed his confidence in the information provided by union Nazims, which according to him are based on the needs of the community. For example, based on the needs expressed by the union Nazims, the District Nazim dispatched health teams to areas where no team had gone before.

The operational management of the health department and health facilities is done through EDOH and the Medical Superintendents of the hospitals. However, the Nazim can always look into any operational issue that has been brought to his notice either through public complaint, health committees or media.

There is a District Health Committee constituted by 9-11 elected members of the district and tehsils. (In Sargodha, there are two such committees – one is urban health committee and the other is rural health committee). The Health Committee is mainly responsible for:

- Monitoring district health facilities
- Pointing out any deficiency or corruption in public health service delivery
- Identifying the health needs of the communities and the needs for improving health facilities
- Providing information to District Nazim regarding smooth functioning of the BHUs/RHCs and hospitals

The Nazim holds informal meetings with the Health Committee members and listens to their observations. No formal recording of the meeting minutes is done. However, decisions taken on the basis of those observations are properly communicated to the concerned quarters. For example, in Sargodha, the Health Committee identified that female medico-legal cases and postmortems were not done at RHCs due to lack of mortuaries. Pilferage of medicines and improper procurement practices were also identified by the committee. The District Nazim took necessary actions to establish mortuaries in a few RHCs, doctors and other staff absenteeism was rectified and medicine availability and proper utilization was ensured.

In Abbottabad, there is a District Health Management Team (DHMT) and a District Citizen Committee (DCC) where the EDOH, MS of DHQH are the members. All health related matters are discussed and decisions taken. The DCC has been made responsible to monitor service delivery through the FLCFs, staff attendance and their behavior, identify

and report on any misconduct, and identify/assess financial needs and demands for health services. However, due to budgetary constraints, no initiative could be taken for last two years. Examples of actions taken by the District Nazim based on inputs from the above committees include action against illegal practice of delivery by untrained male Health Technicians. The District Government also took the initiative to re-establish the DHQ Hospital after it was closed down following the establishment of Women Medical College Hospital in Abbottabad.

The Health (Monitoring) Committee of the Zila Council is formed under the provision of the Local Government Ordinance section 39 (e). It is part of the functions of the Zila Council to execute internal controls.

As defined under section 39 (e and f) and section 138, the functions of Monitoring Committees for Health or other sectors elected by the Zila Council are:

1. Responsible for monitoring the functioning of the offices of the District Government and preparing quarterly evaluation reports on the prescribed format.
2. The Monitoring Committee shall submit their quarterly reports to the Zila Council which may through resolution require the Zila Nazim to take necessary action.
3. The Monitoring Committee shall function without intruding and interfering in the day to day working of the offices of the local government and shall not cause any harassment to the functionaries thereof, nor shall assume command and control of such offices.
4. The concerned Monitoring Committee may recommend to the competent authority the payment of bonuses or performance pay to the functionaries of the local government in recognition of their efficient performance, subject to availability of funds for this purpose.
5. The Monitoring Committee may identify inefficiency or corruption of functionaries of local government and report to the Zila Nazim for appropriate action and remedial measures and the Nazim shall inform the Zila Council within thirty days of the action taken by him.

Health is also discussed at District Assembly, and the issues include new development schemes, e.g. establishment of trauma center and installation of CT scan, procurement of low quality drugs, corruption in health department, staff attendance and their conduct, quackery etc. In Ziarat, the outbreak of cholera was discussed in the District Assembly and health teams with medicines were sent to the affected areas. Also, the Nazim took initiative to establish civil dispensaries which were fully staffed and provided medicines.

Some of the felt-needs of information by the District Nazim are information on disease burden, health personnel, utilization of health facilities, and health service needs and demands of the community. Regularity of HMIS reporting and data-base on all the available resources in the district was also expressed by the Nazims.

3) Health sector management – Executive district officer (EDO) health

Under the devolution plan, health is a fully devolved subject. The district managers are expected to perform tasks and make decisions that were previously being done for them by the Provincial Health Department, related to planning, financing and budgeting, staff deployment and procurement. The Executive District Officer (EDO) Health has been conferred responsibilities of a number of very important offices. These include – Public Health, Basic and Rural Health, Child and Woman Health, Population Welfare, District Hospitals and Tehsil/Taluka Hospitals[20]. EDO (Health) is responsible for their governance.

Among the functions of the EDO[21] are to:

(a) Ensure that the business of the group of offices under his administrative control is carried out in accordance with law and the rules and the human and material resources placed at his disposal are optimally utilized to improve governance.
(b) Coordinate and supervise the activities of the offices and ensure efficient service delivery by the functionaries under his control.
(c) Prepare development plans and propose budgetary allocations for their execution
(d) Implement approved plans
(e) Prepare proposals for expenditures necessary for the proper conduct of programs, projects, services, and other activities.
(f) Act as Departmental Accounting Officer for his respective group of offices and be responsible to the District Accounts Committee of the Zila Council.

Thus, the post of EDOH was created after the devolution. EDOH is a Category I officer having maximum authority in certain heads of budgetary accounts, except re-appropriation of funds, the authority of which lies with EDO (F&P). The EDOH is the controlling officer for district health officials and has the power of transferring grade 1-10 staff within the district. He is also the competent authority for appointing grade 5-15 officials. However, approval from DCO and District Nazim is required for those appointments and transfers.

[20] Local Government Ordinance 2001, section 26, and First schedule Part C
[21] Local Government Ordinance 2001, section 29

4) District health management team

EDOH is responsible for the supervision and coordination of a number of offices in the district as mentioned earlier20. The respective officers responsible for those offices under EDOH include District Officer Health, Medical Superintendents of district hospital and DDOH {Annex Figure 13 & Annex Figure 14: Organizational Chart of EDOH Office, Rawalpindi and in Sindh}. In most districts, though there is no formal District Health Management Team notified by any competent authority, the district level officers form an informal management group under the EDOH. In Sindh, the Provincial Government has developed guidelines for the formation of DHMT. The EDOH is responsible for the formation of the DHMT according to those guidelines[22]. Similarly, in Abbottabad also there is a notified DHMT.

The DHMTs meet mostly on need-basis to discuss financial or development matters, but there are examples of DHMT having regular monthly meetings. Usually decisions are agreed upon during these meetings and no formal meeting minutes are recorded. Only for important meetings such minutes are recorded which might be circulated and sent to higher authorities.

a. Annual planning

The EDOH has to submit an annual budget to the District Government for approval and fund allocation. Funds for the salary portion of the budget come from the Provincial Health Department. Funds for non-salary portion of the budget are allocated by the District Government.

The practice of developing the annual budget varies among the districts. For example, in Rawalpindi and Abbottabad, the concerned District Officers, MS of Hospitals and Accounts Officer/staff meet together to discuss the annul plan; and in Sargodha the individual institutional heads make their own annual budget and submit to EDOH for vetting and submission to the District Government. Basically, the demands of the concerned District Officers and new development schemes are reflected in the budget.

The information required for the planning exercise include the staff data for salaries,

[22] Job Description: New Setup at District Level. Department of Health, Government of Sindh, p. 4

and information on status and availability of infrastructure, requisite resources and supplies, community health needs. Service coverage indicators are also used in some districts. The required information is received from the respective offices under the EDOH and also from communities through the Nazims, Naib Nazims and communities. In general, it is difficult to get readily available and comprehensive information necessary for developing the annual plan. The information that is received from the community is scrutinized and personal efforts are sometimes made to judge its credibility. Nevertheless, at times compromises are made due to political influences.

The LHW Program has its own separate annual plan for the district. The EDOH in Ziarat also informed that they develop short and long-term plans for improving routine immunization, reduction of infant and maternal mortality, polio eradication, etc. Information for the planning are gathered from HMIS reports and from the community through facility in-charges.

b. Health facility management

The Provincial Health Departments have set standards with regard to staffing and equipment of the health facilities at different tiers. In general, the Provincial Health Department is the competent authority responsible for providing proper staffing and equipment in the health facilities. The EDOH can only request for additional staff (either filling in the sanctioned posts or creating new posts) or equipment and needs approval of the Provincial Health Department for taking any necessary action. Even for transferring staff within the district, approval of DCO/Nazim is required. Thus, in many cases the hospitals are understaffed in some essential departments while they might be overstaffed in others.

With regard to citing (or decommissioning) of any health facility, especially Basic Health Units, the EDOH can propose to the District Development Committee or District Coordination Officer, and the District Assembly only can decide about that. In some special cases the Provincial Government might sanction opening or closing of health facilities.

c. District supervision

The EDOH and his designated District Officers are responsible for making supervisory visits to the health facilities. No supervisory checklist or standard procedure is followed during the visits, nor are HMIS data used for assessing the performance of the health facility. The supervision from the province is not regular and usually no feedback is received from the province regarding the performance of the health facilities.

With regard to monitoring of the vertical programs, the EDOH in one district reported having monthly meetings with the concerned district officers of the vertical programs, and the information, e.g. availability of medicines/vaccines/contraceptives from the various vertical programs are reviewed.

d. In-service training of staff

Various training activities for the staff are organized at the District Health Development Center (DHDC). Usually, whenever a new program is launched in the district, the provincial health department arranges training of the staff at DHDC or PHDC. The DHMT formulates the plan for such training activities based on its assessment of the training-needs of the staff on training list.

As such, no training is initiated by the district itself based on the staff's training needs assessment done by the district health officials themselves. There is no separate budget allocation for in-service training initiated by the district itself.

e. Management of medical supplies

The EDOH is responsible for arranging rate contract of medicines and other supplies through the District Purchase Committee. The respective District Officers place their supply orders to the EDOH and make payments out of their own allocated budgets. EDOH facilitates/coordinates the procurement procedure on behalf of the respective department/unit. Stock registers, expense books and Bin cards for medicines are maintained at EDOH's office, mostly for supplies to the RHCs and BHUs. Tehsil and district hospitals manage their own stores and records. The medicine stock levels for FLCFs are monitored with the help of HMIS reports. It is also reviewed during the

monthly meetings and supervisory visits. There is no system available with the EDOH for monitoring the stock position in the hospitals. It is the responsibility of the respective Medical Superintendents.

For vaccines and other EPI supplies, the provincial EPI program provides the necessary supplies and has its own logistic supply system. Similarly, the LHW program has its own system of central procurement and distribution of supplies to the LHWs. At the district level, the District Coordinator of the LHW Program is responsible for managing the supply system.

f. Equipment and capital assets

The office of the EDOH is responsible for the maintenance of the public health physical assets in the district. In case of any new construction, District Development Working Committee has power of approval Rs: 20 million.

For equipment, there is a Permanent Stock Register and a Repair & Maintenance register. Repair and maintenance at BHU/RHC level, the responsibility lies with DO(H). In case of purchasing new equipment, a demand is placed to EDO (F&P), usually that is included in the annual budget proposal. Once budget is allocated, purchase is done through District Purchase Committee. Vehicles are purchased by the provincial government and provided to the district.

4.1.3 Parastatal health service

In Pakistan, there are a large number of parastatal institutions that maintain well organized health care delivery systems. The most notable of the parastatal institutions include the Employees' Social Security Institution, Water and Power Development Authority (WAPDA), Pakistan International Airlines, Pakistan Railways, Police, the Armed forces, etc. The health services provided by these institutions are mostly for their employees and their families. These institutions manage large network of health facilities and provide wide-range of health services.

(1) Employees social security institutions

Employees Social Security Scheme was introduced in Pakistan on 1st March 1967, under the provisions of Provincial Employees Social Ordinance 1965. The main objective of the scheme is to provide 'secured' health care to the employees of industrial and commercial establishments. The Social Security Institutions Scheme is working in Punjab, Sindh and NWFP almost on the same pattern. A description of the Punjab Employees Social Security Institutions Scheme is given below.

1) The Punjab employees social security institution (PESSI)

The Employees Social Security Scheme started functioning in Punjab with the creation of Punjab Employees Social Security Institution in early seventies. Punjab Employees Social Security Institution is a welfare organization. Its main objective is to provide comprehensive medical care to the Secured Workers and their family members including their parents and to give financial assistance in case of sickness and work-related injuries. PESSI does not receive any financial assistance from the Government for carrying out its activities. The main source of PESSI income is Social Security Contribution collected from the notified industrial and commercial establishments. PESSI has established hospitals and dispensaries in the industrial areas with qualified doctor, specialists and paramedical staff providing medical services. Presently 5,44,800 workers employed in 28,299 Notified Industrial and Commercial establishments and more than 3.2 million of their family members are receiving benefits from this scheme. PESSI has also established 13 Local Offices and 14 Sub- Offices to facilitate the workers. The main functions of these offices are to survey the Industrial and Commercial Units, collection of Social Security Contribution, inspection of records of Notified Industrial/Commercial Units, payment of cash benefits to the 'secured' workers. (Annex Table 3 Details of cash benefits)

a. Administrative management of PESSI

The general administration and management of the affairs of the Institution rests with the Governing Body. The Government Body comprises the Chairman (Minister for Labor, Punjab), four members from the Department of Industries, Health, Finance and Labor of the Government of the Punjab, three members representing the Employers and three members representing the Secured Workers. The Medical Advisor of the Institution is an Ex-Officio member and the Commissioner PESSI is the

Member-Secretary to the Governing Body. The Commissioner is also the Chief Executive of the institution and is responsible to the Governing Body in respect of all matters relating to the structure, administration and personnel of the Institution and exercises all such powers regarding appointment, transfer, promotion, dismissal and other matters affecting the staff of the Institution as provided for by the Regulations. The Commissioner is assisted by Vice-Commissioner, Medical Advisor, Director Generals and Directors.

The Local Offices are headed by Directors and the Sub-Offices by Deputy Directors who are responsible for the collection of Social Security Contribution and payment of Cash Benefits. The Senior Medical Officers posted in the Local Offices are responsible for provision of medical care to the workers. Additional Directors and Deputy Directors (F&A) posted in the Local Offices and Hospitals are responsible for sound financial performance of their offices and pre-audit of all payments. Administrative and financial powers have been delegated to the level of Local Offices, Sub Offices and Hospitals to facilitate prompt payments to the Secured Workers. The Head Office supervises and monitors their working and deals with the Policy Matters. The accounts of PESSI are maintained independently at Local Office, Sub Office and Hospital level and are consolidated at Head Office at the end of each Financial Year.

b. Medical Care

PESSI provides comprehensive medical cover to the Secured Workers and their family members and dependents including parents. The service package includes consultations, indoor and outdoor treatment, emergency treatment in case of accidents and injury, prenatal and post natal care. PESSI also provides diagnostic facilities and pathological examination through modern and sophisticated equipment installed in its Medical Units. For this purpose, PESSI has established six Mini-Hospitals, 39 Injury Treatment Centers, 134 Dispensaries, and 88 Medical Aid Posts in the Industrial concentrated areas. PESSI has also established 610 bedded Hospital in Lahore, 300 bedded Hospital in Faisalabad, 300 bedded Hospital in Islamabad, 50 bedded Hospital each in Gujranwala and Multan, 30 bedded Hospital each at Kot Lakhpat and Shahdara and 25 bedded Hospital at Jauhar Abad. These hospitals have specialized departments like Medicine, Surgery, Gynecology, Tuberculosis treatment, Pathology, Orthopedic, Radiology, Cardiology, Nephrology, Dentistry, Urology, Pediatrics, and Neo-natology. Cardiac Surgery is also

available at Social Security Hospital, Lahore. Recently dialysis centers have been established int Lahore and Islamabad Hospitals.

PESSI is also providing Ambulance Service to transport the patients. Presently 141 Ambulances have been made available at different hospitals and dispensaries. The patients admitted in the hospitals are paid diet charges at a rate of Rs 100 per day.
Preventive services are being provided by PESSI with the assistance of a Preventive Cell working in headquarters. No private patients are entertained by the PESSI.

The Cardiac Surgery Department at Social Security Hospital, Multan Road, Lahore is successfully functioning and is conducting Open Heart Surgery including by-pass surgeries, Heart-valve replacement, Thorasic (Chest) Surgery, Vascular Surgery and most of the open and closed Pediatric Heart Surgery. The facility of Dialysis has also been started at Lahore and Islamabad Hospitals.

PESSI has planned to construct its own buildings for the dispensaries which are currently located in rented accommodation throughout Punjab for better working conditions in its Medial Units. Health budget apart from cash benefits for the year 2003-2004 was Rs 800 million.

There is an internal system of reporting but no regular reporting is made to Government (Annex Table 4 to Annex Table 7: Sample reporting formats). However, on the request of Bio Statistics Cell of the Ministry of Health, they provide the information to them as requested. (Annex Table 8 and Annex Table 9: Highlights of the PESSI medical system and Year Wise Patient Data).

In order to provide employment to the workers' children and to improve their skill, Social Security has started Dispenser's Training Course at Social Security Hospitals, Lahore, Faisalabad, Multan, Gujrnwla and Islamabad. Successful candidates are absorbed in PESSI subject to the availability of vacancies.

c. Highlights of PESSI

- PESSI is a welfare organization
- It is providing medical care and financial assistance for medical care to the workers and their dependents (families and parents)
- It is mainly financed through contributions by the notified industrial and commercial establishments.
- Over 0.54 million employees in about 28,000 notified industrial and commercial establishments and their 3.2 million family members are benefited through this scheme
- PESSI has established eight large hospitals with various specialties, six mini-hospitals with medicine, gynecology & obstetrics and pediatric departments, 39 Social Security Medical Centers, 134 dispensaries and 88 emergency centers
- Bypass surgery is carried out at Social Security Hospital, Lahore and with an average of 110 Cardiac Surgeries including 90 Bypass Surgeries in a year with a success rate of 100%
- Dialysis Centers are working in double shifts in Lahore and Islamabad Hospitals and necessary funds have been allocated for provision of dialysis facilities in Faisalabad and Multan.
- Kidney transplants have been carried out successfully at Social Security Hospital, Multan Road, Lahore
- Lithotripsy facilities are provided through enlisted private hospital on the approved panel of Social Security Hospital in Lahore
- Laser treatment for eye is provided through enlisted private clinic on the approved panel of Social Security Hospital in Lahore
- Family Planning Services in collaboration with the Ministry of Population Welfare, Government of Pakistan are being provided in all the PESSI medical outlets.
- 141 ambulances are available for extensive and free services to the workers
- Traveling expenses for visiting the Social Security Hospitals are reimbursed to workers and dependents
- Artificial limbs, wheelchairs, glasses, and other necessary gadgets required by or prescribed for a secured worker/dependent are provided free of cost to them.

(2) Water and power development authority (WAPDA)

WAPDA has established eleven hospitals, 16 dispensaries and fortified six dispensaries throughout the country for providing essential medical care to its 1,33,564 employees and their dependents. The medical services of WAPDA are functioning under the technical/financial control of Medical Directorate.

WAPDA hospitals are located in major cities and in places with major WAPDA establishments. The locations are Lahore, Quetta, Peshawar, Faisalabad, Gujranwala, Rawalpindi, Multan, Hyderabad, Terbela, Mangla and Guddo.

Salient features of the WAPDA Health System are:

- The Authority has decided to establish a 50 bedded-hospital in each DISCO.
- Evening shifts in WAPDA hospitals were started during the year 2001 utilizing the existing staff strength
- To provide better cardiac care to employees, a separate counter for WAPDA patients has been established under an agreement with Punjab Institute of Cardiology (PIC) Lahore, where no advance payment is received from the employees.
- Facilities for care by specialist doctors at WAPDA Hospital, Mangla has been introduced for better care of local employees.
- Medical Board has been authorized by the Authority to process the cases of advance payment for specialized treatment of kidney/renal transplantation to recommend the cases to the outside specialized centers.
- Allocation for health budget for the year 2003-2004 stands at about Rs. 479.19 million

WAPDA Central Hospital Complex is situated adjacent to Medical Directorate in Lahore. The hospital is providing both indoor and outdoor medical facilities for specialized treatment in almost all medical disciplines. Recently facilities for Echocardiogram, Exercise Tolerance Test (ETT) Cryoscopy (Skin treatment) and flexible diagnostic and therapeutic G.I. Endoscopy based on modern electro-medical equipment have been added at this complex. Gynecology and Obstetric Unit is planned to be established with a nursery unit. Strength of beds in the hospital is being increased.

In the WAPDA Dispensaries, only OPD services are provided. No vaccination is conducted in WAPDA Health facilities. However, some EPI services are available at Lahore Complex. Vaccine is obtained from District Health Office.

The WAPDA hospitals report to Director General, WAPDA Medical Directorate Lahore. No regular data is transmitted to any government department like Provincial Health Department or the Ministry of Health.

During the year 2002-03, the outdoor patients attendance in the country wide network of WAPDA medical centers numbered over 1.69 million in addition to around 0.129 million attending emergency/casualty departments. Over 1.66 million investigations were done in WAPDA's own laboratories at hospitals and dispensaries. As many as 18,043 cases were referred for investigation to outside institutes and 40,246 cases to non WAPDA hospitals and specialists for consultation. During the same year 15,448 patients were admitted for indoor treatment. WAPDA surgeons performed 5,842 major and minor surgeries while 647 cardiac and 17 renal transplantation cases were referred for specialized treatment to the hospitals in Lahore, Rawalpindi and Karachi. Lithotripsy treatment for kidney stones was provided to four patients.

(3) Pakistan Railways

Pakistan Railways has its own Medical Department consisting of 57 Hospitals and dispensaries, one Institute of Chest Diseases and 38 Child Welfare & Community Health Centers all over Pakistan. The total bed-strength within this network is 1,424. About 172 doctors are working in these facilities looking after the health of more than one million persons i.e. Railway employees, their families and dependents as well as retired Railway employees, their families and dependents on the entire Railway system under the administrative and technical control of Director Health & Medical Services (DHMS).

The DHMS Railway is assisted by a Deputy Chief Medical Officer, 5 Medical Superintendents and 3 Deputy Medical Superintendent. The clinical staff within the entire network includes 1 Pathologist, 1 Radiologist, 29 Specialists, 8 Divisional Medical Officers, 39 Senior Medical Officers, 87 Medical Officers/Lady Medical Officers ,18 House Surgeons/Physicians, and 4 Matrons. There are 102 Staff Nurses and 13 Charges Nurses and 993 paramedics. Also, in order to provide improved special treatment, three Medical Specialists have been seconded from Pakistan Army.

Pakistan Railways comprises 7 operating Divisions. Railway Hospitals are located in

Divisions (Lahore, Sukkur, Quetta, Multan amd Rawalpindi) while Dispensaries at small cities. Other large hospitals are located in Karachi and Lahore (Cairns Hospital Lahore, Railways Hospital Mulghalpura, Lahore and Hassan Hospital, Karachi).

In general, Medical Officer is the in-charge of the dispensary. Out-patient services are provided for common ailments. Immunization services are provided under EPI programme at special immunization days at hospitals/dispensaries. Medical reports are sent from dispensaries and hospitals to Divisional Headquarters and Railway Headquarter at Lahore but no regular reporting is done to the Government departments like Health Departments/Ministry of Health.

Child Welfare & Community Health Centers staffed by qualified Lady Health Visitors (LHV) and Nurse-midwives. These cater for the health of pregnant mothers and new born babies; provide family planning services and immunization of children under Expanded Programme of Immunization (EPI). These centers are situated in Railway Colonies and provide services at the door step of the employees.

To further improve medical facilities for Railway staff and to curtail the expenditure of medical expenses, the Railway Hospital Rawalpindi has been affiliated with Islamic International Medical College Rawalpindi. This has resulted in improvement of general standard of medical facilities to the patients but also saved the cost of referral of patients and re-imbursement on account of medical charges. Similarly, Hassan Hospital Karachi has been affiliated with Baqai Foundation. Pakistan Railways Hospital, Bahawalnagar has been handed over to Pakistan Rangers (Punjab) on the terms that they will be providing free treatment to Railway’s entitled personnel.

Salient Features of Pakistan Railways Medical System are as follows,

1) The Medical Department of Pakistan Railways carries out: -

a. Medical Examination of Employees on joining services and periodical vision test and medical check up of certain categories of staff to check their fitness for duty in the interest of safety of trains and passengers, especially the Engine Drivers ,Firemen, Guards, Station Masters, Points man, Yard Foreman, Cabin Man etc.

b. Certifies the employees sick or fit in order to control undue loss of man-days due to sickness. In may be noted that one sick-man-day loss is loss of Rs. 70.

c. Provides medical care to the Railway employees, their families and dependents, retired employees and their dependents, to passengers in case of accidents, and to victims of natural calamity or other man-made emergencies.

2) The Railways has adopted the Federal Government Medical Attendance Rules.

3) The Railway authorities are in the process of closing down under utilized dispensaries to save revenues.

4) Medical Identity Cards have been introduced so that only the authorized employees and their families avail the facilities of medical treatment and medicines.

5) Medical Treatment Book has been introduced on pilot basis to prevent use of medical care from Railway medical facilities by unauthorized persons.

6) By setting up a separate Medical Department, the Railway Administration is providing medical aid in an organized and systematic manner to its employees (in services as well as retired), their families and dependents at a very nominal average cost of Rs. 0.56 per head per day.

7) Railways total health budget allocation for 2000-2001 was Rs. 148.280 million.

(4) Pakistan international airlines (PIA)

Pakistan International Airlines maintains a network of Medical Centers which provide out-patient services to the employees and their families. In-patient services are not available at these centers. However, if required, the patients are referred to other private clinics and hospitals which are on the penal of PIA. There are 4 such centers in Karachi, 3 in Lahore, 1 in Rawalpindi and 1 in Peshawar. These centers also provide immunization for children and Hepatitis-B vaccination. Vaccines are procured from the National Institute of Health (NIH) and from local market. These Medical Centers are staffed by a Senior Medical Officer (in-charge of the facility), four/five Medical Officers, three pharmacists and two staff nurses. These centers provide medical services to about 15,000 PIA employees and their families. During 2003, over 300,000 patient-visits were recorded in

these centers. PIA's total health budget for one year is approximately Rs. 450 million.

PIA's health system is headed by a Chief Medical Officer based at PIA's Head Office in Karachi. He is assisted by Deputy Chief Medical Officer and Senior Medical Officer along with other staff. There are also Deputy Chief Medical Officers at Lahore and Rawalpindi. At Peshawar, medical affairs are dealt by a Senior Medical Officer.

All the Medical Centers are linked with a computerized system. All important information regarding patients is available on the system. Monthly reports regarding stock, medicines and expenditure are sent to Chief Medical Officer. No regular reports are sent to any Government functionaries like Provincial Health Department/Ministry of Health, except on request by any department/donors.

4.1.4 Private health institutions and regulations

(1) Situation of private health institutions

It is mostly quoted that the public health facilities are providing (curative) care to only 20-30 percent of the population. The rest is covered by the private health sector. The basis of such statement could not be validated. However, PIHS indicates that in case of treatment of under-five diarrhea, only 20% consulted government facilities while 49% went to a private practitioner[23].

The private health sector is vast and complex. Private practitioners include allopathic practitioners as well as homeopaths, hakims, medicine shopkeeper/chemists, tibb, ayurvedi, and others. However, the private health services (with a few exceptions) are in general seen to be of low quality (especially in rural areas), high cost, and inaccessible to poor[24]. Moreover, there is little provision of preventive health services by the private sector[24]. The table below provides a general picture of the extent of the public and private (allopathic) health sectors in Pakistan.

[23] Pakistan Integrated Household Survey. Round 4: 2001-2002. Federal Bureau of Statistics, Government of Pakistan. Table 3.13

[24] Pakistan Human Condition Report 2002. Center for Research on Poverty Reduction and Income Distribution, Islamabad. P. 220

Public Health Sector[25]	
Hospitals	906
Dispensaries	4,590
Rural Health Centers	550
Basic Health Units	5,308
MCH Centers[27]	862
Total Hospital beds	98,264

Private Health Sector[26]	
Private General Practitioners	20,000
Small and Medium sized hospitals	520
Total beds in small/medium hospitals	Over 15,000
Large hospitals	106
Maternity Homes (Small MCH centers with 2 or 3 rooms)	331
Dispensaries (out-patient for PHC)	131

Given the above facts and figures, it might well be said that the public sector probably is catering to the curative health needs of more than just one-fifth of the population and an accurate and reliable data from the public sector can be representative enough to understand the disease trends and burden of disease in the country.

The private facilities which receive some financial or logistics support from the government generally report to the related government department. For example, Ministry of Population Welfare provides contraceptive commodities to social marketing companies and NGOs. These companies and NGOs report to the concerned departments regarding contraceptive sales. Similarly, vaccines and other supplies are provided to some private organizations and they also report to the EPI Directorate of the Provincial Health Departments.

In case of AFP Surveillance, some large private hospitals or busy private practitioners are made part of the surveillance system. They report AFP cases and the District Surveillance Officer collects Zero Reporting from them.

(2) Information and regulation

Except for a few large private institutions which are managed by governing body and also are part of private teaching institute, provision of good quality services in private health facility is not taken for granted. The Government , in order to safeguard the interest of the general population is keen to regulate on sound physical and technical footings the services being rendered by medical practitioners and other private institutions.

[25] Economic Survey 2002-2003.Government of Pakistan, Finance Division, Economic Advisor's Wing, Islamabad. P. 170

[26] Pakistan Human Condition Report 2002. Center for Research on Poverty Reduction and Income Distribution, Islamabad. P. 237

[27] Year Book 2002-2003, Ministry of Health, Islamabad

Nevertheless, unless proper regulatory mechanisms are in force, getting valid and regular data from private facilities would be a far cry.

At federal level in year 2000, a draft proposal for private health sector regulation enactment was formulated and presented to the authorities for approval. However, health (both public and private) being the provincial subject, the proposal was not entertained. The situation of regulating private health sector varies from province to province.

1) Punjab

In Punjab till now the private sector is not regulated through any legislation. Medical stores and private blood banks are being registered and prescribed criteria are used for their registration.

Recently, the Punjab Health Department has prepared draft legislation for regulation of the private health sector. This draft would be presented to the Provincial Assembly for consideration.

2) Sindh

The Sindh Government has till now no legislation to register and regulate the private health facilities. The private blood banks are, however, registered through a government notification.

In Sindh, the District Government in Sanghar has recently brought legislation for controlling the private sector and is levying annual fees on the private facilities.

3) NWFP

In 1984 the Government of NWFP enacted an ordinance “The North-West Frontier Province Private Medical Institutions (Regulation of Services, Ordinance, 1984. NWFP Ordinance No. VII of 1984” to regulate on sound physical and technical footings the services being rendered by private hospitals ,nursing homes, medical dental and x-ray clinics and clinical laboratories in the North-West Frontier Province. This ordinance was amended in 1985.

In 2002, the Government of NWFP has enacted another ordinance – The NWFP Medical Institutions and Regulation of Health Care Services Ordinance 2002 for regulating health care services, both public and private in the province. In this connection, the Government has also formed a Health Regulatory Authority (HRA). HRA is still in initial phase of establishing itself.

4) Balochistan

In Balochistan, in 2001 the provincial assembly enacted a legislation called "Hospital Regulation Act 2001" to regulate all types of healthcare institutions like hospitals, clinics, laboratories, X-ray centers and blood banks in both public and private sectors. Criteria for registration of the health institutions were developed and a management committee was formed. However, because the public health institutions/hospitals were included under this act, this created management and control conflicts within the public health sector, and thereby the act could not be implemented.

On 8th May 2004, the Government of Balochistan has passed a new legislation called "Private Hospital Regulation Act 2004". This legislation was enacted with the intention to regulate the fee structure, the quality of services and control malpractices in private hospitals. This Act excludes public sector institutions as well as private clinics, homeopaths, hakims and other non-qualified practitioners. Under this Act the Government would now be able to register and regulate private hospitals. Accordingly, the Government of Balochistan has notified a Hospital Regulatory Committee headed by the Director General Health, and has also specified the composition of other committee members. A number of sub-committees have also been formed for various components of the regulation and to ensure smooth implementation of the Hospital Regulatory Act.

There is another committee headed by the Secretary, Health of Government of Balochistan for regulating the private laboratories and blood banks.

Nevertheless, the Hospital Regulatory Authority and its systems for regulating the private institutions are still in the process of being fully established. As such, registration of private institutions is yet to start.

4.2 Financing and logistics

4.2.1 Financial system

(1) Federal level

Federal budget has been divided into two categories, i.e. “non-development budget” spent for federal administration and “development budget” for the implementation of Public Sector Development Programme (PSDP), which is an annual program of national development plan or Ten Year Perspective Development Plan (2001-2002 - 2010-2011).

Total federal expenditure in 2003-2004 was 704.478 billions. Among them, non-development budget accounted for 91.6% of total expenditure and the rest of 8.4% was development budget. That means most part of federal budget is spent for the administration and the portion allocated for project implementation is very limited (See Table 4-2-1).

The share of health sector in non-development budget is slightly increasing. In 1999-2000, the share was 0.34% and it reached to 0.40% in 2003-2004.

Among development budget or PSDP, 30% of total budget was allocated for infrastructure development and the budget for social sector is relatively small. In the fiscal year of 2003-2004, 4,373 million rupees are allocated to the health sector, which shares 2.7% of total budget (See Table 4-2-2). There were 44 projects in the health sector and one of them was “National Health Management Information System (NHMIS)”, which was a budget allocation for the HMIS Cell under MOH (see Table 4-2-3). Budget for NHMIS was approved for the first time in 2003-2004 PSDP since it was adapted to PC-I, before it did not have independent budget neither developed nor non-developed category. Budget allocation was 20 million rupees, which included the construction cost of the new office at PIMS and operation cost of HMIS Cell (See Table 4-2-4).

In comparison with GDP, health budget including both of federal and provincial ones in 2002-2003 was equivalent to 0.63%. Per capita expenditure on public health was Rp. 177, approximately 2.9US$ (see Table 4-2-5). Those figures are considered to be extremely small compared to the countries with similar income group.

After the devolution, provision of health care was fully decentralized to the district level and province has responsibility to allocate health budget to districts. It reflects the budget allocation between federal and provincial level (see Table 4-2-5). Among health budget in total of 23,425 million rupees, provincial share reached 16,661 million rupees, which shared 71.1% of total health budget.

Table 4-2-1 Federal Expenditure (1999-2000 – 2003-2004)

(million Rs.)

Item	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	%
1. Non-development expenditure met from revenue	592,536	593,605	650,357	673,312	645,235	91.6
A. General administration	19,596	50,779	54,069	55,141	58,596	8.3
B. Defense	152,794	131,128	149,254	160,139	160,250	22.7
C. Law and order	9,024	10,058	10,780	11,651	12,334	1.8
D. Community services	5,767	6,495	7,869	8,138	8,571	1.2
E. Social services	10,511	9,938	13,226	13,625	16,403	2.3
Education	5,821	5,851	7,213	7,564	9,645	1.4
Health	2,003	2,055	2,438	2,386	2,795	0.4
Social security and welfare	1,354	1,292	2,798	2,849	2,959	0.4
Others	1,333	740	740	826	1,004	0.1
F. Economic services	3,023	5,938	3,913	4,076	4,666	0.7
G. Subsidies	20,390	20,404	25,488	49,780	64,517	9.2
H. Debt servicing investable fund and grants	363,909	349,661	385,470	313,028	318,026	45.1
I. Un-allocable	7,524	9,204	288	57,734	1,872	0.3
II. Developing expenditure	11,829	19,076	44,096	35,870	59,243	8.4
Total	604,365	612,681	694,453	709,182	704,478	100.0

Source: 1999-2001 - 2001-2002, Government of Pakistan Statistics Division, “Pakistan Statistical Yearbook 2003”
2002-2003 - 2003-2004, Government of Pakistan Finance Division, “Annual Budget Statement 2003-2004”

Table 4-2-2 Budgetary PSDP 2003-04 (Ministry/Division-Wise Summary)

(million Rs.)

Ministry/Division/Agency	PSDP 2002-03 (Original)			PSDP 2003-04			
	Local	Foreign	Total	Local	Foreign	Total	%
A. Public Works, Human Development and Poverty Reduction	25,254	8,972	34,225	38,437	2,884	41,320	25.8
Special Programmes	1	6,000	6,001	6,100	500	6,600	4.1
Finance Division	2,822	256	3,078	3,098	814	3,911	2.4
Education Division	1,671	56	1,728	2,926	181	3,107	1.9
Higher Education Commission	3,746	0	3,746	4,478	0	4,478	2.8
Health Division	3,000	309	3,309	3,929	444	4,373	2.7
IT & Telecommunication Division	2,822	443	3,265	1,970	30	2,000	1.3
Science & Technological Research Division	437	517	954	1,222	32	1,254	0.8
KA & NA and SAFRON Division	6,625	1,094	7,718	8,623	746	9,369	5.9
Population Welfare Division	2,014	286	2,300	2,983	132	3,115	1.9
Women Development & Social Welfare Division	837	0	837	1,028	0	1,028	0.6
Culture, Sports Tourism & YA Division	340	0	340	678	0	678	0.4
Labor, Manpower & O.P. Division	53	11	65	109	5	114	0.1
Works Division	386	0	386	701	0	701	0.4
Defense Division	499	0	499	593	0	593	0.4
B. Sustainable Development	10,469	2,442	12,911	15,650	1,840	17,490	10.9
C. Infrastructure Development	17,016	20,687	37,703	26,412	21,526	47,938	30.0
D. Governance	3,510	1,652	5,162	5,480	771	6,251	3.9
Total (Federal – PSDP)	56,248	33,752	90,000	85,979	27,021	113,000	70.6
E. Provinces	28,772	15,228	44,000	30,080	16,920	47,000	29.4
Total (PSDP)	85,020	48,980	134,000	116,059	43,941	160,000	100.0

Source: Government of Pakistan Planning Commission, “Public Sector Development Programme 2003-04”

Table 4-2-3 Detailed Budget of Health Division, in PSDP 2003-04

(million Rs.)

Name, Location and Status of the Scheme	Allocation for 2003-04			
	Local	Foreign Aid	Total	%
On-going (Major)	2,760	380	3,140	71.8
National Programme for Family Planning and Primary Health Care	2,100	0	2,100	48.0
Expanded Programme of Immunization	400	0	400	9.1
Women Health Project (ADB)	35	220	255	5.8
Enhanced HIV/AIDS Control Programme	15	160	175	4.0
High Risk Area Approach for Neonatal Tetanus at NIH, Islamabad (JICA)	100	0	100	2.3
Improvement of Nutrition through Primary Health Care and Nutrition Education/Public Awareness (SAP/ADB)	61	0	61	1.4
Roll Back Malaria Control Programme Pakistan (SAP)	29	0	29	0.7
Reproductive Health Project	20	0	20	0.5
(Others)	198	2	200	4.6
Establishment of 200 bedded hospital D.I.Khan	56	0	56	1.3
Upgradation & Renovation of FGSH, Islamabad	41	0	41	0.9
Quaid-e-Azam Post Graduate Medical College in PIMS, Islamabad	39	0	39	0.9
National Tuberculosis Control Programme	19	0	19	0.4
Renovation and Upgradation of Facilities at PIMS	13	0	13	0.3
Other 7 programs	30	2	32	0.7
New (Major)	700	48	748	17.1
Addition of Liver Transplant Facility at SIUT, Karachi	400	0	400	9.1
Liver Transplant Facility at Lahore	200	0	200	4.6
Strengthening of EPI Services through GAVI	3	48	51	1.2
Khalifa Gul Nawaz Hospital Complex Bannu	50	0	50	1.1
Other 3 programs	47	0	47	1.1
(Others)	271	14	285	6.5
Replacement and Upgradation of CSSD Equipment at JPMC, Karachi	40	10	50	1.1
Upgradation of Wards and Equipment JPMC, Karachi	40	0	40	0.9
Replacement of transmission Electron Microscope for the department of Anatomy BMSI, JPMC, Karachi	39	0	39	0.9
Burn Care Centre at PIMS, Islamabad	30	0	30	0.7
Construction of Two ICUs in Liaquat Medical College, Jamshoro Hyderabad (Un-app.)	30	0	30	0.7
National Health Management Information System	20	0	20	0.5
Providing and Installation 1000 KVA/800KW Generating set near Sub stations B&D at JPMC, Karachi	20	0	20	0.5
Other 10 programs	52	4	56	1.3
Total - Health Division	3,929	444	4,373	100.0

Source: Government of Pakistan Planning Commission, “Public Sector Development Programme 2003-04”

Table 4-2-4 NHMIS Budget in PSDP, 2003-2004

(Rupees.)

Classification	Budget	%
Payment	903,804	4.5
Allowance	2,350,903	11.8
Purchase of durable goods	8,000,000	40.0
Construction	2,000,000	10.0
Commodities and services	6,695,293	33.5
Transfer payments	50,000	0.3
Total	20,000,000	100.0

Source: HMIS Cell

Table 4-2-5 Health budget compared to GDP in 2002-2003

(million rupees)

GDP			3,709,670
Health budget			
	Federal	non-development	2,386
		development	4,378
	Provincial	non-development	13,060
		development	3,601
	Total		23,425
		% of GDP	0.63
Health budget per capita (Rp.)			177

Source: GDP, Health budget (federal), Health budget (Provincial non-development)
Government of Pakistan Statistics Division,
"Pakistan Statistical Yearbook 2003"Health budget (Provincial development) ADP in each province

(2) Provincial level

Provincial government also has development and non-development budget. In accordance with the contents of Federal PSDP, each province makes Annual Development Plan (ADP), which is a provincial version of PSDP. Budget for ADP is categorized as a development budget. In 2003-2004 provincial expenditure, non-development budget shared 93.2% of total budget, and the rest of 6.4% was allocated to development budget (See Table 4-2-6). Alike federal case, most part of provincial budget went to the administrative way so budget for project implementation was hardly available.

Among non-development budget, in average 28.6% of total budget was allocated for the social sector. Education sector shared most part of that and budget for Health sector shared 6.4 % of total budget in average (See Table 4-2-6). In ADP, budget for health sector in

average was 5.7% (See Table 4-2-7). Although each province has HMIS cell, no province ensured HMIS related budget as independent category in development budget.
Distributions of health budget to provinces are uneven from the point of per capita budget. Per capita provincial health budget combined development and non development in average was 126 rupees. In Punjab and Sindh, provinces with relatively large population, had less than average per capita budget. On the contrary, it was Rs. 302 in Balochistan (See Table 4-2-8).

ADP budget in each provinces is shown in Table 4-2-9 to Table 4-2-12. Budget distribution is characteristic by province, reflecting their priorities. NWFP especially emphasize on Primary Health Care, Panjub and Balochistan divided their budget between Curative care and PHC almost in half. Sindh characterized with a large share of budget allocation to Medical education.

Provincial budgets are compiled by the accumulation of demanded amount from each department. Department of Health makes its own budget plan based on the request by each wing/section. as well as the hospitals/health institutions under the direct dminitrative control of the DoH. They are supposed to make budget draft based on their next year plan, but in many cases they submit their request with simply expanding their previous year budget. Information of HMIS is not utilized for budgeting.

Table 4-2-6 Budget expenditure of provincial governments in 2003-2004 (budgeted)

(million Rs.)

	All Provinces		Punjab		Sindh		N.W.F.P		Balochistan	
	budget	%	budget	%	budget	%	budget	%	budget	%
1. Non-development expenditure	**250,958**	**93.2**	**129,196**	**88.7**	**59,376**	**98.3**	**38,351**	**93.9**	**24,035**	**99.6**
A. General administration	36,545	14.9	15,321	13	13,622	21.7	4,845	8.9	2,758	14.4
B. Law and order	30,919	9.2	15,777	9.2	9,319	9.9	3,087	6.1	2,736	14.4
C. Community services	5,242	3.1	1,950	3.4	1,529	2.5	911	2.9	853	4.1
D. Social services	32,784	28.6	10,889	31.5	5,904	29.1	14,087	27.2	1,904	11.1
Education	17,908	21.4	3,374	24	2,606	21.2	11,274	21.2	653	5.9
Health	13,060	6.4	7,023	6.8	2,644	6.9	2,645	5.7	748	3.2
Social security & welfare	601	0.3	273.4	0.4	161.5	0.3	69.9	0.1	95.9	0.4
Others	1,216	0.5	219	0.3	492	0.6	98	0.2	407	1.6
E. Economic service	21,233	8.8	10,613	10.3	6,314	8	2,805	7	1,502	6.5
F. Subsidies	9,170	3.2	1,920	2.3	3,750	5.7	1,000	1.9	2,500	2.5
G. Debt services	29,666	13.4	14,782	12.2	12,068	13.3	0	18.7	2,816	7.3
H. Total grants and subventions	75,835	8.1	57,944	6.8	6,841	7.9	2,084	0	8,966	39.3
I. Un-allocable	9,563	3.8	0	0	30	0.1	9,533	21.1	-	-
2. Development expenditure	**21,653**	**6.4**	**17,933**	**10.4**	**1,564**	**1.7**	**2,100**	**6.1**	**56**	**0.4**
3. District Govt. Share	**-**	**0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
4. Foreign Aid Project	**767**	**0**	**-**	**-**	**-**	**-**	**766.9**	**-**	**-**	**-**
5. Less operation short fall	**-746**	**-0.3**	**-746**	**-0.6**	**-**	**-**	**0**	**-**	**-**	**-**
Total expenditure met from revenue	**272,631**	**100**	**146,383**	**100**	**60,940**	**100**	**41,217**	**100**	**24,091**	**100**
Total expenditure per capita	2,160		1,988		2,002		2,323		3,669	
Health budget per capita (Rp.)	**99**		**95**		**87**		**149**		**114**	

Source: Government of Pakistan Statistics Division, "Pakistan Statistical Yearbook 2004"

Table 4-2-7 Annual Development Expenditure of provincial governments in 2003-2004

(million Rs.)

Sector	Sub-sector	All provinces		Punjab		Sindh		NWFP		Balochistan	
		Budget	%	Budget	%	Budget	%	Budget	%	Budget	%
Industry	Agriculture	3,436	5.4	1,047	3.3	715	8.5	1,408	9.6	266	2.9
	Industry	896	1.4	300	1	350	4.2	213	1.5	33	0.4
Infrastructure	Infrastructure	22,319	35.0	8,952	28.5	2,860	34.2	5,532	37.6	4,975	53.5
	Planning	1,511	2.4	1,511	4.8	0	0	0	0	0	0
Social	Education	10,804	17.0	5,976	19.1	1,030	12.3	2,624	17.9	1,174	12.6
	Health	3601	5.7	860	2.7	530	6.3	978	6.7	1,233	13.3
	Social welfare	1272	2.0	782	2.5	30	0.4	435	3	25	0.3
	IT	532	0.8	230	0.7	110	1.3	192	1.3	0	0
	Culture	69	0.1	34	0.1	35	0.4	0	0	0	0
	Human resources	221	0.3	15	0	85	1	23	0.2	98	1.1
Other	Other	19,067	29.9	11,650	37.1	2,629	31.4	3,291	22.4	1,497	16.1
Total		63,728	100.0	31,357	100.0	8,374	100.0	14,696	100.0	9,300	100.0
	Foreign aid	16,782	-	8,300	-	1,900	-	5,390	-	1,192	-
	% of foreign aid to total	26.3	-	26.5	-	22.7	-	36.7	-	12.8	-

Source: Government of Punjab, Sindh, NWFP, Balochistan, "Annual Development Programme 2003-04"

Table 4-2-8 Provincial Health Budget in Provinces, 2003-2004

(million Rs.)

	All provinces	PUNJAB	SINDH	N.W.F.P	Balochistan
Development	13,060	7,023	2,644	2,645	748
Non-development	3,601	860	530	978	1,233
Total	16,661	7,883	3,174	3,623	1,981
Per capita	126	107	104	204	302

Table 4-2-9 Health Sector of ADP 2003-2004, Panjub

(million Rs.)

Subsector	Project Number	Budget	%
Medical education	3	71	8.3
Curative health care	24	370	43.0
Primary health care	6	418	48.7
Other	1	1	0.1
Total	34	860	100.0

Source: Government of Punjab,
"Annual Development Programme 2003-04"

Table 4-2-10 Health Sector of ADP 2003-2004, Sindh

Subsector	Project Number	Budget	%
Medical education	20	203	38.3
Curative health care	3	34	6.4
Primary health care	13	280	52.8
Other	2	13	2.5
Total	38	530	100.0

Source: Government of Sindh,
"Annual Development Programme 2003-04"

Table 4-2-11 Health Sector of ADP 2003-2004, NWFP

(million Rs.)

Subsector	Project Number	Budget	%
Medical education	4	30	3.1
Curative health care	22	228	23.3
Primary health care	93	721	73.7
Other	0	0	-
Total	119	978	100.0

Source: Government of NWFP,
"Annual Development Programme 2003-04"

Table 4-2-12 Health Sector of ADP 2003-2004, Balochistan

(million Rs.)

Subsector	Project Number	Budget	%
Medical education	0	0	-
Curative health care	55	641	52.0
Primary health care	71	592	48.0
Other	0	0	-
Total	126	1,233	100.0

Source: Government of Balochistan,
"Annual Development Programme 2003-04"

(3) District level

District government was established based on the Local Government Ordinance 2001. District budget is distributed by finance department of provincial government. Finance Department of district government allocates budget to each sector. Salary for district officers is covered by the provincial government directly.

Also in district level, they have both of development and non development budget. Independent budget for HMIS is not ensured, although staff salary is assured by the province. In some district, HMIS staff is suffering from the shortage of equipments and stationeries, since they do not have their own budget to pursue their job.

Budgeting system is different by districts. There are systems like meeting with heads of related section and submission of budget draft to the budgeting section. Also in district level, sections are supposed to make budget draft based on their next year plan, but in many cases they submit their request with simply expanding their previous year budget. Information of HMIS is not utilized for budgeting either. In the district level, HMIS staff is too busy to manage their daily routine such as data entry and finding no time to analyze HMIS data or to utilize them for planning or budgeting.

Example of district health budget is shown in the tables below. Non-development budget is administrative budget for district health office and health facilities in the district. Development budget is spent for the related cost to implement vertical programs and renovation of health facilities (See Table 4-2-13).

Table 4-2-13 Example of District Health Budget: District of Abbotabad, NWFP in 2003-2004

A. Non-development budget **(thousand rupee)**

Items		Amount	%
Purchase of goods		15	0.2
Repair & maintenance		50	0.6
Commodities & services		6,768	85.8
	Transportation	332	4.2
	Communication	155	2.0
	Utilities	4,000	50.7
	Rent, royalties, etc.	64	0.8
	Others	2,136	27.1
Transfer payment		1,055	13.4
Total		7,887	100.0

Source: DOH Abbotabad

B. Development budget **(thousand rupee)**

Items	Amount	%
Administration	468	6.9
Malaria	25	0.4
General hospitals and clinics	1,609	23.8
RHC	1,051	15.6
BHU	1,895	28.1
Dispensaries	1,386	20.5
MCH centers	64	1.0
EPI	114	1.7
Other health facilities & preventive measures	101	1.5
Drug control	39	0.6
Total	6,752	100.0

Source: DOH Abbotabad

WHO Model project enhancement of DHIS started in May 2003 at 2 target districts including District of Abbotabad in NWFP province. The project is aiming to strengthen a district based HIS though an appropriate information technology support, in addition to cultivate ownership of HIS in district level in addition to support NHIRC. Budget for the program was 32.7 million rupees for 2 years of project period, which included salary for 3 additional staffs supporting district HMIS coordinator for data processing, analyzing and reporting (See Table 4-2-14). This model project suggests that existing manpower working for HMIS in district is not sufficient for analyzing and reporting of HMIS data in district level.

Table 4-2-14 Budget for DHIS model project (for 2 years project period)

(million rupee)

Budget items	Cost	%
Salary	7.47	22.8
Federal level	2.52	7.7
District level	4.95	15.1
Database design	9.98	30.5
Equipment & Supplies	1.61	4.9
Establishment Inter-District Networking	5.14	15.7
HMIS assessment survey	1	3.1
Commodities & Services	1.5	4.6
Project evaluation	0.4	1.2
Printing	5	15.3
Contingency	0.6	1.8
Total	32.7	100.0

Source: MOH HMIS cell

Table 4-2-15 Detail of payment to the local consulting firm in Table 4-2-14

(million rupee)

Budget items	Cost	%
Project management	2.00	20.0
Software development & maintenance	5.56	55.7
Development of data collection instrument	0.40	4.0
Training	0.40	4.0
Data entry of previous HMIS data	1.62	16.2
	9.98	100.0

Source: MOH HMIS cell

Overall non development budget is dominant over development budget at federal and provincial level .However, as regards Health budget, if we see the budget of 2002-2003 in Table 4-2-5 development budget (Rs 4,378 million) is more than non-development budget (Rs 2,386 million) while at provincial level non-development budget (Rs 13,060 million) is higher than development budget (Rs3, 601million).Delay of budget release and underutilization of it are pointed out as an issue of health finance. From the side of Ministry of Finance/Finance Departments they regard that program/project authorities do not utilize the released budget within the specified period so this does not justify the release of next quarter's budget. Nevertheless, from the side of project authorities, they are of the view that they cannot utilize the released budget within stipulated time because of the delay of release from the finance authorities. The issue needs due attention and calls for proper resolution.

4.2.2 Drug logistics

(1) Situation of drug logistics

1) Policy, legislation, and regulation

There is Drugs Control Wing in the Ministry of Health (MOH) at federal level dealing with formulation of drug policy, issuance of licenses, registration of drugs, and quality control. National Drug Policy of Pakistan was formulated in 1997.

There is no original pharmacopoeia or national drug formulary of Pakistan at present. Their pharmacopoeia and drug formulary refers to The United States Pharmacopoeia, British Pharmacopoeia, and British National Formulary.

2) Essential drug list

Provincial government has a responsibility for preparing essential drug list. In Punjab , approximately 400 items of drugs are included in the list for the district level health care facilities. Approximately 150 items of drugs are selected for RHC level, 120 for BHU level, and 70 for dispensary level.

In Balochistan, there are 365 items of drugs selected as essential drugs. These drugs are categorized by type- vital, essential, and general, and by the level of facility.

In NWFP, the provincial government selects the drugs that should be used at FLCF. The list includes 20 vital drugs, 10 essential drugs, and 6 non-essential drugs.

3) Drug Procurement and Distribution

a. Vaccines, contraceptives

Vaccines and contraceptives are procured at federal level and distributed through the health programmes such as Expanded Programme on Immunization (EPI) and Ladies' Health Worker (LHW) Programme. Brief explanation on these programmes is given below:

EPI Programme

Vaccines purchased through EPI programme are, BCG, Polio, DPT, TT, Measles, Hepatitis B, and DT. The purchase is made by governmental budget through UNICEF and the vaccines are distributed by 'push system' to BHUs and RHCs.

LHW programme
(National Programme for Family Planning and Primary Health Care)

This programme was started in 1994. Till 1999, contraceptives were provided by UNFPA free of charge. Since 2000, the Government of Pakistan has been allocating the budget for purchasing contraceptives. At the same time, contraceptive distribution system was changed from 'push system' to 'pull system', as explained below.

BHUs and RHCs estimate the amount of contraceptives for the LHWs in the area and make requests to the district. Districts collect requests from all the health facilities and send them to provinces. Then, the provinces collect requests from all districts and send them to the Federal Programme Implementation Unit. Every July, officers at federal and provincial level hold a meeting for the purchase plan based on these requests.

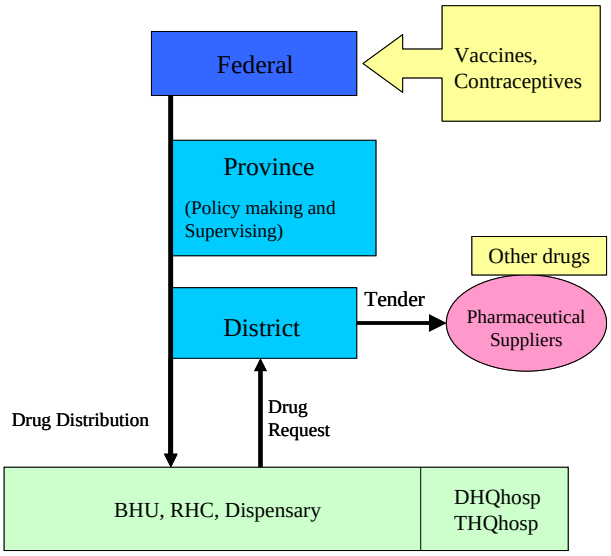
Generally, the LHW manages oral contraceptives and condoms by herself when she works in the field. Injection contraceptives and IUDs are stored at the FLCF.
Apart from this Programme, Ministry of Population Welfare also procures contraceptives at federal level and distributes them to the reproductive health care clinics.

(2) Other drugs

After the devolution policy, provincial government is responsible for managing most drugs. Each province has different drug procurement and distribution system. In some provinces, district has a responsibility for drug procurement and distribution.
Figures below show drug distribution system in each province.

1) Punjab and Balochistan

In these two provinces, District Health Office (DHO) controls drug procurement, quality l and distribution.

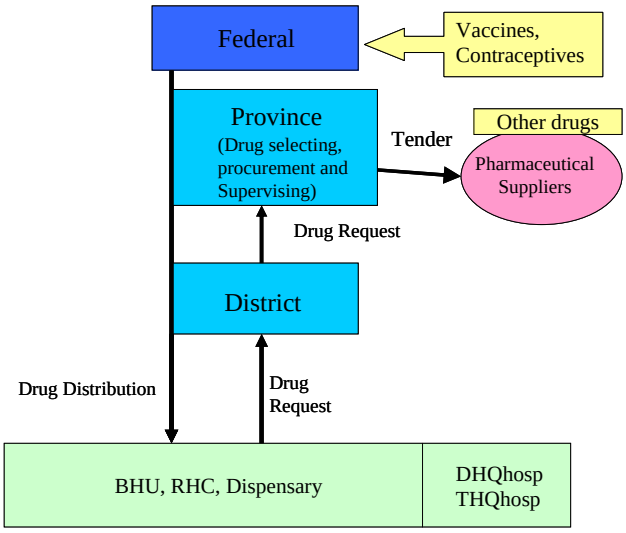


In Punjab province, according to the Additional Secretary Health, there is no particular problem in this procurement and distribution system.

On the other hand in Balochistan, one logistic officer at provincial level explained a specific problem on drug procurement seen in the province after the devolution. In some districts, the priority on the budget allocation for health is lower compared to other items such as infrastructure. As a result, budget allocation for the drug procurement becomes so small, which leads to serious drug shortage in those districts. He suggested that if the health department of the district is able to show relevant evidences on unavailability of drugs based on the reliable information system, they can use it as a strong tool to convince the district budget allocation committee to increase drug budget.

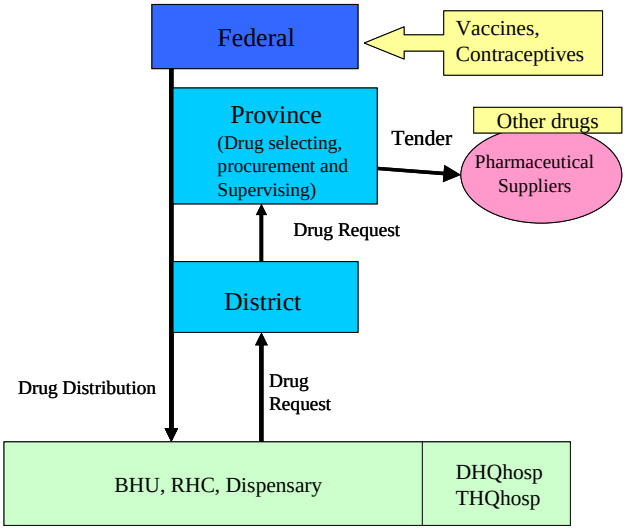
2) NWFP

In NWFP, provincial government procures and distributes drugs. Medical stores at district level in this province use computer system for inventory management; they produce drug-purchasing report annually and submit it to the district and provincial government.



3) Sindh

In this province, both the provincial and district government procure drugs.



(3) Information system on drug management

1) Information system of health programmes on drugs

Each health programme has its own information system because several vertical health programmes are implemented in Pakistan.

a. LHW

Although LHW programme has its own information system, it needs to refer to HMIS-FLCF for injection contraceptives and IUDs.

At FLCF level of LHW information system, a monthly report has a column to state ‘balance’ and ‘days out of stock’ on the medicines such as: Paracetamol tab. Paracetamol syr. Chloroquine tab. Chloroquine syr. Mebendazole tab. Mebendazole syr. ORS, Eye ointment, Cotrimoxazole syr. Iron tab. Antiseptic lotion. Benzyle benzoate lotion, Plaster, Vitamin B complex syr. Bandages, Cotton wool, Condoms, and Oral pills.

b. EPI

Most of the reporting items in its information system on drugs are duplicated with those of HMIS except for the out of stock data. The EPI officers at federal level explained that, they use their own data for management and the data they collect are rarely compared with the data on HMIS. Since the vaccines are distributed by ‘push system’ from the federal government, the number of children is the sole factor that determines the amount of vaccine supply every year.

c. Malaria control

This vertical programme contains no drug-related component in its reporting system. The stock status of drugs for malaria is reported based on district’s store keeper’s record. The programme does contain insecticide related component in its reporting system.

d. Tuberculosis (TB)

In 1998, Balochistan province in Pakistan first started DOTS programme, which was expanded nationwide after 2000. After the decentralization policy, although distribution system of anti-tuberculosis (ATB) drugs slightly differs from one province to another, the drugs have been purchased at district level in most of the districts.

The drugs used for DOTS are RHZE (combination of Rifampicin, Isoniazid,

Pyrazinamide, and Ethanbutol), EH (combination of Ethanbutol and Isoniazid), and Streptmicin.

The programme has its own system for collecting information. However, the programme has no information system to grasp ATB drug stock status (especially the level of unavailability) at FLCF. ATB needs are estimated only by the number of TB patients. The programme officer at federal level emphasized that there are some areas suffering from shortage of ATB drugs and, therefore, it is necessary to establish a monitoring system on drug stock situation. Although he knows that the data on out of stock situation of ATBs appear on HMIS-FLCF Monthly Report form, the data are never used because nobody in the programme trusts in the data quality.

4.3 Information system

4.3.1 HMIS "package"

(1) Outline of HMIS

Information system is seen as an important source of data for understanding the situation in the district and for relevant decision making. Among the various reports/information received by the EDOH, those appreciated as useful include:

- Curative data reports
- Per day patients visits at health facilities
- Disease pattern
- Vaccine preventable diseases
- Malaria/TB DOTS report
- Medicine stock-out report
- Human Resource information, especially the staff vacancy positions in the district
- MCH related report
- Financial information

The EDOHs could not provide examples of how data were used in past six months. They acknowledged that the use of HMIS data is very limited.

The vertical/national programs are managed at the district level by the respective Program Managers / Coordinators. The EDOH plays only a facilitating role in the execution of those programs. According to the EDOHs, the vertical program reports are more reliable than the routine HMIS reports due to their inherent weaknesses. The EDOHs expressed the need to integrate vertical program data at district level (if not at facility level) and making them available to the EDOH and DHO for program monitoring and decision making. In doing so, it would be necessary to redesign the information system and make it simple.

The felt-needs for additional information by the EDOHs include:

- Data on human resources within the district
- Staff attendance/absenteeism report
- Financial reports
- Disease pattern for non-communicable diseases
- Training needs for district health staff
- Information on equipment and their functional status
- Prompt availability of Disease Early Warning System reports
- Data on deaths and causes of deaths

Population census is the source for population data at district level. The local government (particularly at union council offices) also has births and deaths records. Since most of the births and deaths are registered with the union councils and, therefore, are up to date, the birth and death records at the union council offices are accepted as the most reliable source among the available information sources. It is also recognized as the official record for legal matters. The other sources for birth data are LHW's birth record and LHV records.

1) District HMIS Responsibility

In Sindh, the Epidemiologist/HMIS Officer is the responsible person to implement, supervise, monitor, evaluate and process HMIS activities in the district. In Rawalpindi district of Punjab the Statistical Officer is in-charge of managing the HMIS in the district. In Sargodha, the Monitoring, Research and Evaluation Officer of DHDC is the designated HMIS Coordinator for the district. The main responsibilities of the HMIS Officer/Coordinator are perceived as:

i. Collection of HMIS reports from all the facilities

ii. Ensuring computer data entry and generation of district reports
iii. Submission of district reports to EDOH and their onward transmission to the provincial offices
iv. Provision of feedback to facilities
v. HMIS training to new staff
vi. Keep statistical records of different variables of district
vii. Provision of any data/report requested by higher authorities

In Abbottabad, the HMIS Coordinator is supported by one Data Manager, a Computer Assistant and a support staff.

2) HMIS activities in the district

In Rawalpindi district, all the health facilities, including OPDs of district and tehsil hospitals submit their reports (FLCF-HMIS) to the EDOH Office by the 2nd of the month. This reporting regularity has been established because every 4th of the month there is a monthly meeting, chaired by EDOH, with the facility in-charges where FLCF-HMIS reports are discussed. During these monthly meetings, feedback on services provided, vertical program activities, disease pattern, and stock out position are given. In spite of such regularity in reporting, the EDOH did not express his full confidence in HMIS data.

In Abbottabad, reports are received in time. In the past year the reporting rate was almost 90%. There, by the seventh of each month, compiled district HMIS report with comments of the HMIS Coordinator is submitted to EDHO.

In Sargodha, the reporting regularity for FLCF-HMIS is only about 50 percent, i.e. only fifty percent of health facilities provide timely reports. In this district, previously local arrangements were made to tie up payment of staff salary with submission of report. This resulted in improvement of the reporting rate. However, such an arrangement is not working now as the salaries are paid at tehsil level.

Some of the reasons for non-compliance to reporting requirements by the facilities include:

- Shortage of stationary and staff

- Lack of staff training on HMIS
- Lack of interest and motivation among the staff
  - Doctors at BHU do not do proper recording and, thereby, it is difficult for the dispenser to prepare reports
  - There is no proper feedback to health facilities, thus the staff do not feel any urge for timely reporting
  - At facility level, there is no designated staff for preparing HMIS report

At district level,

- There is shortage of trained staff for data entry and compilation
- The responsibilities for HMIS are given as additional duty to the designated officer

3) Feedback on FLCF-HMIS reports

Though Rawalpindi might be a good example for providing feedback on HMIS reports through highlighting facility performance, disease pattern, stock-out positions, etc, the most common type of feedback given by the District HMIS Officer/Coordinator is feedback on reporting regularity, errors and omissions or on visibly cooked data reporting. On the other hand, EDOHs appear to be indifferent to HMIS reporting and its onward transmission to provincial level.

Sometimes, the HMIS Coordinators have produced analytical reports on their own initiatives, but that has remained mostly an ad hoc activity.

4) HMIS data quality assurance

There is a guide manual (the Green Book) for filling the FLCF-HMIS record keeping and reporting instruments. However, not every HMIS person is aware of that instruction manual. Also there is no guidebook on data quality assurance procedures.

5) HMIS logistics

Supply of HMIS stationary is regular in the two districts of Punjab. The printing of the forms is arranged from the district budget. There might be some administrative delays in getting the forms printed, but the supply is available.

Computer and printer are also available in the district office, but there is no budget for recurrent expenditures. This is hampering the use of Information Technology (IT) for HMIS purposes. In Abbottabad, there is no special budget for HMIS. Any allocation for HMIS depends upon availability of funds with the EDOH. As such, the district faced stock-out of HMIS stationery and the EDOH arranged for the supply on his own initiative.

6) Other management information systems in the district

a. Financial information system at EDOH office:

The EDOH Office maintains financial records of expenditures and money receipts (Annex Table 11 & Annex Table 12). In some district (e.g. Abottabad) this is done in more organized way, while in other districts it is less well organized. In Abottabad, monthly expenditure and receipt statements are produced using computer Excel program. The expenditure statement follows the budget code of the government and provides a view (by each line item/budget code) of the allocation for the year, expenditure during the reporting month, previous month and to date, and the balance remaining out of the allocated budget.

The expenditure statements are produced for:

i. Payment and allowances (from Provincial Account), by each unit – i.e., Administrative unit, Hospitals, RHC, BHU

ii. Expenditure statement for district accounts for each unit as above. This statement includes the statement on the following items:

- Purchase of goods – equipment, furniture
- Repair of vehicles, equipment, furniture
- Transport and travel charges
- Utility charges
- Medicine, hospital linen, X-ray, laboratory, Ambulance, chemicals, etc expenses.

The receipt statement is for the receipt of fees from the outdoors, indoors, ambulance,

investigations, birth/death registration, etc.

The information for the above expenditures is maintained in various registers or payrolls with the EDOH Office, or is received from the respective unit (e.g., hospitals, RHC, BHU).

4.3.2 Vertical

(1) National program for family planning and primary health care

The National Program for Family Planning and Primary Health Care (or The Lady Health Worker Program) was launched in 1994 for door-to-door delivery of family planning, maternal and child health, immunization, nutrition and treatment of minor curative services to mainly rural and urban slum population[28]. Currently, there are 72,000 Lady Health Workers (LHW) covering about 50% of the population.

A few of the specific program targets of the LHWP are to contribute to the increase in CPR from 27% (2001-2002) to 53% by 2012, and reduction of MMR from 350 to 140 and IMR from 82 to 35/1000 Live Births within the same time period.

As envisaged in the Program's document, an LHW is supposed to register approximately 200 households or 1000 population in her community. She is responsible for providing a range of preventive and promotive services. She is to visit 5-7 couples who are eligible for family planning every working day and ensure a re-visit every two months. She is provided with a basic kit of essential drugs and contraceptives which is replenished on a monthly basis through the health facility to which she is attached. She also acts as a liaison for immunization services and, it is envisaged that at a later stage would be providing immunization coverage in her area.

1) Monitoring LHW performance

The LHW Program is a managed by the Federal Programme Implementation Unit (FPIU) attached to the Federal Ministry of Health. The FPIU is responsible for PHC policy

[28] Annual Report of Director General Health 2000-2001, Bio-statistics section, Primary Health Care cell, Ministry of Health, Government of Pakistan

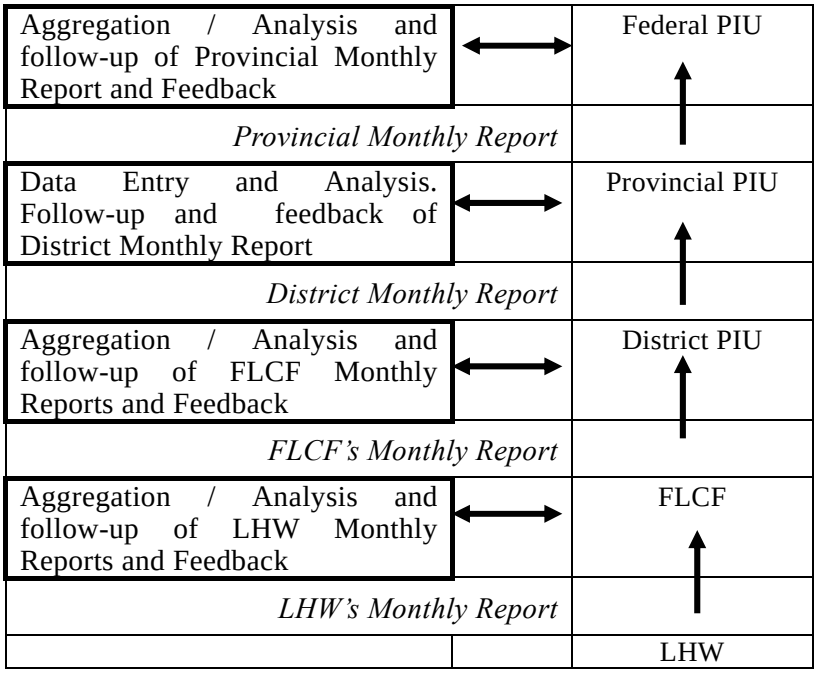
advice, national reporting, internal monitoring and evaluation, training, procurement and distribution, payroll, operational planning, budgeting, and financial accounting. There are Provincial PIUs and District PIUs to whom some level of management functions have been delegated.

The LHW Supervisor prepares a monthly tour program indicating places and name of the LHWs to be visited on which dates. This planning is done with the help of the LHWs' tour plan submitted to her every month. The LHW visit plan indicates the household numbers that would be visited by dates. During the field visit, the LHW Supervisor uses a supervisory checklist to check the LHW's performance. After filling the checklist, the supervisor assesses the performance of the workers and decides on the action to be taken according to the performance score. In addition to these district level supervisory and monitoring activities, the Field Program Officers (FPO) from the Provincial PIU also carry out monthly visits. FPO is assigned to 2-4 districts and spends 20 days in the field. Every month he/she meets with 24-48 LHWs, visits 24 LHW-Supervisors and 12 FCLFs.

2) The LHW-MIS

The LHW-MIS is designed to generate community-based information on important demographic, mortality, morbidity and service related indicators and, therefore, is supposed to reflect the actual situation in the community. The LHW Program in collaboration with UNFPA has developed a computer program. The facility code used by LHW program is same as the NHMIS HID codes. This was intended to provide a common key for analyzing HMIS data and LHW-MIS data. However, code and facility name from the field sometimes do not match with the information provided by HID at NHMIS.

All reports are transmitted from LHWs to the FLCF, then to district, province and ultimately to federal level (See Annex Figure 15). Data transmission in LHW-MIS is shown below.



The Monthly District/Provincial Report contains about 98 data items, which cover the field of LHW, catchment area, social contacts, child health, maternal health, family planning, common ailments, births/ deaths, medicine/ contraceptives and information of supervision.

3) Indicators derived from LHW reports

A list of 98 district level indicators has been prescribed for calculation by the LHW Program. Of the 11 input/process indicators and 14 output/outcome indicators have been prioritized for use at national/provincial levels and to be part of the guidelines for District Action Plan.

4) Analysis of LHW-MIS

The LHW monthly report is a mixture of LHW performance (e.g., count of services provided by LHW) and community-based data (e.g., households with water supply). The LHW Program asserts that, "a lot of field information that remain unexplored by HMIS could be gathered through Lady Health Workers" and "HMIS…does not give information on the services extended through other departments and non-governmental organizations." "….LHW-MIS is generating information directly from the community,

thus supposedly reflecting the actual situation." However, the Program's total population coverage is about 50%, i.e., the population-based data from the rest 50% is not represented in the LHW-MIS. Given the above findings, it might be inferred that the LHW-MIS could be useful to analyze services provided by the LHWs. However, to derive population-based indicators, the LHW-MIS might not be providing a complete picture.

(2) Expanded program on immunization (EPI)

1) EPI record keeping and reporting

- The Daily Vaccination Register is to record the daily activities of the vaccinator and provides a record of the children/women vaccinated on a particular day
- The Permanent Register is a longitudinal record of children in the work area of the vaccinator. The records in this register are updated using the information recorded in the daily vaccination register
- The Master Plan is the monthly tour program of vaccinators which is sent up to provincial level. It is used to supervise the activities of the vaccinators.
- A yearly target is set for each district and accordingly annual plans and micro-plans are developed for the district. Field monitoring is done in accordance with those micro-plans.
- Vaccines are sent from the province to the district main store at EDOH Office. Here cold chain is managed by a senior EPI technician. Vaccines from the district store are sent to sub-stores at FLCF having freezers. From these sub-stores the EPI technicians collect the vaccine for their respective catchment area population in vaccine carriers.
- In Punjab, the vaccinators prepare a monthly report on their activities and stock position. It is sent to the Tehsil level (DDHO, ASV and IV) where all the reports of the tehsil are compiled and sent to the District Office. The district office compiles the district reports and sends to the Provincial Health Department. The vaccinator is responsible to collect the data from LHV in his work area providing vaccination from fixed sites and send it to Tehsil level. Thus, one report for outreach activities, one for fixed centers and one compiled (total) report are prepared at each level.
- The feedback received or given is mostly on the correctness or completeness.
- The distribution of vaccines to the EPI centers at FLCF is done on the basis of

estimated target population in the catchment area of the FLCF.

- The supervisors during their supervisory visits use a Tour Diary for recording their finding related mostly to the master plan and attendance of the vaccinators and the cold chain.
- There is no supervisory checklist available and the supervisory report is a descriptive report on the findings.
- However, a Monitoring Checklist for EPI Supervisors and a Report of District EPI Staff and Logistics Status were found to exist. (Annex Table 13 to Annex Table 19).

2) Monitoring EPI activities at district

In Sindh, the District Officer Health (Medical and Public Health) is overall responsible for the management of EPI activities in the district (in addition to other preventive and primary health care activities). The Deputy District Health Officer (Preventive is more specifically assigned to supervise EPI activities[29]. However in Rawalpindi and Sargodha (Punjab), there is no separate post of EPI Manager, but the respective District Health Officers have assigned Medical Officers to work as EPI Managers.

In Abbottabad, the EPI Technician is supervised by the Superintendent (Vaccination) at field (union council) level. There is a Tehsil Superintendent (Vaccination) at Tehsil and a District Superintendent (Vaccination) at the District Health Office. At EDOH Office, EPI Evaluation Officer is responsible for monitoring EPI activities in the district.

For a District EPI Manager, the most frequently used indicators/data are:

- Progress towards achieving monthly/yearly antigen-wise targets
- Number of defaulters
- Number/ratio of drop-out cases
- Missed cases/children
- Functional cold chain – temperature, etc.
- Number of vaccine stock out days

As a supervisory activity, the monthly progress report is matched with the permanent EPI

[29] Job description – New Setup at District Level; Department of Health, Government of Sindh. pp.5 & 13

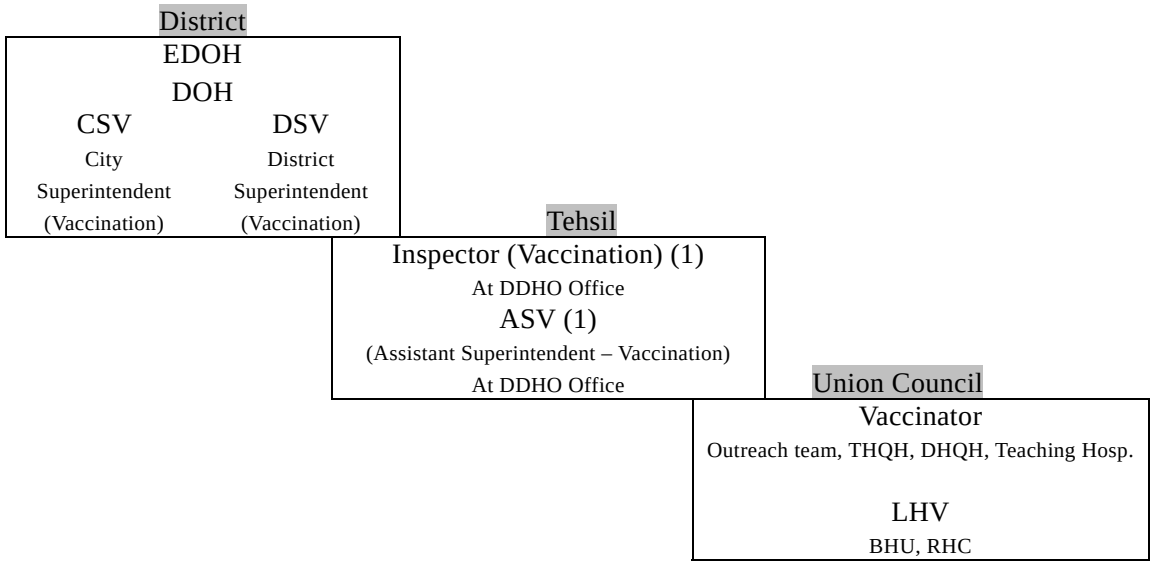
register and projected number of births. For supervising EPI logistics, the vaccine availability is verified from the stock register, and during the field visits the number of vaccine vials are counted and the cold chain records are scrutinized.

The FLCF-HMIS data on EPI is not used by the EPI managers as it has a number of limitations (See Annex Figure 16):

a. The EPI data from urban areas is not reported through the FLCF-HMIS
b. The vaccinators receiving vaccine supply from one BHU but having their work area in the catchment area of another BHU do not submit report to either of the BHU and, therefore, their activity report is not reflected in the HMIS report
c. Vaccinators are accountable to the Assistant Superintendent Vaccination (ASV) or the Inspector (Vaccination) at Tehsil/Taluka level. They submit their reports directly to their supervisors and usually do not submit reports to the BHU in-charge.
d. The EPI data reported in FLCF-HMIS do not match with data reported in EPI-MIS. The EPI Managers rely on their own information channel as the data is generated by their own staff and they have a chain of supervision to ensure data correctness.

The EPI Managers find HMIS data useful in case of reporting on epidemics/outbreaks of vaccine preventable diseases.

Figure 4-3-1 The Organizational Setup for EPI in Rawalpindi District



- There are 171 union councils and 32 Cantt wards in Rawalpindi

- Of them, 46 are City union councils
- There are 157 sanctioned posts of Vaccinators
- Of them 154 Vaccinators are available
- In the city, TB Hospital and SSD Civil Lines are the two points from where the City Vaccinators collect vaccines and report their attendance
- In rural areas, the vaccinators get vaccine from BHU, RHC or THQH and report their attendance at those points

(3) AFP surveillance

AFP surveillance indicators:

Most important

- Non-polio AFP rate (AFP / 100,000 children)
- Percentage of cases with two stools (24 hours apart) collected within 14 days of paralysis
- Percentage of cases with 60 day follow-up investigation

Useful indicators for improving quality of AFP reporting (Annex Table 20 to Annex Table 24)

- Completeness of monthly reporting
- Timeliness of monthly reporting
- Percentage of cases investigated within 48 hours of notification
- Percentage of specimens arriving at the lab within 3 days of being sent
- Percentage of specimens arriving in good condition
- Percentage of specimens with virologic results sent to district within 28 days
- Stool specimens from which non-polio enterovirus is isolated

Reporting level	Reports
Facility, Reporting sites (public / private) Facility MO Busy private practitioner, pediatrician, hospital	Immediate notification of AFP Weekly zero report for AFP surveillance
District Health Office	Line-list of AFP cases District weekly zero reporting (status report)

Reporting level	Reports
EDOH, DSC SO (WHO) District Surveillance Pediatrician	District weekly active surveillance form Case investigation Form for AFP Case Recommendation form by District Committee
Provincial EPI Office WHO MO/TO – Team Leader Senior Provincial Surveillance Officers Statisticians/Assistants	Line-list of AFP cases Province weekly zero reporting (status report) Provincial weekly active surveillance report (activity report) Final Classification Report by Provincial Expert Review Committee
National surveillance cell National Surveillance Coordinator Provincial desk Officers	Weekly review Monthly bulletin
WHO	National and Province weekly zero reporting (status report) National and Provincial weekly active surveillance report (activity report)

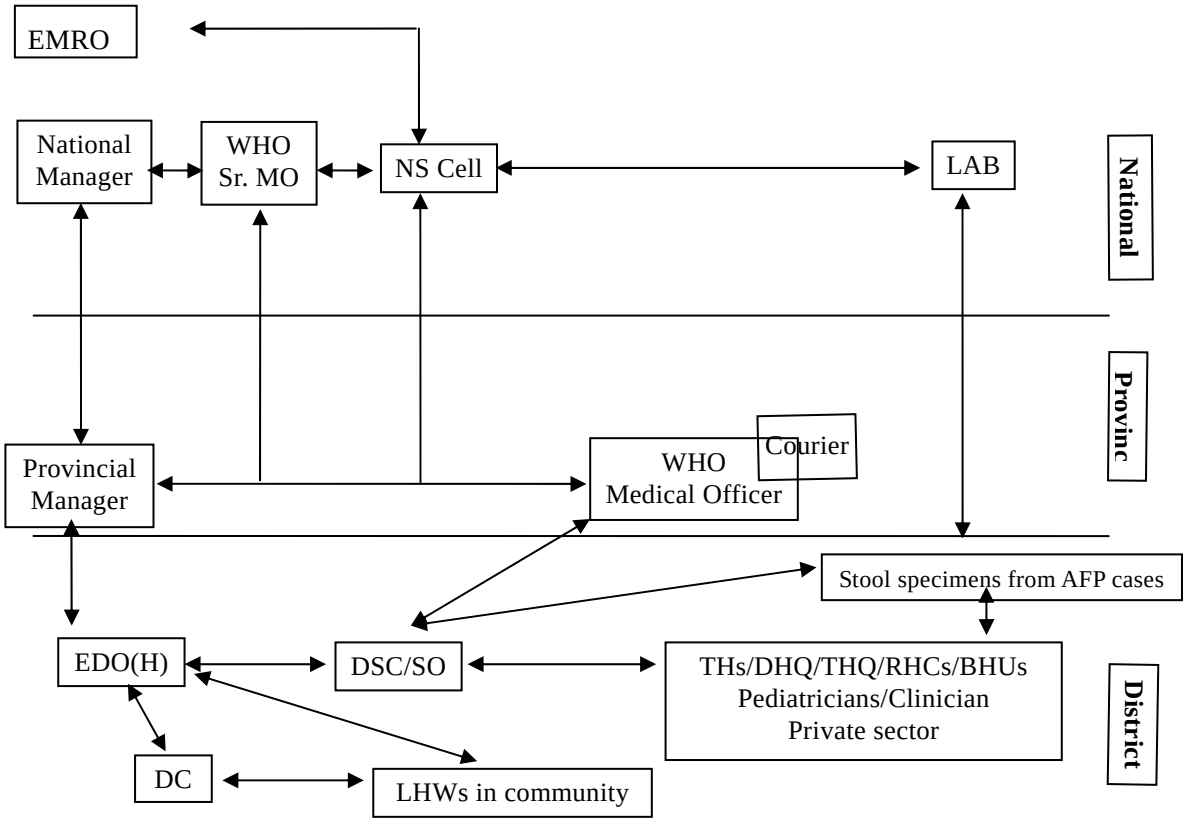
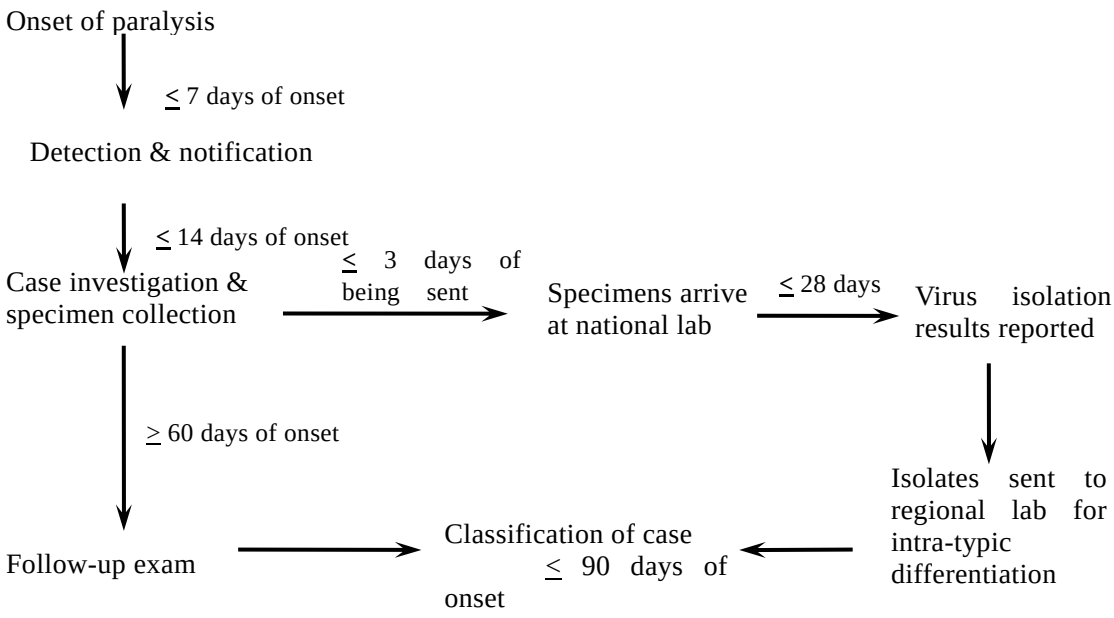


Figure 4-3-2 AFP Surveillance System, Pakistan



Source: National Surveillance Cell, NIH Islamabad

Figure 4-3-3 The process of AFP surveillance

(4) Malaria control program and roll back malaria initiative

- The Malaria Eradication Program was initiated in 1960 and reached the level of consolidation phase with Annual Parasite Incidence of 0.1/1000 population.
- In 1970s there was resurgence of malaria, and WHO switched from eradication strategy to control strategy.
- In 2000 API was 0.81 in Pakistan[30]
  - Balochistan – 5.74
  - NWFP – 1.55
  - Sindh – 0.71
  - Punjab – 0.18
- In 2002 this was reported to be 0.69
- Malaria parasite (P. falciparum) has developed RI and RII level resistance to Chloroquine in many areas of Pakistan.

[30] Annual Report of Director General Health 2000-2001, Bio-Statistics Section Primary Health Care Cell, Ministry of Health Government of Pakistan

- In 1998, Roll Back Malaria Initiative was launched by WHO, and Pakistan is a member of the initiative.
- The RBM initiative was launched in 2001 in Pakistan. The main elements of RBM initiative are:

  – Early detection and prompt treatment of cases
  – Multiple and sustainable prevention strategies, e.g., vector control program using impregnated bed nets, insecticides and larvicides
  – Focused research and well coordinated interventions through dynamic global movement and partnership

- The overall aim of Pakistan RBM is to reduce the malaria specific morbidity by 50% by the year 2010 through:

  – Strengthening of diagnostic, curative and surveillance services of the health system
  – Integrated vector control program with the participation of public/private sector and communities to allow sustainable control measures
  – Community awareness by implementing effective elements of health education

- Organizational setup

  – Federal
    - Directorate of Malaria Control

  – Provincial level – responsible for implementation of control activities and have separate PC-1 approved, reflecting full ownership of the provinces
    - Punjab - Director CDC is the overall in-charge with Additional Director of Malaria directly responsible for malaria control activities
    - Sindh – Separate Directorate of Malaria Control
    - NWFP – Deputy Director (Public Health) responsible for malaria control activities
    - Balochistan – Provincial Malaria Control Coordinator responsible for control activities

- Currently (by April 2004) RBM has been started in 19 districts[31].

[31] Progress on Agenda for Health Sector Reforms, March 2004. Ministry of Health, Government of Pakistan

- By 2003, 43 malaria high-risk districts in the country have been identified and strengthened to provide better health care

- One of the key functions of the Federal Directorate is monitoring and evaluation of Provincial Malaria Control Programs

  - The federal directorate's key future activities include development of mechanisms for expansion of HMIS to include reporting from hospitals and private facilities and providers.

- The Malaria Surveillance system includes (Annex Figure 17, Annex Table 25 to Annex Table 17)

  - Active Case Detection by Malaria Supervisors at Union Council Level. They go from village to village and hold once a month session to identify suspected malaria cases and collect blood slides. These blood slides are then sent to RHC or above for microscopy. In the districts where RBM launched, there are separate technicians trained and equipped for malaria microscopy. Sometimes, blood examination services are organized at village level also.
  - Passive Case Detection – examination of blood slides of all suspected malaria cases coming to health facility for treatment.

- The disparities between HMIS reports and MCP reports might be due to:

  - ACD data are not shared with HMIS.
  - There is a separate technician for malaria microscopy who is not sharing data with HMIS reporting
  - HMIS does not report from hospitals

- Data requirements for the MCP/RBM include

  - Blood examination rate
  - ACD, PCD
  - Positive slides, Parasite type
  - Confirmed cases by gender, age, pregnancy status, refugee/foreigner
  - Malaria incidence
  - Sentinel reporting on drug resistant cases
  - Sentinel reporting on vector susceptibility to insecticide
  - Data on vector – density, change in vector type
  - Meteorological data
  - Data on spraying activities
  - Early warning for Malaria
  - Case Fatality number/rate

- As program manager, the Project Director also needs information by village/union council level to pinpoint the target areas for focusing control activities

(5) Tuberculosis control program

The DOTs Strategy was officially introduced in Pakistan in 2000. Since then, 90 districts have been covered by DOTs[32]. The program targets are to achieve 70% case detection rate and 85% cure rate and 100% coverage of population by 2005[33].

The organizational arrangement of TB control at district level is as following[34]:

- The District Health Officer (DHO) has the overall technical and administrative responsibility for TB control activities in the district
- The District TB Coordinator is responsible for coordinating training and offering technical supervision to all tehsils in the district
- The DDHOs (tehsil coordinators) supervise the health facilities in their respective tehsil
- The DHQH, THQH, and RHC work as diagnostic centers having a laboratory and doctor trained to diagnose and initiate treatment. Occasionally, a BHU can be a diagnostic center if there is a microscopist and the nearest hospital/RHC is too far to be accessible.
- The BHUs and dispensaries work as treatment centers providing drugs to the patients diagnosed at diagnostic center and ensuring directly observed treatment regimen. A diagnostic center can be the treatment center for patient living near to the diagnostic center.

The Recording instrument for DOTs (Annex Figure 18, Annex Table 34 to Annex Table 35)[35]

- TB Treatment Card (TB 01): filled for every diagnosed TB patient. A copy of the card is maintained both at the diagnostic center and the treatment center. Data from TB 01 is transferred to TB Register.

[32] Progress on Agenda for Health Sector Reforms. March 2004. Ministry of Health, Government of Pakistan. p 13
[33] Annual Report of Director General Health 2000-2001, Bio-Statistics Section, Primary Health Care Cell, Ministry of Health, Government of Pakistan
[34] Training Manual for Doctors. National TB Control Program Pakistan. August 2001. p. 5
[35] National Guidelines for Tuberculosis Control in Pakistan. National Tuberculosis Control Programme, Ministry of Health, Government of Pakistan. March 2003. p. 24-26

- TB Patient Card (TB 02): is kept with the patient and brought to the facility at the time of re-visits.
- TB Register (TB 03): All patients diagnosed with TB are recorded in this register, which is maintained at each diagnostic center. Quarterly reports are based on the information obtained form this register.
- Tuberculosis Laboratory Register: kept at diagnostic center, where all the results of diagnostic examination for a patient are entered on the same line.

The Reporting instruments for DOTs

- Quarterly Report on Case Finding (TB 07): provides data on patients put on treatment (new cases, relapses, treatment after failure, treatment after default) during the reporting quarter.
- Quarterly Report on Sputum Conversion at 2 and/or 3 months (TB 08): reports on the result of sputum smear conversion at 2/3 months for mainly smear positive new cases and also other re-treatment cases.
- Quarterly Report on Treatment Result (TB 09): reports on the treatment result of the cohort of patients puts on treatment 12-15 months earlier

The District TB Coordinator uses three methods to monitor TB Control program activities:

- Field visits to health facilities
- Quarterly reports from diagnostic centers and treatment centers
- Monthly meetings with TB Control Program service providers

The important tools that are reviewed during the field supervisory visits are:

- Laboratory register for sputum tests
- TB 01 form – the TB Treatment Card
- TB 03 Form – the TB Register

For monitoring TB program, the data recorded in the TB record keeping instruments and reported through the quarterly TB reports are considered the most dependable. These instruments constitute a well designed information system and contain adequate information for monitoring the program activities. Counter checks can easily be done for data quality. For example, TB Laboratory Register (Sputum testing) records are also

entered on TB 01, TB 03 and TB 05 forms. Therefore, the entries can easily be cross checked, thus minimizing errors.

HMIS-FLCF is not used for monitoring the TB Control Program monitoring.

In Abbottabad, TB drugs are made available from the TB Control Program's own funds. In addition, 10% of the funds are made available for purchase of TB drugs from the district funds and 10% from the DHQ Hospital funds on a regular basis. Sometimes, the PHD also provides TB drugs for the district.
The MO in the District Prison in Abbottabad refers TB cases to the district TB diagnostic center. The TB Control Officer from the district also visits the prison.

4.3.3 Hospital

In Pakistan, the District Headquarter Hospitals (DHQH) serve as the secondary level health care facilities providing out-patient and in-patient services (medicine, surgery, pediatrics, gynecology & obstetrics, orthopedics, ophthalmology, ENT, pathology, radiology etc.). In some large DHQ Hospitals, more sophisticated services like cardiology, urology chest diseases are also available. Many of these larger DHQ Hospitals are now part of the Medical College Hospitals and behave as tertiary level facilities, e.g., DHQ hospital Rawalpindi, DHQH Abbottabad. Also, in large cities, there are a number of tertiary care hospitals.

The secondary level hospitals in the districts are under the management of the District Government with Medical Superintendent of the Hospital as the in-charge. The tertiary care hospitals are autonomous institutions under the provincial or federal government's control and are governed by Board of Directors with the Principal of the Medical College as the chair. In these tertiary level hospitals, the Medical Superintendent is responsible for the day-to-day management and administration of the hospital.

(1) Hospital information needs

The information needs at various management levels depend on the functions carried out at

each management level[36]. At Health Unit level, e.g., hospitals, the management functions are management of the service delivery and administrative (or resource management) functions. Thus, the recommended information needs correspond to these two functions of the health unit.

Service delivery functions in secondary and tertiary level hospitals include:

- out-patient services (general and specialized services)
- in-patient services (like medicine, surgery, pediatrics, orthopedics, ophthalmology, ENT, gynecology & obstetrics,
- management of medical, surgical and obstetric emergencies
- diagnostic services (pathology, X-ray, ECG, ultrasonography etc.)

Examples of data needs related to service delivery functions at hospital level are:

- absolute/aggregate number of patients receiving particular services
- measurements of quality of care[37]. For example,
- Bed Occupancy Rate
- Length of Stay in Hospital
- Bed Turnover Rate
- Hospital Infection Rate
- Hospital/Ward Mortality Rate

The administrative functions of the hospital are geared towards resource management activities. The resource management data, to gauge how the health unit is functioning includes:[36]

- Information on Human Resources
- Financial management data
- Logistics information (medicines and other consumables)
- Material resources (infrastructure, equipment, vehicles, etc)

(2) Assessment of health information systems in secondary and tertiary hospitals

1) Secondary level Hospital – Case Study: Swabi DHQ Hospital.

[36] Design and Implementation of Health Information Systems. WHO Geneva.
[37] Varatharajan D, et al. Idle Capacities in Resource Strapped Government Hospitals in Kerala. 2002

The DHQ Hospital in Swabi is a 74 bedded hospital. This hospital was in fact upgraded from a THQ Hospital to DHQH. However, the sanctioned staff strength and budgetary allocation for the hospital remained the same as for THQ Hospital. A new DHQ Hospital building is being constructed in another place near the District Administration Office. The existing DHQ hospital has medical wards for male and female patients, male and female surgical wards, obstetrics & gynecological ward, and pediatrics ward. General Surgery, Eye, ENT and Orthopedic patients are admitted in the same surgical ward. Currently, there is shortage of both medical and paramedical staff.

a. Hospital Management

The Medical superintendent is the overall in-charge of the Hospital. He is assisted by a Deputy MS, the Resident Medical Officer and the Head Nurse in the management of the hospital.

The informally constituted Hospital Management Team comprising the MS, DMS, RMO and Head Nurse meet every morning to discuss any problem brought to notice. Usually staff punctuality and availability of medicine are discussed during these meetings. These morning meetings are informal in nature and no meeting minutes are recorded / maintained as such. Need-based meetings are held in which the specialists and medical officers are also invited. Minutes of these formal meetings are prepared and sent to EDOH, DCO and DGHS.

Most of the problems need action at higher levels, e.g., staff appointments, the MS cannot do much except bringing the problem in writing to the knowledge of EDOH and DGHS which he has had done but with no encouraging results.

b. Financial management

The salary budget for the staff of the hospital is provided by the Provincial Government and is calculated on the basis of number and type of staff posted in the hospital.

The non-salary budget is provided by the District Government. The non-salary budget includes budget for medicines, equipment and contingency. The MS prepares the budget

for non-salary items in consultation with the DMS and with the assistance of the Account section. This budget is prepared on the basis of patient load, medicine expenditure and demand from the specialists, requirements for the purchase/repair of equipment.

The Account section clerk maintains the payroll of the staff which is used to prepare the salary component of the budget. The storekeeper provides data on medicine expenditure. Also a meeting is held with the specialists and ward in-charges for selection of medicines out of government approved list. The patient load data is provided by the Head Nurse and is also available from the record room. When the budget is prepared justification for the budget is also provided using the above data.

The budget proposal is presented to the EDO (Finance) of the District Government which is approved by the District Assembly as part of the overall annual development budget for the district. The EDO (Finance) can put budget cuts based on the amount of available funds and the priorities of the District Government.

c. Annual planning

Apart from annual budgeting exercise, no other annual planning is done by the hospital authorities.

d. Staff management

The staffing pattern of the hospital is according to the classification of the public health facilities decided by the Provincial Government of NWFP. However, there is shortage of staff in the hospital, e.g., there are only 8 nursing staff for surgical, medical, obstetric and pediatric wards. The EDOH can transfer staff from other facilities in the district with the approval of the DCO.

The Medical Superintendent can only call explanation from the concerned staff if any disciplinary action is necessary. The MS cannot transfer any staff out of the hospital. For transfer of staff from grade 1-16, MS can propose to EDOH and the final approval is given by the DCO. For grade 17 and above officers, transfer is done by DGHS with approval of Secretary (Health).

e. Human resource development

The Medical Superintendent can/did not organize any in-service training of the hospital staff for improvement of their technical skills. However, some NGO and government project have trained the staff on clinical management.

f. Service delivery management – hospital supervision

The MS and DMS have daily ward rounds. There is no checklist for the supervisory activities.

g. Service delivery management – monitoring clinical standards

The specialists of the respective units are responsible for maintaining standards of clinical management. However, there is shortage of staff in the hospital and the available staff, particularly the paramedics, are overburden. So, maintaining an acceptable level of patient management standards is very difficult.

h. Service delivery management – medicines, other supplies, equipment

Enlisted medicines are purchased by the MS within the approved budget. The specialists are asked to provide their demands for type and quantity of medicines, and these are purchased within the available amount of budget for medicine. These medicines are distributed according to indoor patients' ratio, type of patients and priority set by specialists on consensus basis.

The storekeeper maintains a stock register of medicines. The storekeeper distributes medicines to the wards on receipt of demand slips from the wards. In each ward, the in-charge nurse maintains a register for recording the amount and type of medicine received and distributed to the patients, and how much balance is left. When the medicine is exhausted in the ward store, fresh indent is sent for replenishment. The storekeeper informs the MS when there is stock out of any medicine.

For local purchase of medicine not available in store, the treatment chart with treatment

instructions by the specialist is sent to MS for his approval for local purchase. For poor patients, if the patient can bring the Zakat Form from village/UC Chairman, then the treatment chart and the Zakat Form is sent to MS for approval of purchase of medicine from Zakat fund.

The C&W Department maintains the building and vehicles of the hospital.

i. External supervision

There is a District Health Committee responsible for monitoring hospital activities. The committee members make infrequent supervisory visits on ad hoc basis.

j. The health management information system

Indoor ward (Surgery): There are two surgery wards in the hospital, one for males and the other for females. In each ward surgical, orthopedic, eye and ENT patients under the respective specialists are admitted. Therefore, four separate admission registers for each unit - Surgery, Orthopedics, Eye, ENT are maintained in the ward. Entries in the admission register are done by the in-charge (Male nurse) in morning time. For evening and night admission, one single provisional register is maintained by the duty nurse. Admissions are copied into the respective unit's register in the morning from this register. The admission register is a hand-drawn register with columns for:

- date of admission
- yearly number
- monthly number
- name of the patient
- father's name
- sex
- address
- diagnosis
- date of discharge
- remarks

In addition Daily Admission Registers, the following registers are maintained in the indoor:

i) (Medicine) Expense Register

- Entries are made for medicines received and issued
- Entries for medicines issued is made daily and entered with admission number and patient's name.
- Separate pages are used for each medicine type
- The entries include: date, admission number, received from store, issued, balance, doctor's signature
- When the balance for a particular medicine is nil, more medicine of that type is indented.

ii) Stock register for equipment and furniture

iii) Daily report register – sent to MS Office daily with information regarding:

- Old patients
- New admissions
- Discharges
- Expired
- Seriously ill
- Referred
- Grand total

iv) Treatment chart of discharged patients are kept in the respective ward's record section for 3 years.

v) There is an indent book for indenting medicine from the store.

Obstetric and gynecology ward: In this ward, two separate registers are maintained for Obstetric patients and gynecological patients respectively. The entries are similar to that in surgery wad except that after "Disease", a column for "Procedure" is also included.

There is no birth register and birth certificate is issued on the basis of discharge certificate.

Admission fee collection: Indoor admission fee (Rs.15) is collected in the ward. There

is no separate record for that. The admission register with number and name of patients admitted in the ward during last fortnight is sent to the account section for depositing the money. The account section receives the money and signs on the admission register. This is done every fortnight.

Record room: There is a record room staffed by three Junior Clerks. The records that are maintained include:

- Personal files
- Medicine purchase
- Duty roster of staff
- Monthly admission record

No such monthly report is produced, but reports are generated on demand. The data available with the record room includes:

- Staff/doctors sanctioned and filled positions
- Infectious diseases cases admitted in 2003
- Register containing list of doctors/staff – Personal file #, Name, (if transferred out – write the remarks in parenthesis)
- Number of indoor outdoor patients report – sent to DGHS yearly, but no data on disease profile
- Expenditure file – compiled from payment vouchers, monthly expenditure statement
- Budget file

The head nurse also maintains the following records:

- number of indoor patients (in each unit/ward)
- OT – major and minor
- OPD patients
- Lab
- Blood bank
- Deliveries
- ECG
- Post mortem

However, there is no record available by type of diseases admitted in the hospital or

attended at OPD/Emergency.

Routine reports: The MS daily receives reports on number of admissions, discharges, deaths, staff attendance, complaints and postmortem. Fortnightly, he receives reports from OPD and indoors about patients and fee collection.

The hospital prepares monthly in-patient and out-patient statistics. The record section helps the MS to prepare the reports which are sent to EDOH and DG Health. Also immediate reporting is done in case of AFP or any disease outbreaks.

The hospital has an acute shortage of HMIS stationery. Usually this is provided by the district government as part of the approved budget for the hospital, however, there is currently lack of funds for the stationery and the Hospital management has arranged for printing of the forms by arranging donations. There is no computer available with the record section.

2) Tertiary level hospital – case study: Ganga Ram Hospital, Lahore

The Ganga Ram Hospital is part of the Fatima Jinnah Medical College in Lahore, and serves as the tertiary care teaching hospital within the city. The hospital has 534 sanctioned beds. However, in actual, it has 671 beds in 13 departments. The Departments are: Medicine, Surgery, Gynecology & Obstetrics, Pediatrics, Nursery, Eye, ENT, Orthopedics, Skin, Psychiatry, Urology, Dental and Oncology. In the outdoors, there are 12 OPD service points and one Accident & Emergency unit (Casualty OPD). In 2003 nearly 33,000 admissions took place and about 427,000 outdoor and emergency patients were attended in this hospital.

a. Hospital management

According to the Medical Institute Ordinance, there is a Board of Management for overall management of the institute. The Principal is the head of the institute (college and hospital) and the Medical Superintendent is responsible for the administrative management of the hospital.

b. Financial management

The Provincial Government decides about budget allocation for the institution based on the bed strength, staff strength and number of students. The Provincial Health Department thus provides a one-line budget to the institution.

The Medical Superintendent (MS) prepares a request for budget under various heads for the management of the hospital based on previous three years budget, demands from various units of the hospital and inputs from the Principal. The Director Finance of the Institution gives the approval to the budget and allocates funds for the hospital and the college separately.

c. Annual planning

No annual activity planning exercise is carried out by the hospital administration apart from formulating the annual budget which outlays the monetory requirements for salary, medicines, equipment purchase/repair, civil works for repairs/maintenance and contingency. The principal has had once sent a proforma to put down annual/six monthly activities, but that has been a one time ad hoc exercise only.

d. Staff management

Management of the teaching staff is the responsibility of the Principal. There is a separate administrative section in the Principal's office for the purpose. For hospital staff, MS is mainly responsible for their administrative issues.

The staffing pattern for the hospital was set according to the scheme approved by the Provincial Health department. However, if there is need for recruitment of additional hospital staff, the MS can propose to the Principal with justification. The Principal and the Board of Management provide the necessary approval and form a selection committee/board of which the Medical Superintendent is also a member.

The Principal is the main authority for hiring on contractual basis and terminating the jobs of non-gazetted employees.

For hospital staff's leaves and transfers within the hospital, the Deputy Director

(Admin) has been delegated the responsibility.

e. Human resource development

The Medical Superintendent can arrange in-service training of the staff. For example, the MS is planning to organize a training of staff of the Emergency Department after their recruitment. This training is arranged in line with the requirement of the Provincial Government to establish quality emergency services. Also, the provincial government provides training of the administrative cadre of the hospital.

Since Ganga Ram is a teaching hospital, clinical training of the doctors and students is part and parcel of the undergraduate and post-graduate teaching.

f. Service delivery management – hospital supervision

Every morning the MS receives the reports of the concerned Deputy Directors for evening and night duties. He also receives the bed-occupancy report and new admission report form the statistical assistant. The MS informally meets with the Directors and Deputy Directors every morning to discuss any pressing issues or problems. No minutes are recorded for these meetings. However, if any major decision is taken, it is circulated as an office order. During these morning meetings issues like any incidence during the previous day/evening/night, the budget situation, medicine stock, staff attendance, daily indoor report, death report are reviewed, but not in a structured way. Formal meetings are held only on need-basis, e.g., to discuss any complaint or demand.

For ward management, Registrars are responsible. The MS makes ward rounds and discusses administrative issues with the respective Registrar. However, this practice is not very regular and systematically done. There is no supervisory checklist and the general view is that use of checklists make supervision stereotyped and over time it looses its efficacy.

g. Service delivery management – monitoring clinical standards

The clinical standards for the management of patients are supervised by the Professors in-charge of the respective ward/unit. However, when decisions are taken on policy

issues regarding the clinical management, e.g., prescribing a combination of up to maximum three antibiotics for certain disease, the Medical Superintendent is involved in the decision making consultation and is the person issuing the administrative order.

h. Service delivery management – medicines, other supplies and equipment

Medicines are procured within the approved budget according to the demands form various wards/units. The stock level is maintained by the pharmacist/storekeeper manually (though software is under development). This manual record keeping creates some problem because the MS gets reports only when there is stock out of a particular medicine/drug. This leads to a lag period of 10-15 days before the medicine is replenished.

Director (Equipment) is responsible for maintaining the inventory for equipment. Based on complaints, he investigates and takes necessary actions, e.g., repair by biomedical engineer or by external firm.

The Deputy Director (Transport) maintains the log book and other record for managing the transport pool and keeping the vehicles in order.

For civil works, the hospital has its own Executive Engineer, SDO and sub-engineer. They are responsible for maintenance of the buildings.

i. External supervision

The Board of Management has a vigilance committee which visits the hospital and provides feedback through the Board/Principal. With regard to monitoring by the Provincial Health Department, the PHD only requires special reports on various schemes/annual development projects. Visit by officials from the PHD is a rare event.

j. The health information systems

Out-patient department: There are separate OPD service points for each department, and patients visit the concerned OPD according to their complaints. There is no central registration system. Each department maintains its separate OPD register and issue the OPD slip/chit. The attending doctor maintains another register where diagnosis is

recorded. If the patient is referred to the visiting specialist, then the records of that patient are again entered in a separate register with the specialist.

Only the count of OPD patients attending each department is sent to the record room at the end of the month. No disease profile is maintained for OPD patients, though there is a format for sending yearly OPD patients' disease profile. The Parchee Clerk is mainly responsible for compiling the reports.

The indoor wards: In the wards the nurses maintain an admission register. A similar register is also maintained by the duty doctors. Once a patient is admitted, a patient chart is created where initial examination and follow-up examination findings and treatment instructions by the specialist/doctor are recorded. On discharge or death, these treatment charts along with the investigation records are sent to the record room where they are kept for 5 years.

The various registers maintained in medicine ward include:

1. admission register (nurse)
2. admission register (doctor)
3. stock register
4. emergency trolley drug book
5. daily medicine indent book
6. attendance books
7. daily report book
8. specimen register (for sending specimen for investigations)
9. discharge & death record
10. over book (hand-over and take-over book for nurses)

The night supervisor (Nurse) of the ward prepares the Daily Bed Statement and Daily Death Statement which are sent to the Medical Superintendent through the Matron (Superintendent of Nurses) and to the record room

In the Operation Theatre, each unit maintains a separate register (Operation Register) for registering patients operated by that unit. The OT nurse also maintains a register, the Patient Entry Register, where all the operation cases (irrespective of to which unit the patient belonged at the time of operation) are entered.

The MS expressed his concern about the reports from Emergency department and thinks

that those reports are mostly fictitious.

The Record Room: The Ganga Ram Hospital has a separate record room staffed by a Statistical Officer and a Statistical Assistant. They are responsible for compiling patients' statistics from the outdoors, indoors, pathology and radiology departments. They generate daily, monthly and yearly statistics on number of patients, total and by each department) attended/admitted, discharged or deaths, births and Bed Occupancy rates, and number of investigations done. Samples of the reports generated by the Record Room are attached. The Record Room, however, lacks proper computer equipment, though the Statistical Assistant is well trained in using computers.

The Record Room also maintains separate registers for births and death records. These records are very well maintained for providing birth/death certificates and for legal issues.

There is a separate room for preserving patient-charts of the discharged patients. All the patient-charts are entered in a register according to date of discharge, admission registration number and the department in which the patient was admitted. These charts are preserved for five years and are mostly used by post-graduate students for research purposes.

The Administrative Reports: Each administrative section maintains its own records and generates reports for the Medical Superintendent. For example, the finance/accounts section generates money receipt reports and expenditure reports. These are used to monitor money receipt and budget utilization. If, for example, the money receipt report shows low receipt of money or the budget utilization shows undue increase in salary portion or utility bills, then the MS investigates the case.

4.3.4 Logistics

(1) Items on drug management in HMIS-FLCF monthly report form

The current HMIS-FLCF Monthly Report includes the following drug items : 6 items of vaccines, syringes and needles, 4 contraceptives, ORS, Cotrimoxazole tablets and syrups, 2 anti-malarias, 2 drugs for anemia, 3 anti-tuberculosis, and 1 chemical reagent for TB

detection.

The following table shows the items and types of data collected.

Table 4-3-1 Items and types of data of HMIS-FLCF

Classification	Name	Types of data
Vaccine	BCG	Number of received, Number of issued, Number of discarded, Closing balance, Days out of stock
	DPT	
	Polio	
	TT	
	Measles	
	DT	
Syringes	(for vaccines)	
Needles	(for vaccines)	
Contraceptives	Oral contraceptives	
	Condoms	
	Injection contraceptives	
	IUDs	
Other drugs	ORS	Days out of stock
(Antibacterials)	Cotrimoxazole	
	Cotrimoxazole syrup	
(Antimalarias)	Chloroquine	
	Primaquine	
(Drugs for anemia)	Iron tablet	
	Folate tablet	
(Anti tuberculosis)	Streptmycin	
	Isoniazid	
	Isoniazid + Tb1	
(Reagent)	Ziehl-Nielsen	

(2) Duplication of the reporting items on drugs in HMIS and vertical programmes

The following table shows the reporting items on drugs in each vertical programme. The mark '✓' shows the duplication in HMIS and the programmes.

Table 4-3-2 Reporting items of vertical programme

Drug reporting items on HMIS (stock situation/ out of drug)	LHW	EPI	Malaria	TB
BCG Vaccine		✓		
DPT Vaccine		✓		
Polio Vaccine		✓		
TT Vaccine		✓		
Measles Vaccine		✓		
DT Vaccine				
Syringes (for vaccination)		✓		
Needles (for vaccination)				
Oral Contraceptives	✓			
Condoms	✓			
Inj. Contraceptives	✓			
IUDs	✓			
ORS	✓			
Cotrimoxazole tablet				
Cotrimoxazole syrup	✓			
Chloroquine tablet	✓			
Primaquine tablet				
Iron tablet	✓			
Folate tablet				
Streptmycin				
Isoniazid (INH) tablet				
INH + Tb1 tablet				
Ziehl-Nielsen				
Other drug items specifically on the vertical programme	Paracetamol tablet	HBV		
	Paracetamol syrup			
	Chloroquine syrup			
	Mebendazole tablet			
	Piperazine syrup			
	Eye ointment			
	Anticeptic lotion			
	Benzyl Benzoate lotion			
	Plaster			
	Vitamin B complex syrup			
	Bandage			
	Cotton wool			

(3) Situation on drug data based on HMIS-FLCF monthly report

In April-May of 2004, a survey was conducted on the situation of HMIS-FLCF monthly report. 6 RHC, 55 BHU, and 1 MCH were selected for the survey, and 2 samples of monthly report (February and August) were collected from the health facilities respectively. (The total number of samples of the survey was 124.) The objective of the survey was to

reveal 1) whether the data of monthly report is filled, 2) whether the data is based on the designated registration book, 3) whether the figure of the data is correctly filled strictly referring to the designated registration book.

The average of 1) % of the data of monthly report filled was 58.4±17.7; 2) % of the data based on the designated registration book was 49.7±15.8; and 3) % of the data accuracy was 31.2±11.8.

None of the results reaches sufficient level. In particular, level of data accuracy has a tendency to be low as Figure 4-3-1 shows.

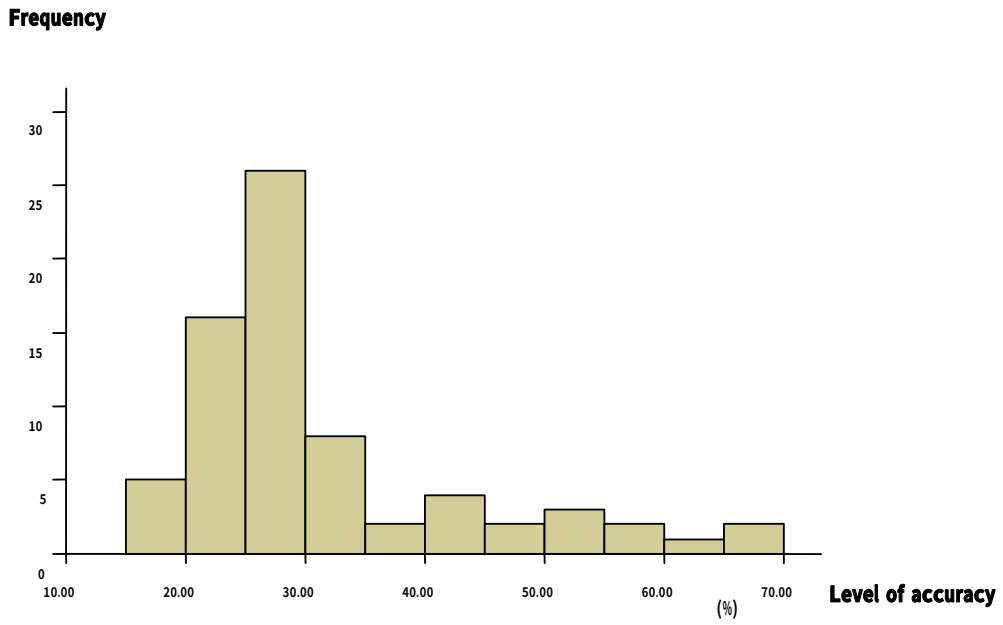


Figure 4-3-1 Level of accuracy of the HMIS-FLCF monthly report data on drug

The above results suggest that HMIS data should be narrowed down only to what are essential to maintaining data accuracy and determining the policies and managing drugs. Current HMIS has too many items (The total number of columns on drug data in the form is 71.) and its quality of data is questionable; often too much data (unnecessary data) collection degrades accuracy. In addition, the results from the interviews and focus group discussion indicate that not all the HMIS data on drugs are necessarily reflected upon policy-making and drug management.

The figure on next page shows the results in percentage according to the classification of medicines as the table 1 of the data ‘days out of stock’. Each bar from the left shows the 1) vaccines 2) Syringes and needles, 3) contraceptives, and 4) other drugs.

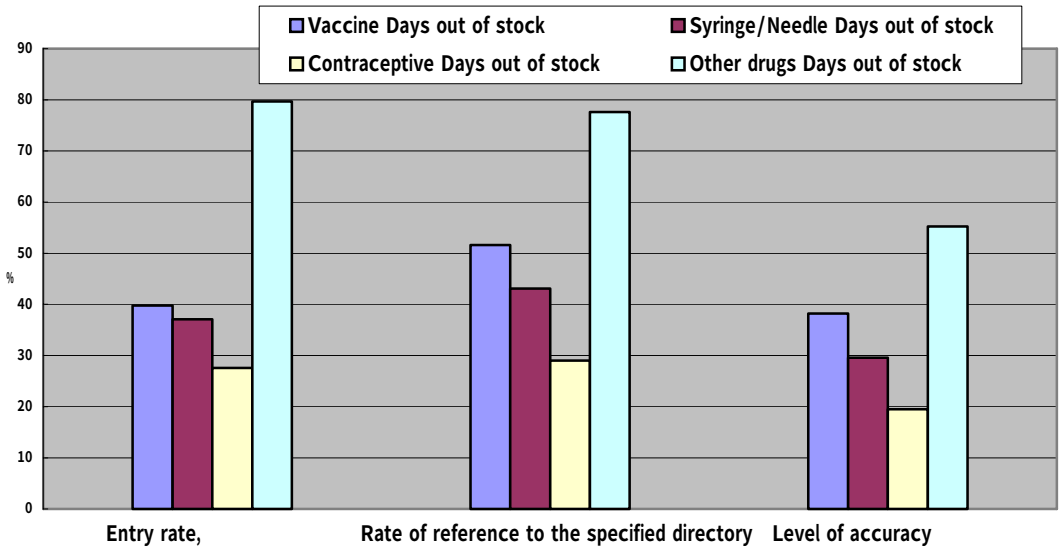


Figure 4-3-2 Entry rate, rate of reference to the specified directory, and level of accuracy on drug reporting item 'days out of stock

The comparison suggests that the data that overlap between vertical programmes and HMIS-FLCF should be integrated. It is clearly shown in the Figure 4-3-2 that 'Other drugs' is higher in all of its rates than any other categories that are included in vertical programmes. The reason may be explained by this; despite the instruction indicates that all drug data should be referred to the 'stock register', the data or neither vaccines nor contraceptives are included in the book in many FLCFs in reality. Since most of them are distributed by their own programmes and managed in different register books, some difficulties may occur in entering those data to HMIS report form.

Moreover, a confusion caused by duplicated data collection is seen in the data on syringes and needles. According to the manual on how to fill the HMIS-FLCF Monthly Report, the number of syringes and needles that should be filled in the form is those used for vaccination only. However, some health facilities are confused whether they should record only the vaccination data or should include the number of syringes and needles for other purposes as well.

Another mistake is often observed too; instead of recording the number of 'days out of stock', the number of drugs being unavailable is recorded. The biggest error is likely to happen when health facilities are out of stock for more than a month; they are supposed to write down "31", but often "0" appears on the form.

(4) Feedback report

The National HMIS Cell published 'Technical Release based on the Monthly Report- FLCF in May 2003'. The report shows the situations of drug stocks by provinces, by month, and by type of facilities, including the names of districts with best and worst performances.

(5) Recommendations

The following two recommendations are made to improve HMIS in entry rate and accuracy of data on drug.

1) HMIS data should be narrowed down only to what are essential to maintaining data accuracy and determining the policies and managing drugs.
2) HMIS and vertical health information system should be integrated.

4.3.5 Finance

Existing FLCF-HMIS forms including monthly and yearly report were developed in 1992 when the HMIS was established. 2 years later, those forms were last revised. Monthly report aimed to collect information mainly on activities of curative and preventive care, in addition to drug/ vaccines supplies. Also, yearly report aimed to collect information on the physical condition of building, facility, transport and equipments, stock of drugs. Those two forms do not cover entire health related information in the district but they can provide some of useful information on infrastructure of health facilities. After decentralization and establishment of district government in 2001 district has responsibility to make its own annual plan and budget, so some DOH utilize HMIS Yearly report information on infrastructure/equipment submitted from FLCFs in the district in order to decide priorities to renovate infrastructure. Nevertheless, in many cases HMIS information are not utilized for planning/budgeting and DOHs tend to make their annual budget simply based on the previous year's budget instead. The reasons below are pointed out by interview survey to EDOH.

- DOH does not have enough staff to check FLCF forms one by one. They are too busy to deal with their routine work to find time to analyze them.

- FLCF-HMIS information is considered to be not always reliable.
- FLCF-HMIS Monthly and Yearly report forms are not useful to make plan/budget. It should contain detailed information on infrastructure.

4.3.6 Personnel

(1) Issues related to health personnel

Personnel for health sector include physicians, dentists and pharmacists, nurses, midwives and nursing auxiliaries, and paramedics. As compared to other areas less work has been done to cope with the human resource development in the pubic health sector. Currently Pakistan lacks human resource policy. Highlights of the issues relating to human resources in public health sector are:

- Absence of human resources unit in the federal ministry of health.
- Comparatively more physicians are produced each year than other health personnel like nurses, dentists and pharmacists etc.
- Production of paramedical staff is unregulated and disorganized as well as lacks proper job description.
- Management of health personnel is done on ad hoc basis.
- Lack of on job training and refresher courses.
- Lack of carrier planning.
- Un-regulated private health system.
- Imbalanced deployment of health personnel.

(2) National health policy

The national health policy 2001 provides some broad policy guidelines for improving human resource management in the health sector. The pertinent policy guidelines are:

- DHOs will be appointed on merit-based criteria, with masters in public health or equivalent as minimum qualification. District health managers will undergo compulsory in-service training courses at health academies.
- A package to improve the working/living conditions of doctors, nurse and para-medics in rural areas will be developed. A proposal embracing Rural Area

Compensatory Allowance, Non-Practicing allowance, Anesthesia Allowance and Nursing allowance has been submitted to the Pay and Pension committee for consideration. Improvements in living conditions may also be funded through Poverty Alleviation Program.

- Posting policy will ensure presence of doctors at primary and secondary levels in a district. Medical graduates after completing their House Job will have to be posted on vacant posts in primary and secondary facilities for a minimum period of one year. Medical graduates will be selected for such appointment in an order of priority involving place of domicile (village, Tehsil and district) and quota availed for entry to medical college. Such medical graduates will receive only provisional registration from PMDC and will be eligible for permanent registration only after completing the mandatory period of rural medical service.
- In-service officers belonging to MO cadre will be required to serve for a minimum period of two years in primary and secondary health facilities by way of compulsory rural medical service to become eligible for promotion from BPS-17 to BPS-19.
- Specialists in non-teaching hospitals will serve for a minimum period of 2 years in rural medical service before being considered for promotion from PS-18 to PS-19.
- As an incentive, preference will be given to those Medical Officers and Medical Graduates to enter postgraduate program who have completed 2 years rural medical service.
- Medical Officers and health workers working in district and Tehsil hospitals will be given hands-on training in anesthesia and obstetrics to address the acute shortage of trained staff in these priority areas. This will improve the availability and quality of emergency services in hospitals.
- Mega-hospitals under autonomy arrangements will be institutionalized. Their Chief Executives will be appointed on prescribed criteria through a transparent selection process. Administrative and financial powers will be properly notified. Autonomy will be linked to revenue generation through rational user-charges and quality service delivery criteria. A system of monitoring the performance of autonomy-based mega-hospitals will be established.
- Private practice of specialists will be replaced by the system of Institutional Practice in mega-hospitals. Rules will be framed for this purpose by the respective governments.

Progress in implementing the above mentioned policy guidelines are as follows:

- Management training has been imparted to all district level mangers in all provinces.
- In NWFP, the WMO and MO cadres have been merged for equal opportunities for lady doctors.
- The role of Pakistan Medical and Dental council has been enhanced to provide support for provision of better – trained medical personnel.
- The capacity of Health Services Academy is being strengthened.

(3) Human resource statistics:

On average, every year over 3000 doctors, about 1000 nurses, less than 500 Lady Health Visitors, 1200 midwives graduate from various institutions in Pakistan. As per Economic Survey 2003-04, the cumulative number of health professionals getting registered in Pakistan is as follows:

- Doctors 108,062
- Dentists 5,530
- Nurses 46,331
- LHV 6,599
- Midwifes 23,318

In addition to above 72,000 LHWs are working at grass root level.

Economic Survey 2003-2004 indicates that there is one doctor for 1,404 persons, one dentist for 27,414 persons and one nurse for 3,296 persons. The doctor-nurse ratio is not favorable, about 1:3.

(4) Management of human resources at district level

At the district level, EDOH is the controlling officer for district health officials and has the power of transferring grade 1-10 staff within the district. He is also the competent authority for appointing grade 5-15 officials. However, approval from DCO and District Nazim is required for those appointments and transfers. Appointment and transfer of grade 16 and above officials is managed by the Provincial Health Department.

Information regarding the health personnel under EDOH/DHO is maintained by the

EDOH/DHO's office. Each staff has a personal file where all job related records and papers are maintained.

(5) Management of human resources at district hospital

The staffing pattern of the hospital is according to the classification of the public health facilities decided by the Provincial Government. However, there is shortage of staff in many hospitals, particularly female doctors and nursing staff. Appointment of higher grade staff is done by provincial government. The EDOH can transfer staff from other facilities in the district with the approval of the DCO.

The Medical Superintendent can only call explanation from the concerned staff if any disciplinary action is necessary. The MS cannot transfer any staff out of the hospital. For transfer of staff from grade 1-16, MS can propose to EDOH and the final approval is given by the DCO. For grade 17 and above officers, transfer is done by DGHS with approval of Secretary (Health).

Records of staff working in the hospital are maintained by the Medical Superintendent's Office.

(6) Gaps in information needs

There is a general need to upgrade the personnel information system within the Provincial Health Departments as well as District Health Offices. Currently, only paper-based records are available on individual staff. Getting summary picture of staff situation requires manual work on ad hoc basis. This impedes efficient management of human resources in public sector. Also, after devolution, district level staff information is often not shared with the Provincial Health Department.

4.3.7 Vital events

Vital events of demographic importance are births, deaths, marriages, in-migrations and out-migrations. In Pakistan, there are four different institutions that are involved in vital

events registration, particularly registration of births and deaths[38]. These are:

1. Union Councils
2. National Database and Registration Authority (NADRA)
3. Lady Health Workers (LHW) Program
4. Hospitals

(1) The municipal corporations and union councils:

Since 1960, under the Local Government Ordinance of 1960, the Municipal Corporations, Municipal Committees, Cantonment Boards and Town Committees in urban areas and Union Councils in rural ares have been made responsible for registration of births, deaths and marriages. The system still continues after devolution whereby the union councils and town committees are responsible for maintaining birth, death and marriage registers. The registration of those events with union council has legal importance, and mostly serves the needs of individuals, and therefore, its completeness depends upon the motivation of individuals to get the related event registered. Nevertheless, information in these registers is considered as more reliable. The data in the registers can be used to extract total number of births in the union council in a given year by gender and by place of delivery, total number of deaths by cause and by gender, and number of marriages. (Annex Table 36 & Annex Table 37: Sample of Birth Register and Death Register)

(2) National database and registration authority (NADRA)

NADRA is responsible for issuing National Identity Card to all the citizens of Pakistan after they reach the age of 18 years. Currently, computerized system for maintaining a national database and issuing ID Cards has been set up in the country. Socio-economic information and information on marital status and children, date of births of the individual and his/her children are also maintained in this database. In case of deaths, NADRA needs to be informed about the event for cancellation of the ID card. Extracting information from the NARDA Database on births and deaths in recent years could be difficult.

(3) Lady health workers (LHW) program

Lady Health Workers maintain a “Khandan Register” where births/deaths, in/out migrations,

[38] Vital Events Registration System (Pilot Project), End of Assignment Report. National HMIS Cell, Ministry of Health, Government of Pakistan, Joint Collaboration WHO-GOP

marriage/divorce data are recorded.

(4) Hospitals

Births and deaths taking place in the hospital in-doors are registered by the hospital authorities. These records are maintained for issuance of certificates. These certificates, in many cases, are used as authentic proof of the event for getting the birth or death registered with the concerned government authority (e.g., town committee or union council). These records represent data on births/deaths occurring only in the given hospital and might not represent a given geographical area either.

(5) Recommendations

1) Utilization of LHW data

The LHW's "Khandan Register" or Family Register can be an important source of vital event data. Its implementation and use can be strengthened, also with provision of annual reporting of the vital events during a year.

2) Linkage with NADRA

Timely registration of vital events with NADRA (which is at present obligatory) can be promoted through information communication activities and linking it with issuance of certificates etc. This can then become a readily accessible computerized database for information on total births, deaths, marriages etc. in the whole country or in any particular province, district or even tehsil/village.

4.4 Indicators

4.4.1 HMIS assessment study

The sample size was calculated based on probability of finding 80% accuracy of data, with 95% confidence interval and 10% margin of error. Thus, the total size comes to 61 health facilities.

The selection of districts in province was done based on high reporting and completion rate. The basic health units and rural health centers in the districts were selected randomly. Three types of survey instruments were used. First, an observation checklist for availability and utilization of 33 registers and forms used in FLCF. Second, an observation checklist to assess accuracy of data reported in monthly reporting form by comparing with information available in the registers. Third, a self-administered questionnaire assessing the diagnosis responsibility, knowledge level, training needs, use of HMIS manual for making diagnosis, and lab chemical and equipment to confirm the diagnosis.

A total of 62 basic health units and 196 personnel in those facilities were interviewed.

4.4.2 Results of the assessment study

The results are organized in twelve sections based on conceptual framework. First, respondents' socio-demographic characteristics were described. Second, performance as assessed by data analysis, display and interpretation skills, accuracy of reported information and its storage, maintenance of registers both at facility and district levels were presented. Third, respondents' cognitive factors such as self-efficacy, outcome expectancy/motivation and job satisfaction which affect their performance were reported. Fourth, contextual factors which affect cognitive factors and performance were described. Fifth, data on HIV/AIDS was presented followed by perceptions of district director health services and education officers about overall HMIS/EMIS and how to improve them.

(1) Respondents' socio-demographic characteristics

Majority of the respondents were either health center In-charge (Table 4-4-1) or facility staff. It is to be noted that many of the facility staff were acting as facility incharge in the absence of medical officers or health technician or there was posting of these personnel. This was especially true for Punjab. There were more men than women, especially in Sindh and Quetta district.

The median age of the respondents was 40 years in health department (Table 4-4-1), indicating that 50% or more were 40 years or older, while age range varied from 25 years to 55 years. In Quetta district the respondents were younger than other provinces. About sixty percent of the respondents had bachelor or master degrees, and NWFP and Sindh had

more educated respondents than Punjab and Quetta.

Fifty percent or more (median=14 years) of the respondents had 14 or more years of employment, while the range varied from 2 to 32 years (Table 4-4-1). Medical officers were younger and had less years of employment experience than rest of the respondents. The respondents in Quetta district had less years of employment than rest of the provinces.

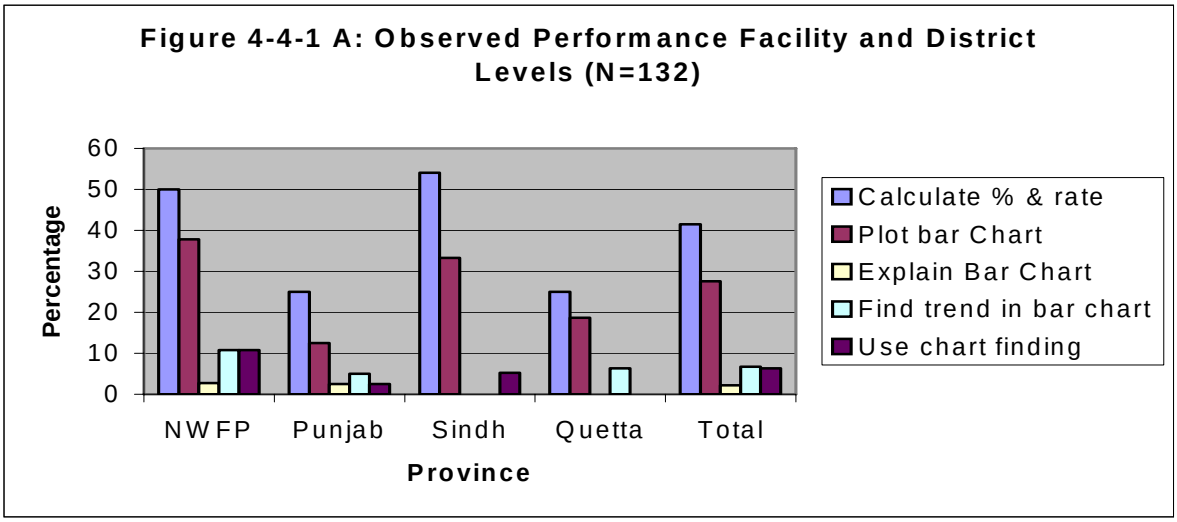
Overall 20% of the respondents had HMIS training in last six months (Table 4-4-1). Quetta district respondents expressed receiving less training than other provinces, while Punjab and NWFP were above average but not exceeding 25%.

Table 4-4-1 Respondents' Socio-demographic Characteristics

Respondents	Total		Sindh		NWFP		Punjab		Balochistan	
1. Title	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Provincial DG	1	0.7								
Provincial HMIS coordinator			1	2.4						
District health officer	11	8.1	3	7.3	3	7.9	4	10.0	1	6.3
District HMIS coordinator	10	7.4	3	7.3	4	10.5	2	5.0	1	6.3
Facility Incharge	46	34.1	14	34.1	18	47.5	9	22.5	5	31.3
Others facility staff	66	48.9	19	46.3	13	34.2	25	62.5	9	56.3
Total	135	100	41	30.4	38	28.1	40	29.6	16	11.9
2. Sex										
Male	120	88.9	34	82.9	37	97.4	38	95.0	11	68.8
Female	15	11.1	7	17.1	1	2.6	2	5.0	5	31.3
3. Age										
25-29	8	5.9	4	9.8	1	2.6	2	5.0	1	6.3
30-39	53	39.3	16	39.0	14	36.8	13	32.5	10	62.5
40-49	61	45.2	13	31.7	19	50.0	24	60.0	5	31.3
50-55	13	9.6	8	19.5	4	10.5	1	2.5		
4. Education										
10 years	12	8.9	4	9.8	-	-	7	17.5	1	6.3
Intermediate	24	17.7	5	11.2	9	23.7	8	20.0	2	12.5
Bachelor	72	53.3	25	60.5	24	62.5	18	45.0	6	37.5
Master	8	5.9	5	12.2	-	-	1	2.5	2	12.5
Others	18	13.3	2	4.8	5	13.1	6	15.0	5	31.5
5. Years of Employment										
0-4 years	10	7.4	2	4.9	2	5.3	5	12.5	1	6.3
5-14	59	43.7	16	39.0	16	42.1	15	37.5	12	75.0
15-24	60	44.4	21	51.2	18	47.4	18	45.0	3	18.8
25-32	6	4.4	2	4.9	2	5.3	2	5.0	-	-
6. HMIS training in last six months										
Yes	28	20.7	8	19.5	9	23.7	10	25.0	1	6.3

(2) Proficiency in data analysis, plotting data and interpretation

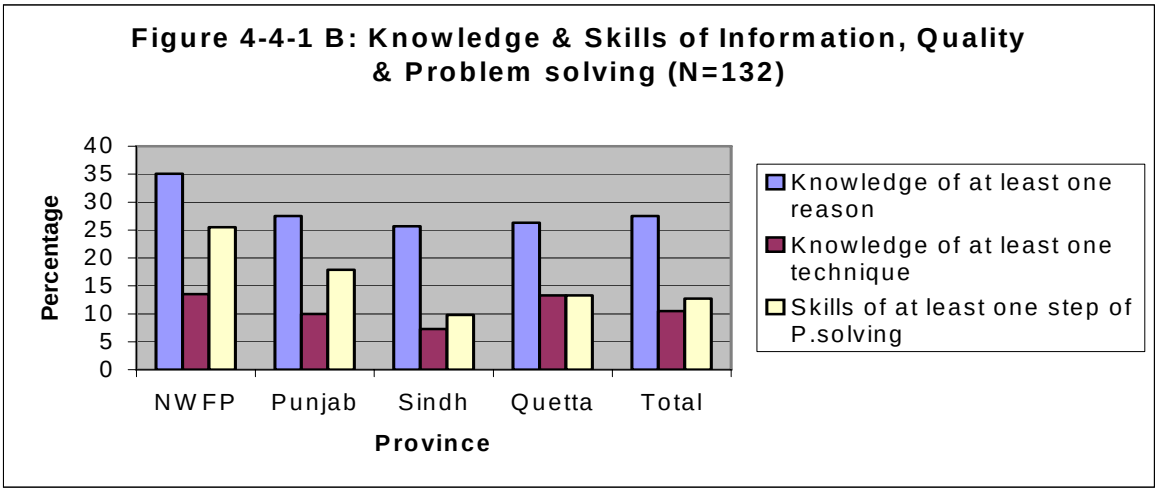
The respondents in health department were given seven questions with data and asked to: 1) calculate percentage/rate, 2) create a bar chart of the given; 3) find a trend in data; 4) explain plotted findings; and 5) provide use of the findings at various levels. Overall, 42 percent of the respondents were able to calculate at least one percentage¥rate, while 28% of the respondents plotted the given data (Table 4-4-1). Of those respondents who plotted the data correctly, only 8% of them were able to observe a trend, and even less for explaining the bar chart findings. These findings indicate that they have insufficient skills to analyze, display and interpret the data. There were variations in provinces, Punjab and Quetta district fell below overall average.



It is observed through review of submitted monthly report at health facilities that only 13% and 14% of the facilities surveyed have filled the cells for percentage of expected births and percentage of expected pregnancies for antenatal checkups respectively. This observed finding substantiate the other finding of low data analysis skills.

Knowing the reasons for collecting information and finding inaccuracies help staff to carry out HMIS tasks better. Similarly, having problem solving skills improve data use. The study results showed that overall, 27 percent of the respondents described at least one reason why information on monthly basis is collected for diseases, immunization and population data (Figure 4-4-1). There is no much variations among provinces and Quetta district on this account. Overall, only 10 percent of respondents described at least one technique for assessing data accuracy with little differences in the provinces and Quetta district.

Problem solving is an important skill for evidence-based decision making. There is a consensus that it involves steps of defining the problem operationally, identifying causes of problem, all possible solutions, developing priority selection criteria, implement selected solution, monitor progress and evaluate solution for further actions. When asked to solve a problem by identifying various steps, none of the respondents was able to define problem operationally. Overall, 12% of the respondents described at least one step of problem solving, mainly training of staff in data collection as a solution but very few respond other steps (Figure 4-4-1 B). More respondents in NWFP and Punjab described at least one step in problem solving than other provinces but even then the figure could not exceed above 25%.



(3) Availability and utilization of forms

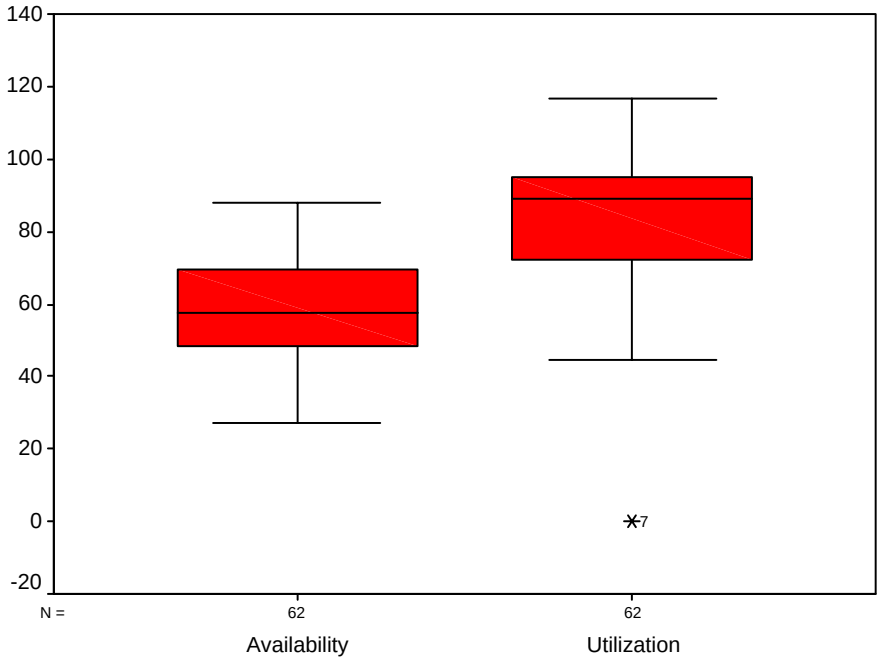
There are 33 registers and forms at first level care facility (FLCF). The study assessed their availability and utilization. Also, the facility in-charge was asked about the availability of supervisory checklist.

The results showed that overall 50% or more of the facilities have 57% (19/33) or more of the required registered and forms (Figure 4-4-2). The range is 27% (9/33) to 88% (29/33), indicating wide variations in availability of the required forms and registers. It showed that none of the facilities have all the required forms. Of those facilities where forms and registers were available, utilization of those forms was quite high as 50% or more of the facilities had 87% or more utilization of those forms and registers (Figure 4-4-2).

Ninety-five percent of the facilities have utilization rate between 44% and 100%, while one facility showed a utilization rate of 12%.

Regarding the individual register and form, Table 4-4-2 provides the details on their availability and utilization. OPD, abstract, stock (medicine), attendance registers and monthly report forms are commonly available (90-95%), followed by birth register, mother health register, family planning register, daily expense register, child health register, stock

Figure 4-4-2 Availability of Registers/Forms and their Utilization



(equipment), yearly FCLF report, OPD ticket (70-89%); immunization card and permanent EPI register (69%). Interestingly, MCH card and daily EPI register were found only in 52% and 63% facilities. IDD card, IDD register, logbooks for vehicles are most commonly unavailable (less that 10%), while laboratory register, investigation request form, chronic disease facility and patient cards are less available (25-30%).

The results on utilization of the registers and forms showed that available forms were generally utilized. However, the utilization rate varied from register/form to register/form (Table 4-4-2). Except for stock registers (vaccine, medicine, equipment), OPD register, abstract register, immunization card and log books, the utilization rate was less than 80%. The birth register, meeting register, abstract register, maternal health, family planning and child health registers were less utilized despite their availability. The least utilized registers/forms were chronic disease facility card, IDD register, IDD card, TB register, and chronic disease patient card. Interestingly, the catchment population chart is utilized less

than 60% of the time, indicating that for those who were not utilizing the population catchment chart, they were not able to calculate targets and other indicators dependent on the catchment population.

Table 4-4-2 Percentage distribution of availability of registers/forms and their utilization

Report Name	% of Availability	% Utilization
Population chart of catchment area	53.2	57.6
Birth register	85.5	79.2
Meeting register	59.7	56.8
Stock register (medicines/..)	91.9	98.2
Stock register (equipment/..)	77.4	85.4
Stock register (vaccines)	58.1	100.0
OPD (outdoor patient's) register	98.4	98.4
Abstract register	93.5	89.7
Laboratory register	25.8	68.8
TB (tuberculosis) register	43.5	55.6
IDD register	8.1	40.0
Mother health register	79.0	77.6
Family planning register	79.0	75.5
Child health register	75.8	74.5
Permanent EPI register	69.4	97.7
OPD (outdoor patient's) ticket	75.8	97.9
Investigation request form	29.0	61.1
Referral form	58.1	72.2
TB (tuberculosis)facility card	40.3	60.0
TB (tuberculosis) patient card	40.3	64.0
Chronic disease facility card	29.0	38.9
Chronic disease patient card	30.6	52.6
Mother and child health card	51.6	71.9
Immunization card	69.4	97.7
Family planning card	41.9	65.4
IDD card	3.2	50.0
Daily EPI register	64.5	97.5
Daily expense register	83.9	86.5
Logbook(vehicles)	11.3	100.0
Immediate FLCF report	35.5	50.0
Monthly report	95.2	98.3
Yearly FLCF report	80.6	100.0
attendance register	96.8	98.3
supervisory checklist	8.1	80.0
Quarterly district report	4.8	100.0

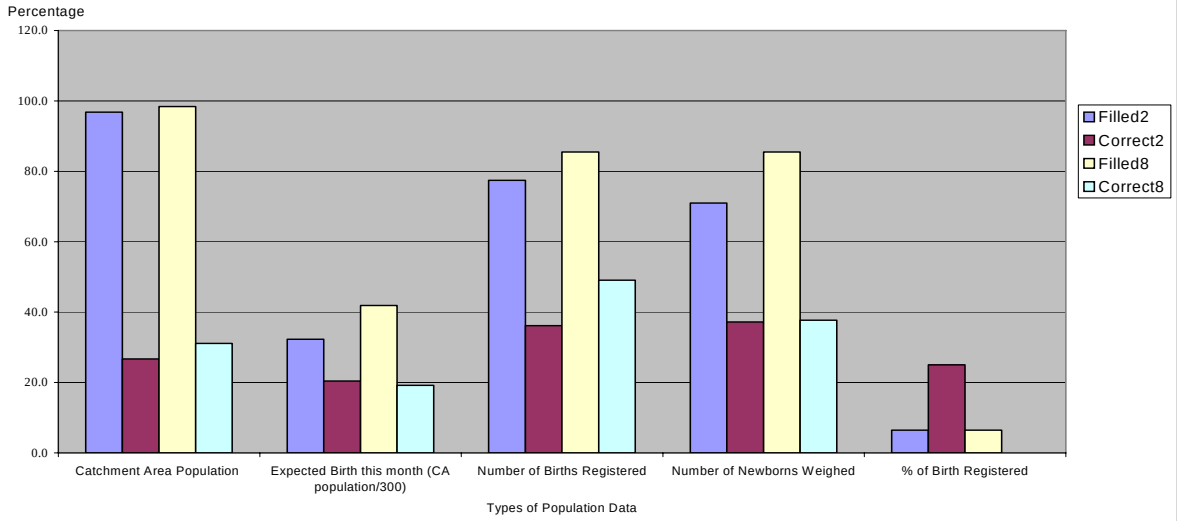
(4) Accuracy of information

The accuracy of information in monthly reports forms was checked by matching the information in the available registers and reported in the monthly reporting forms. First, all

the registers were checked for whether information was filled and then matched with the information in the monthly reporting forms. A total of 414 data points or in other words, all the information in monthly reporting forms was checked. The full picture is presented in Annex Table 38. However, for the sake of brevity, few data points were selected from each section of the monthly report form and presented here. This selected information still provides a comprehensive view of the accuracy of information reported in the monthly reporting forms. It is to be noted that filled 2 and 8 reflect the filled forms for months of February and August 2003, while correct 2 and 8 showed whether the information filled was correctly matched.

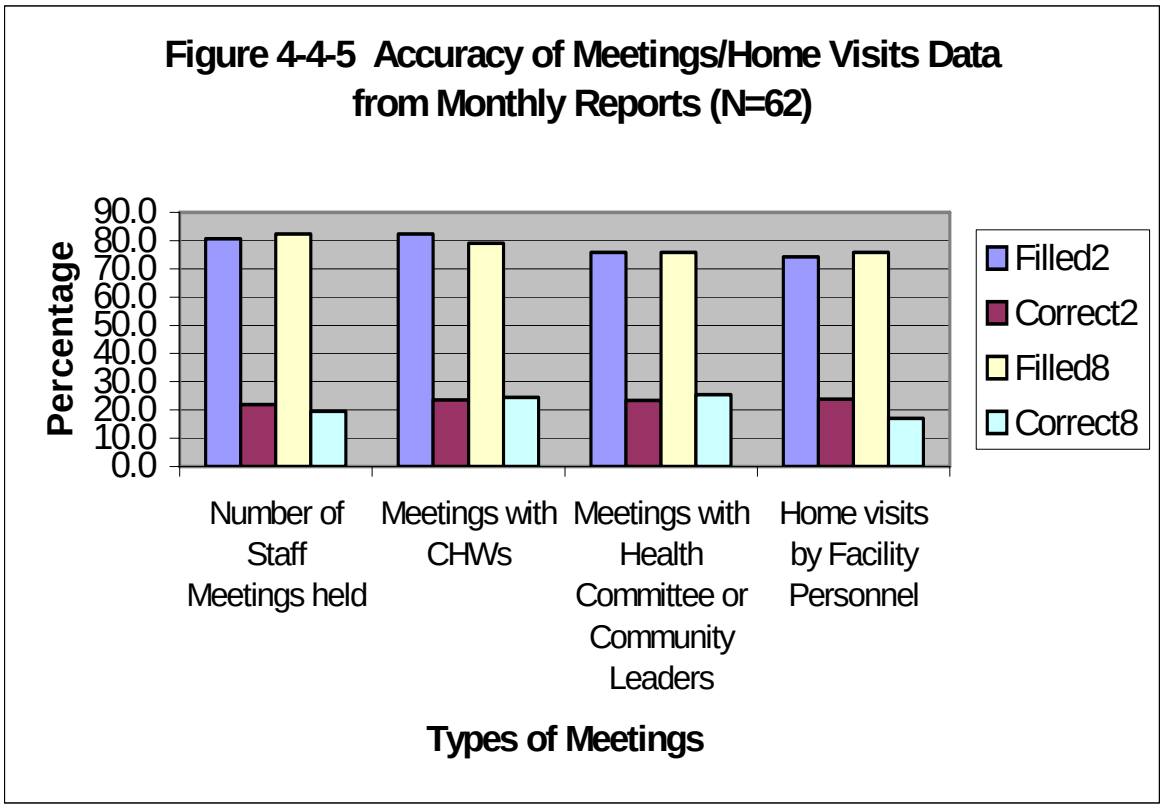
Regarding population data variables, 70% or more of the facilities have filled the information in registers and monthly reporting form, except for calculation of expected births and percentage of registered births (Figure 4-4-4). Of those who have filled the registers, the information correctly matched with the monthly reporting forms on various population variables differed from 20% to 50%. This indicated that validity of population data information was limited.

Figure 4-4-4 Accuracy of Population Data (N=62)

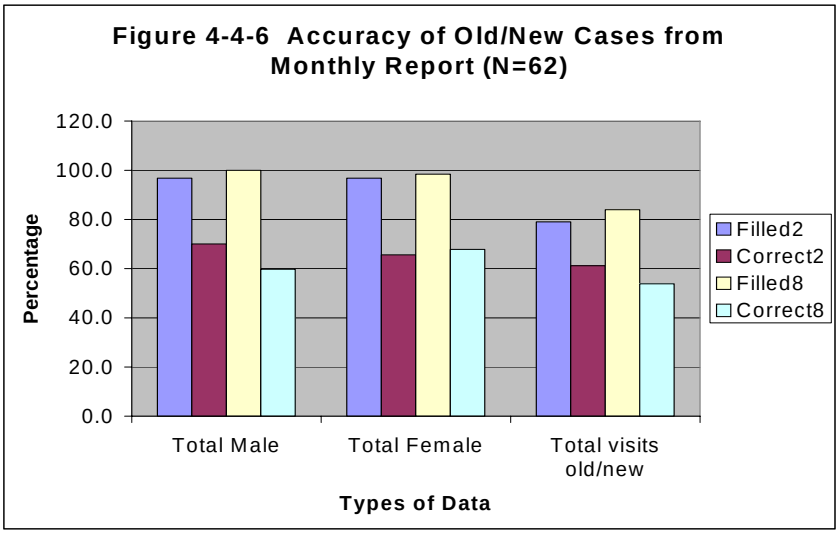


The information from meeting section of the monthly report, again showed Meeting registers variables were filled 74-82% (Figure 4-4-5). However, the matching between register and monthly report for variables, such as number of staff meeting, CHWs and health committee meetings and home visits, varied from 17 to 25%, indicating limited

accuracy of data about staff and community meetings.

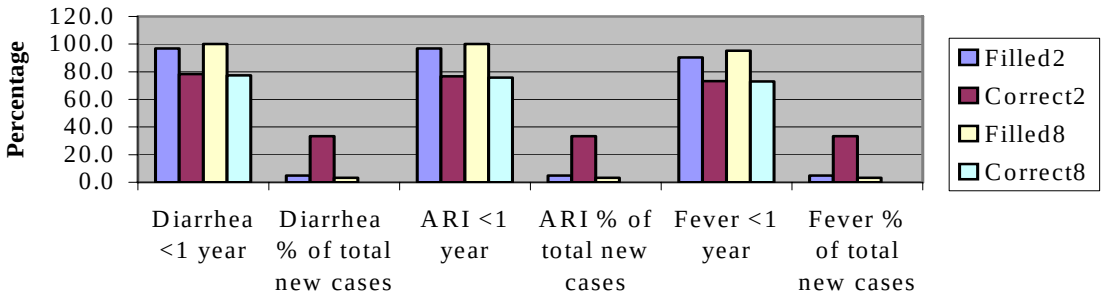


The accuracy of information regarding curative care was assessed through total patients and types of diseases and malnutrition. The Figure 4-4-6 showed that 79% or more of the time information was filled in the registers about male and female patients, and total new and old cases. The information was accurate between 53 and 70% depending upon the variable studied. The accuracy of this information reported in monthly report was better than reported for sections on population data and community activities.

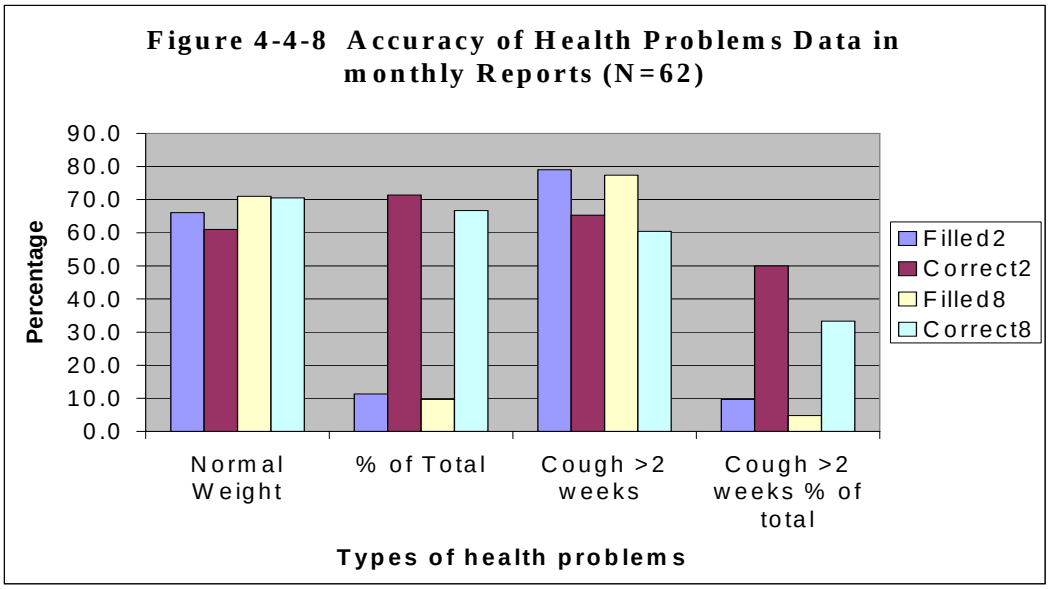


Regarding accuracy of data on disease reporting, five health problems, diarrhea, ARI, fever, malnutrition and cough for more than two weeks, were selected for presentation. The first four health problems were recorded for children under one year and last one was for adult population. The results showed that information about diarrhea, ARI and fever was filled in OPD register (above 90%) and similarly, the accuracy of reported information was 70% or less (Figure 4-4-7). The results also showed that less than 5% of the facilities reported calculated percentage of the total new cases under one for different health problems, and very few of the calculated percentages were correct, indicating either inadequate understanding of how to calculate percentage or inadequate understanding of the need to calculate these percentages, and thus left out the calculation.

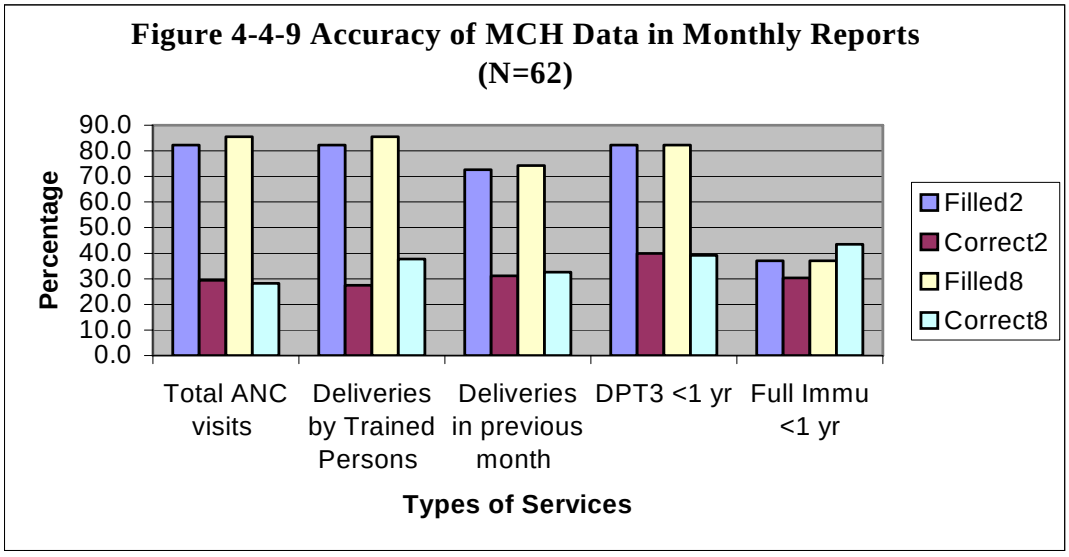
Figure 4-4-7 Accuracy of Selected Health Problems Data of <1 years (N=62)



The information on malnutrition in children and cough for >2 weeks in adults were filled 66% and 79% respectively (Table 4-4-8). However, the accuracy of filled information was 60%. Again the percentage of total for these health problems was filled between 4 and 11%, while accuracy of filled information remains between 33 and 71% respectively.



Accuracy of information on maternal and child health was assessed on total number of ANC visits, delivery by trained personnel, deliveries in previous month, and DPT3 under one year and fully immunization <1 year. Seventy two percent or more of the facilities filled data on maternal and child health register, except for full immunization (Figure 4-4-9). However, the accuracy of filled information was between 27 and 40% among different variables, indicating limited validity of data.



The assessment of data accuracy showed that data quality is limited. Second, the percentages were not calculated and filled. Third, there is no much difference with regard to accuracy of data between February and August 2003 on various information.

(5) Service providers' knowledge, training, use of HMIS manual and confirmation of diagnosis

The situation analysis gathered data on who provides what service, receiving training for a particular service, using HMIS manual for making diagnosis and availability of laboratory equipment for confirmation of diagnosis. All the 18 priority diseases were selected. However, we chose only seven (diarrhea, ARI, fever, polio, neonatal tetanus, whooping cough, suspected AIDS) to present data on these services. The rest of the information is provided in Annex Table 38.

The results showed that medical officer and health technician (HT) were mainly responsible for providing services for these health problems. About 60% of the LHVs admitted that they provide care for these selected problems. The findings showed that dispensers, while dispensing medicine, were also acting as service providers (Figure 4-4-10 to 4-4-16). Vaccinators were not involved in providing health care for selected health problems. However, less than 40% of the vaccinators acknowledged responsible for diagnosing polio, neonatal tetanus, and whooping cough.

Seventy percent or more of the service providers stated that they were trained in diarrhea, ARI and fever but percentage of training dropped to 60% or less for polio, neonatal tetanus, whooping cough and suspected AIDS. The results were similar for use of HMIS manual for making diagnosis and having sufficient knowledge to diagnose the problem correctly.

Less than 60% of the services providers stated that they had necessary equipment and chemical reagents to confirm the diagnosis for different health problems.

In terms of Suspected Cholera, Suspected Meningococcal Meningitis, Poliomyelitis, Neonatal Tetanus, Whooping Cough and Suspected AIDS, none of BHU/RHC reported cases of the diseases (see Table 4-4-3). However what we should notice here is that this zero means no mention about number of cases by the facilities (i.e. skip entry of data) or the facilities reported zero case.

According to clinical diagnostic capability assessment, though medical officers, particularly at BHU level, have less experience as physicians, it seems that clinical diagnosis of priority diseases can be made more or less except AIDS (see Table 4-4-4 and

Figure 4-4-16)

Table 4-4-3 Percentage of FLCFs reporting cases of priority diseases

Priority Diseases	BHU(106)		RHC(12)		ALL(118)	
Diarrhea	103	97%	12	100%	115	97%
Dysentery	82	77%	11	92%	93	79%
Acute Respiratory Infection	104	98%	12	100%	116	98%
Fever	103	97%	12	100%	115	97%
Cough more than 2 weeks	17	16%	6	50%	23	19%
Suspected Cholera	0	0%	0	0%	0	0%
Suspected Meningococcal Meningitis	0	0%	0	0%	0	0%
Poliomyelitis	0	0%	0	0%	0	0%
Measles	3	3%	1	8%	4	3%
Neonatal Tetanus	0	0%	0	0%	0	0%
Diphtheria	0	0%	0	0%	0	0%
Whooping Cough	0	0%	0	0%	0	0%
Goiter	2	2%	2	17%	4	3%
Suspected Viral Hepatitis	5	5%	4	33%	9	8%
Suspected AIDS	0	0%	0	0%	0	0%
Snake bite with sign of poisoning	0	0%	2	17%	2	2%
Dog bite	15	14%	10	83%	25	21%
Scabies	72	68%	12	100%	84	71%

Table 4-4-4 Clinical diagnostic capability assessment at FLCFs

Priority diseases	RHC	BHU	Comments
Diarrhoea	O	O	
Dysentery	O	O or △	less experience for BHU Dr.
Acute respiratory infections (ARI)	O	O	
Fever (clinical malaria)	O	O or △	less experience for BHU Dr.
Cough more than 2 weeks	O	O or △	less experience for BHU Dr.
Suspected Cholera	O	△	less experience for BHU Dr.
Suspected Meningococcal Meningitis	O	△	less experience for BHU Dr.
Poliomyelitis	O or △	△	less experience for BHU Dr.
Measles	O	O or △	less experience for BHU Dr.
Neonatal tetanus	O	O or △	less experience for BHU Dr.
Diphtheria	O or △	O or △	less experience for BHU Dr.
Whooping Cough	O or △	O or △	less experience for BHU Dr.
Goiter	O	O or △	need training for diagnosis
Suspected Viral Hepatitis	O	O or △	less experience for BHU Dr.
Suspected AIDS	X	X	impossible
Snake Bite with Signs of Poisoning	O	O	
Dog Bite	O	O	
Scabies	O	O	

Note:
O= Diagnosis can be made properly.
△= Diagnosis can be made but in doubt.
X= Diagnosis can NOT be made.

Figure 4-4-10 Diarrhea diagnosis responsibility, training, using HMIS manual, knowledge and eqipment by Profession (N=196)

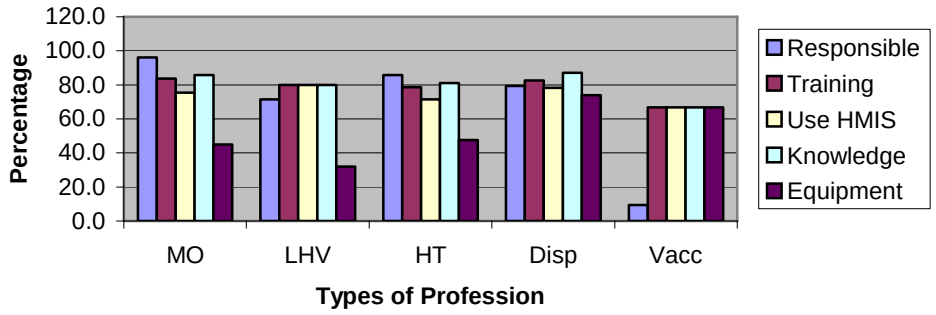


Figure 4-4-11 Fever Training,Use Manual, Knowledge, & Equipment by Professions (N=196)

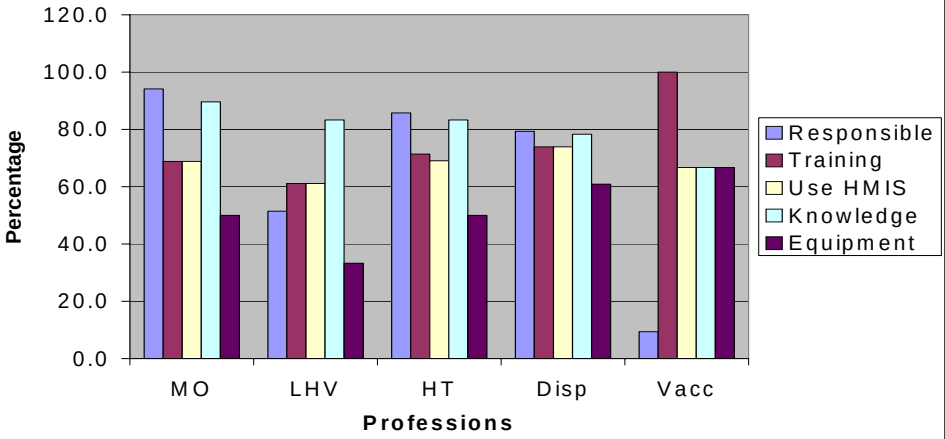


Figure 4-4-12 ARI Training, Use Manual, Knowledge, Equipment by Professions (N=196)

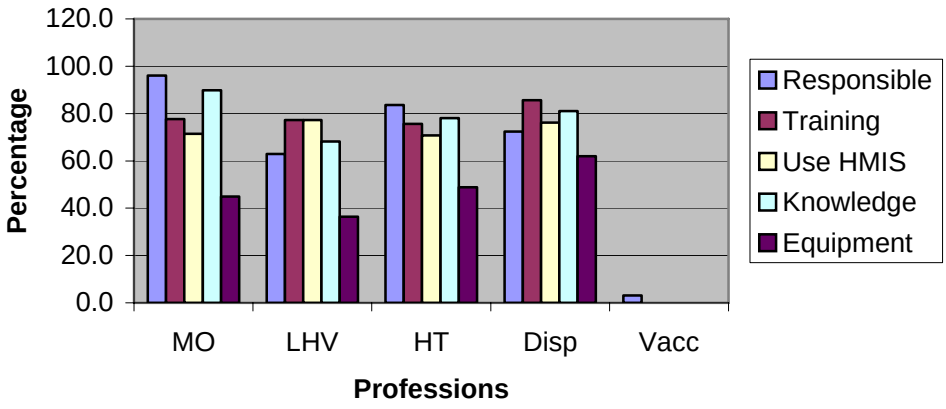


Figure 4-4-13 Polio Training, Use Manual, Knowledge, & Equipment by Professions (N=196)

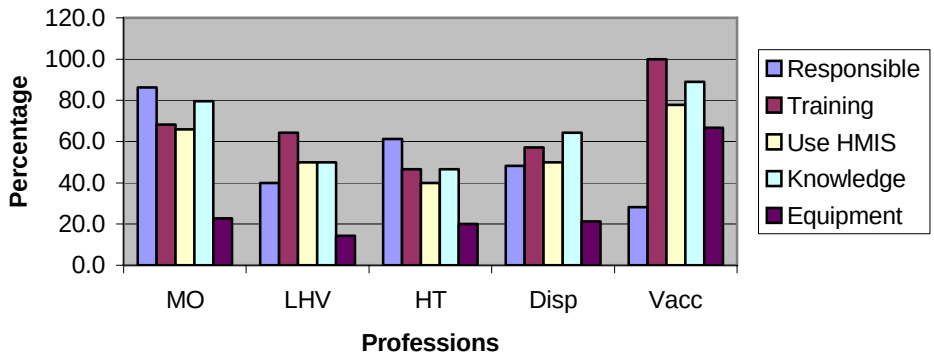


Table 4-4-14 Neonatal Tetanus Training, use HMIS, Knowledge & Equipment by Professions (N=196)

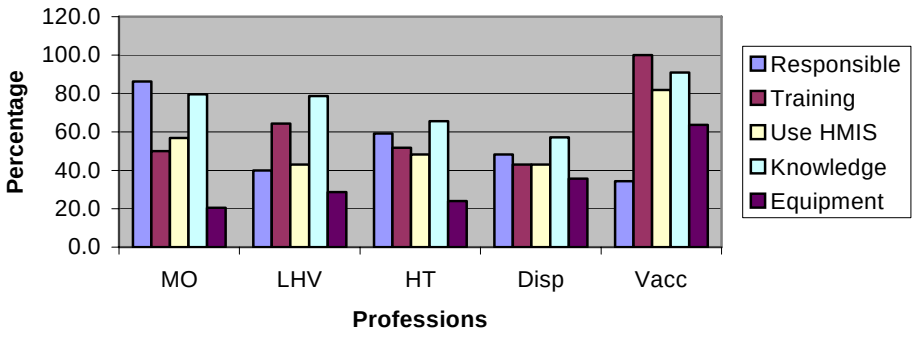


Figure 4-4-15 W. cough Training, use HMIS, Knowledge & Equipment by Professions (N=196)

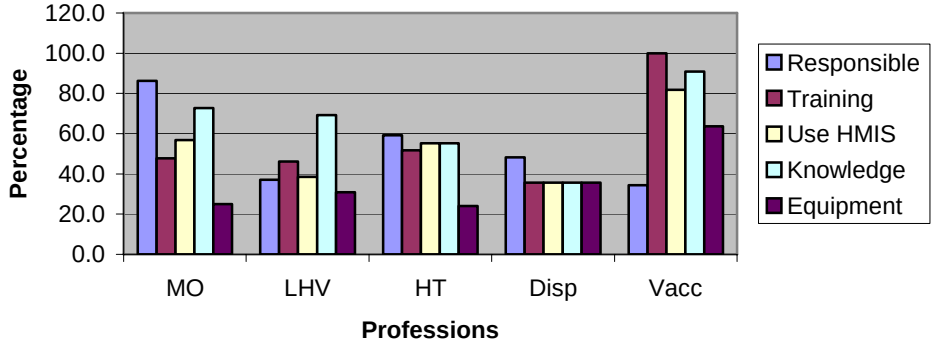
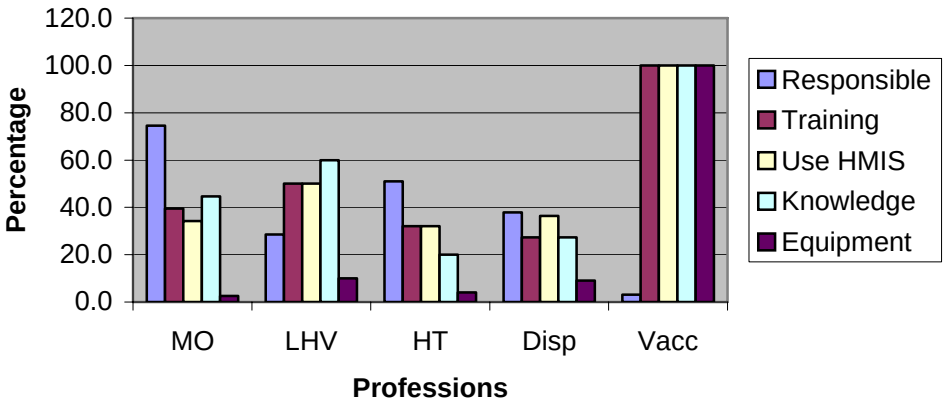


Figure 4-4-16 Suspected AIDS Training, use HMIS, Knowledge & Equipment by Professions (N=196)



(6) Time taken to fill the various registers and forms

The study explored how much time spent in filling out different registers/forms, and who fills the forms? Table 4-4-3 provides details about time taken to fill each card, form and register. Comparing the median time taken for filling each register/form, 50% or more of the respondents stated that the yearly and monthly report took 120 and 60 minutes respectively for filling, while median time for filling abstract register, permanent EPI register, population chart of catchment area, stock register (medicine and supplies), and daily expense register was 30-35 minutes.

Who is filling out the HMIs forms/registers and how much time is taken by that individual? Few registers are selected to provide an overview of who is involved and how much time spent (Table 4-4-3). The results do not provide a clear picture whose is mainly responsible for filling the forms. Regarding OPD register, it was filled mainly by medical officer (54%), health technician (67%), and vaccinators (56%). It is interesting to note that 54% of the vaccinators were involved in filling OPD register. All of those were equally divided between taking less than six minutes and more than 35 minutes.

Lady health visitors were mainly responsible for marinating child health (65.7%) and mother health (71.4%) registers respectively (Table 4-4-3). Very few medical officers and health technicians were involved in filling these register. About 49% and 44% of LHVs take 15 minutes or less to fill child and mother health registers respectively.

It is striking to note that none of the vaccinators stated that they keep the permanent EPI register (Table 4-4-3), which is mainly filled by dispenser (75%) and LHVs (17%). Of those dispensers who were filling out the permanent EPI register, 54% took more than 35 minutes to fill it.

The vaccinators (62%) and Health technicians (54%) were responsible for filling out the daily expense registers, while only 22% of the medical officers stated that they filled out the daily expense register. Ninety percent of the vaccinators who fill the daily expense register take more than 25 minutes to fill it, while 55% of the health technicians take the same time.

Although all services providers stated that they filled out the monthly reporting form, health technicians (75%), vaccinators (69%) and dispensers (66%) come on the top, while medical officer is at the bottom (47%), indicating who are mainly responsible for filling monthly reporting forms. Majority of these service providers (more than 58%) stated that it take them more than 25 minutes to fill the monthly reporting form.

Table 4-4-3 Time (in Minutes) Taken to Fill the Registers

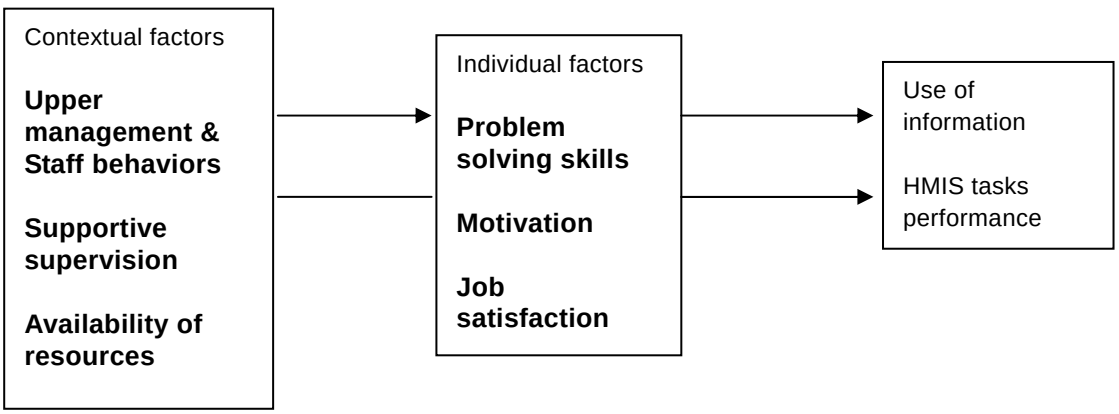
	Name of the register/form/card	**Mean**	**Median**	**SD**	**Minimum-Maximum**
	Facility Cards				
B1	FC1 - OPD Ticket	22.04	4.00	46.056	1-240
B2	FC2 - Referral Form	6.46	5.00	8.313	1-60
B3	FC3 – MCH Card	10.89	10.00	8.382	1-30
B4	FC4 – Family Planning Card	6.75	5.00	6.881	1-35
B5	FC5 – Investigation Request Card	6.88	5.00	9.920	1-60
B6	FC6 - TB Facility Card	6.92	5.00	5.674	1-30
B7	FC7 - TB Patient Card	4.97	5.00	3.178	1-15
B8	FC8 - Chronic Disease Facility Card	7.00	5.00	3.571	3-15
B9	FC9 - Chronic Disease Patient Card	7.47	5.00	4.853	3-20
B10	FC10 - Immunization Card	10.88	5.00	27.846	1-180
B11	FC11 – IDD Card	4.83	4.00	2.714	3-10
	Facility Records and Registers				
B12	FR1 - OPD Register	80.03	20.00	105.986	1-360
B13	FR2 - Abstract Register for Priority Disease	39.91	30.00	36.534	2-180
B14	FR3 – Child Health Register	17.73	10.00	31.507	1-180
B15	FR4 - Mother Health Register	26.46	10.00	68.317	1-420
B16	FR5 - Family Planning Register	21.72	5.00	67.491	1-420
B17	FR6 - TB Register	14.00	10.00	14.286	1-60

B18	FR7 - IDD Register	10.20	5.00	9.654	3-25
B19	FR8 - Laboratory Register	13.60	10.00	11.261	4-30
B20	FR9 – Daily EPI Register	54.08	12.50	98.902	1-420
B21	FR10 - Permanent EPI Register	82.36	30.00	124.962	1-420
B22	FR11 - Population Chart of Catchment Area	64.20	35.00	58.745	1-180
B23	FR12 - Birth Register	7.94	5.00	10.677	1-60
B24	FR13 - Stock Register: Medicines/Supplies	56.92	30.00	51.571	2-240
B25	FR14 - Stock Register: Equipment/ Furniture/	62.26	30.00	85.547	3-480
B26	FR15 - Meeting Register	23.56	10.00	32.828	1-150
B27	FR16 - Daily Expense Register	45.87	30.00	40.977	2-180
B28	FR17 – Attendance Register	3.60	2.00	6.812	1-60
B29	FR18 – Log Book	15.00	15.00	7.071	10-20
B30	FR19 - Stock Register: Vaccines	37.09	20.00	42.634	1-135
	Facility Forms				
B31	FF1 – Immediate Report	35.40	10.00	93.744	1-480
B32	FF2 – Monthly Report	82.01	60.00	70.383	1-420
B33	FF3 - Yearly Report	158.90	120.00	196.647	1-1440

4.5 Behavioral and organizational issues

4.5.1 Conceptual framework for organizational behavioral study

It is assumed that use of information depend upon people having the required knowledge and skills to collect and analyze data, motivation and problem solving skills. However, contextual factors such as support from superiors, organizational values such as emphasis on evidence for decision making, transparency, and merit also affect individual motivation in using information. Focus group with officials in different provinces in May 2004 highlighted these factors. A survey was conducted to explore the relative importance of individual and contextual variables in using information. It will provide useful information about factors that need to be modified to improve use of information.



4.5.2 Methodology

(1) Organizational behavioral assessment

A total sample size of 85 facilities was calculated with +10% error rate. The questionnaire is based on both subjective and objective assessment of information system related activities and explore organizational culture of information.

A total of 16 districts were surveyed in four provinces of Pakistan. In each province, five districts were included, except for Balochistan. Because of security reasons, only Quetta district was included. In each district, five health facilities (possibly 2 RHC and 3 BHU) were visited. At district level, two persons – EDO health/DOH and district HMIS focal person were given a self-administered questionnaire to be filled by them. At health facility level, the facility head and person mainly responsible for preparing monthly reports were interviewed through self-administered questionnaire. At provincial level, provincial HMIS coordinator, DG health and other related officials were interviewed.
The survey team comprised of six people and was divided in two teams of three people. The team leaders interviewed the district staff and visited one health facility, while each team member surveyed two health facilities. The survey was completed in 14 days. A total of 85 facilities and 135 people were interviewed using self-administered questionnaire.

(2) Focus groups – qualitative analysis

Focus groups with key informants in all four provinces were conducted. The purpose was to explore major dimensions/factors related to data quality and organizational behaviors.

(3) Clinical diagnostic capability assessment

The investigation on clinical diagnostic capability of medical doctors at FLCFs was conducted. Because of time constraints, two BHUs and two RHCs in Rawalpindi district were selected as target facilities, which are close to Islamabad. At each facility, the head medical officers mainly responsible for preparing for monthly reports were interviewed on clinical diagnosis of each priority disease.

Apart from these investigations in the field mentioned above, analysis of data collected in

the situation analysis survey was made in terms of percentage of FLCFs filling in each variable of Part B "Health Problems (Priority Diseases)" of the Monthly Report.

4.5.3 Study analysis plan

After cleaning the data of the Organizational Behavioral study, descriptive analysis was conducted. Constructing new variables on culture of information, self-efficacy, problem solving and HMIS task performance reduced data. A correlation analysis was conducted to ascertain relationship between contextual, individual factors and performance.

(1) Self-efficacy related to HMIS/EMIS tasks

Self-efficacy is the belief in one's ability to carry out a task (Bandura[39]). The situation analysis conducted an assessment of self-efficacy related to HMIS tasks. The self-efficacy scale for HMIS activities included six dimensions: 1) data collection; 2) checking data quality; 3) conducting analysis; 4) data presentation/display; 5) data interpretation; and 6) use of data for understanding gaps in data quality, developing targets, and feedback report. The percentile rating score for self-efficacy ranged from 0 to 100, indicating no confidence (zero) to full confidence (100%) in carrying out the assigned task.

Collected information has been presented on the above dimensions in the box plot. The graphical display of variations in confidence level provides information where respondents stand in relation to each others. Also, the information is provided in four quartiles. The box provides information that 50% of the responses are enclosed in its lower and upper line. The line in the box represents median, which divides the responses into two equal halves. The area between lower whisker and lower line of the box shows lower 22.5% of the distributions, while the opposite is true for other side of the box. The area between the two whiskers represents 95% of the total responses. Any value lying outside whisker is an outlier.

Data collection is the foundation of MIS. The item for self-efficacy for data collection (S-COLLECT; Figure 4-5-1) included filling out monthly report form correctly. Fifty percent or more the respondents had 90% or more confidence in filling out the monthly

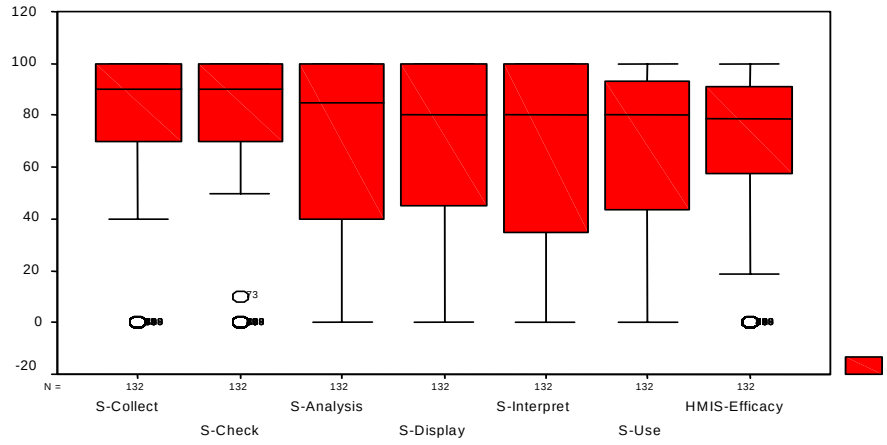
[39] Bandura, A. (1977) Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215

report form. The lower quartile showed that 22.5% of the respondents had between 40 and 70% confidence in data collection, with the exception of few who felt no confidence in data collection.

How confident respondents felt about checking data quality, which assists in increasing or maintaining data reliability and validity. Fifty percent or more respondents felt 90% or more confident that they could check the data quality (S-Check; Figure 4-5-1). Another 22.5% of respondents (represented by lower part of the box and lower whisker) had self-efficacy score between 50 and 70%, with few having no confidence and were outside the normal range.

Data analysis (S-ANALYSIS; Figure 4-5-1) convert raw data into useful information for decision making. The box plot showed that 50% or more of the respondents felt high confidence in calculating percentages and rates (median=85%). However the confidence level for analysis was more spread as compared to confidence for data collection and checking data accuracy tasks, as 22% of the respondents having less than 40% confidence in data analysis.

Figure 4-5-1 Self-Efficacy Related to HMIS Tasks



Data presentation facilitates understanding of the conveyed information and change over period of time. Fifty percent or more respondents showed 80% self-efficacy for data presentation/display (S-DISPLAY; Figure 4-5-1); with wider variations in confidence level as shown in lower half. The self-efficacy for data interpretation was assessed by identifying trend from bar chart. The results were similar to confidence level in data presentation skill (S-INTERPRET; Figure 4-5-1).

The self-efficacy scores for use of data (S-USE; Figure 4-5-1) were slightly different from other dimensions of self-efficacy for MIS activities. Upper and lower whisker showed that 22.5% of the respondents had 90% or more confidence, while lower whisker showed that 22.5% of the respondents had 40% or less confidence is using data. While 50% of the respondents showed a range of confidence from 40 to 90%.

Regarding overall self-efficacy for HMIS tasks (HMIS-EFFICACY; Figure 4-5-1), 50% or more of the respondents had 80% or more confidence in carrying out HMIS tasks, while 22.5% have less than 60% confidence, with few respondents having no confidence. This indicates that variations in confidence is carrying out HMIS tasks were more tilted towards having high confidence.

(2) Job Satisfaction

Job satisfaction is an important variable which has direct influence on performance. It also mediates between contextual factors and performance. The median was shifted to right (median=5) on a scale of 1-7, indicating that more respondents felt satisfied with their job. However, it also showed that 50% or more felt otherwise.

(3) Promotion of Culture of Information

To make health management information system effective and efficient, the departments need to inculcate values, which support and sustain the information system, besides improving technical skills of involved personnel and developing related infrastructure. Organizational values help organizational members make sense of their working environment and motivate them to meet organizational goals. These values also reflect organizational culture. Thus, the situation analysis undertook a review to what extent the health department promotes culture of information.

For this situation analysis, promotion of culture of information was operationally defined as, “department having the capacity and control to promote values and beliefs among its members for collection, analysis and use of information to accomplish its goals and mission.” The information was collected on the beliefs that Health department:

- promotes data quality
- promotes use of information
- promotes evidence based decision making
- promotes problem solving skills
- promotes feedback from staff and communities
- promotes responsibility
- promotes accountability and empowerment
- rewards good work
- provides resources for HMIS tasks

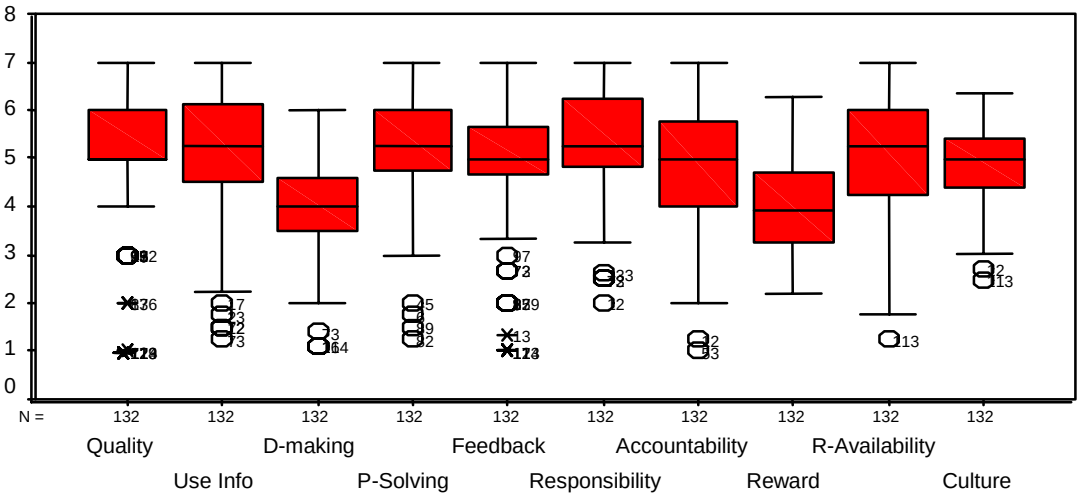
Collected information has been presented on the above dimensions in the box plot. The graphical display of variations in intensity of beliefs provides information where respondents stand in relation to each other. Also, the information is provided in four quartiles. The box provides information that 50% of the responses are enclosed in its lower and upper line. The line in the box represents median, which divides the responses into two equal halves. The area between lower line of the box and lower whisker shows lower 22.5% of the distributions, while the opposite is true for other side of the box. The area between the two whiskers represents 95% of the total responses. Any value lying outside whisker is an outlier.

On a scale of 1-7, one expects a median of 4 for normally distributed responses. However, the median shifted towards right shows stronger intensity of beliefs, while tilt towards left indicates weaker intensity of beliefs. However, if median is taken as a cut point to divide the respondents in equal half of categories of promoting culture of information, or less promoting, then it could be said that 50% or more of the respondents would fall in promoting category and other half would be in opposite category. With these explanations of box plot and median, we turn to results.

First step for promotion of culture of information is the belief that department encourages checking data quality (QUALITY; Figure 4-5-2). The median (5) was shifted to right, compared to actual scale median (4), indicating that 72.5% respondents believe that health department promotes checking data quality, with the exception of few having opposite belief. Another 22.5% of respondents were not sure whether department promotes data quality (rating=4), while few believed the opposite.

Figure 4-5-2 Ratings of Different Dimensions of

Promotion of Culture of Information (N=132)



Rating Scale - 1-7

Use of collected information is an important dimension of culture of information (USE INFO; Figure 4-5-2). Fifty percent or more of the respondents believed that department uses information for decision making. However, there were more variations and 22.5% of the respondents believed that department does not promote use of information.

Evidence based decision-making involves developing certain criteria based on facts to make decision rather than personal likings or disliking, political interference, superiors' demand etc. The range is restricted between 2 and 6, indicating less variations in responses (D-MAKING; Figure 4-5-2). Also, 50% of the respondents (box) were close to the median showing ambivalence that department promotes evidence based decision-making.

Problem solving involves defining the problem, finding the root causes of the problem, identifying and implementing solutions and evaluating outcomes. The respondents were more positive that staff could solve the problem (P-SOLVING; Figure 4-5-2), as median was shifted to right (median=5), indicating that 50% or more respondents believe strongly that department promote problem solving. However, extreme opposite opinions were shown by the outliers.

It is important that organization receives feedback on its activities and resolves conflicts. The findings (FEEDBACK-Figure 4-5-2) showed that the staff believed that department promotes feedback from staff and communities and resolves conflicts as median is shifted

to right (median=5). It is to be noted that 50% of the respondents are clustered closer indicating that there are no much variations in their belief that department promotes receiving feedback. However, 22.5% of the respondents had opposite opinions with exceptions of many respondents having extreme opposite views (outliers).

Promoting responsibility and good work ethics affect productivity. Being committed, punctual, honest, truthful, not taking bribe, believing in making a difference, documenting activities, all contribute to better performance. This dimension of information culture is common to all organizational cultures. It also acts as a proxy for assessing response bias. The short range of responses with median (5) shifted to right showed that respondents believed that department promotes responsibility (RESPONSIBILITY; Figure 4-5-2). Less than 23% of the respondents either had no opinion or were of the opinion that department does not promote responsibility.

The freedom to make decisions (empowerment) and be accountable for the consequences increase sense of being in control (autonomy), which are important for improving performance and promoting information culture. This also means that decision making is decentralized. The wide range of responses (ACCOUNTABILITY; Figure 4-5-2) showed that respondents differed in their opinions about empowerment and accountability in the department. Fifty percent or more perceived that department promotes doeskins making and accountability, while 30% have the opposite view and another 20% respondents were undecided.

Rewarding good work related to information system means that department appreciates the staff contribution and helps improving motivation and morale. The close range of responses between 2 and 6, showed that there was less variations (REWARD; Figure 4-5-2). The upper limit of six showed that positive beliefs were not strongly held that department provides reward for HMIS activities. Fifty percent or less of respondents believed that department did not provide reward for HMIS activities.

HMIS could not function without availability of basic resources such as training, availability of forms, instruction guideline, feedback report and directives from Health department to display monitoring information. Fifty percent or more of the respondents believed that department provides the necessary material and supplies (R-AVAILABILITY; Figure 4-5-2). However, 22.5% of the respondents had opposite views.

All ratings of dimensions of culture were added to get an overall score for promotion of culture of information (CULTURE; Figure 4-5-2). The responses are close between 3 and 6, showing that people tended to be more in the middle of either promoting or non-promoting the culture of information. Some respondents strongly believed that department does carry out activities to foster information culture. It seems that evidence decision-making and rewards are the weakest areas, while emphasizing data quality, use of information, responsibility were highly promoted.

(4) Bivariate correlations

1) Relationship – Respondents' demographics, culture of information, self-efficacy and performance

It was found that older respondents and respondents with higher organizational status had more knowledge of the reason why diseases, immunizations and population chart is part of the monthly report (Table 4-5-1). Higher Organizational status was also associated with better problem solving skills, checking data quality skills, and HMIS tasks self-efficacy. However, there was no relationship found between Organizational title and job satisfaction. However, older respondents were more satisfied with their job than younger one. Male respondents had higher self-efficacy for HMIS tasks, higher job satisfaction and stronger belief that department promotes culture of information than female respondents do.

Table 4-5-1 Correlations between Respondents' socio-demographic characteristics and HMIS knowledge and skills, self-efficacy, belief in culture of information and job satisfaction (N=132)

	Knowledge of reasons for including disease, etc.	Problem Solving Skills	Checking data quality skill	HMIS efficacy	Belief in information culture	Job satisfaction
Title	-.314	-.454	-.291	-.289	0.52	-.100
	.000	*.000*	*.001*	*.001*	*.558*	*.252*
Age	.234	.139	.151	.195	.042	.200
	.007	*.113*	*.083*	*.025*	*.633*	*.025*
Sex	-.053	-.071	-.045	-.261	-.193	-.208
	.545	*-.418*	*.608*	*.003*	*.027*	*.016*

x-Italic number reflect p-value

The findings again showed that older and higher status was associated with calculation of percentage/rate, plotting and finding trend and using data for making decision (Table 4-5-2), except for interpretation of the findings. This could due to the fact that very few

respondents were able to interpret the findings, thus creating little variations in the results. This is substantiated by the finding that female were less proficient in calculating percentage/rate than male respondents, as there very few women who could do other HMIS data analysis tasks.

Table 4-5-2 Correlations between Respondents' socio-demographic characteristics and HMIS tasks performance (N=132)

	Calculate%	Plot data	Find trend	Explain findings	Use findings
Title	-.373	-.416	-.355	.106	-.398
	.000	*.000*	*.000*	*.225*	*.000*
Age	.303	.223	.231	.093	.261
	.000	*.0.10*	*.008*	*.286*	*.002*
Sex	-.207	-.116	.093	-106	-037
	.017	*-.183*	*.286*	*.225*	*.672*

x-Italic number reflect p-value

2) Relationship - culture of information, self-efficacy, and job satisfaction

It is hypothesized that contextual factor, promotion of information culture, would affect task performance directly or through job satisfaction and self-efficacy. There were no associations found between belief that health department promotes culture of information and HMIS task performance (Table 4-5-3). However, there was a weak relationship between those who belief that department promotes culture of information and self-efficacy. Those who believed that department promotes culture of information were also satisfied with their job. As hypothesized, those having high HMIS task self-efficacy were better performer.

Table 4-5-3 Correlations between HMIS tasks performance and Self-efficacy, Promotion of Culture of information, Job Satisfaction (N=132)

	HMIS task performance	Job satisfaction	HMIS efficacy
HMIS task performance	-	.116	-
		.182	
HMIS efficacy	.350	.163	-
	.000	*.062*	
Promotion of info culture	-.023	-330	.157
	.797	*-000*	*.073*

x-Italic number reflect p-value

3) Relationships - self-efficacy and HMIS related tasks performance

It is assumed that higher self-efficacy is associated with better HMIS tasks performance. All dimensions of self-efficacy for HMIS activities were related to calculation of percentage/rate, plotting data and finding a trend in the given data (Table 4-5-4), except for explaining the findings. However, only 2% of respondents were able to explain findings. Two things are to be noted under these relationships. First, those who showed high self-efficacy for particular HMIS tasks were able to perform those given tasks. Second, The correlation among dimensions of self-efficacy and actual performance were low, except for calculating percentage/rate and plotting data, indicating that those who expressed high self-efficacy did not actually performed the given tasks, indicating there is a gap between those perception and actual performance.

Table 4-5-4 Correlations Between Dimensions of Self-efficacy and Actual HMIS Tasks Performance (N=132)

	Calculate%	Plot data	Find trend	Explain findings	Use findings
Data collection	.210	.174	.117	.106	.109
	.016	*.046*	*.181*	*.226*	*.216*
Data check	.233	.158	.061	-.049	.156
	.007	*.071*	*.489*	*.575*	*.075*
Data analysis	.417	.310	.200	.117	.149
	.000	*.000*	*.021*	*.181*	*.088*
Data presentation	.325	.258	.191	.125	.135
	.000	*.003*	*.028*	*.152*	*.122*
Data interpretation	.191	.266	.200	.152	.116
	.028	*.002*	*.022*	*.081*	*.185*
Data use	.189	.322	.194	.138	.179
	.030	*.000*	*.026*	*.114*	*.040*

x-Italic number reflect p-value

(5) Results

The situation analysis found many positive findings along with gaps in the existing HMIS. First, higher self-efficacy for HMIS tasks were associated with better proficiency in HMIS tasks. Those who believed that department promotes culture of information were better satisfied with their job. Older and senior managers had higher proficiency in HMIS tasks. The respondents from NWFP showed better knowledge, skills and proficiency in HMIS tasks than other provinces. These findings indicate given management support, the proficiency at staff level could be improved.

Overall, the observed knowledge, skill level related to HMIS tasks were less than 40%,

indicating major gaps. Less than 30% of the respondents expressed one reason why diseases, immunization and population data are part of the monthly report form. Similarly, less than 15% of the respondents were able to describe how to check data quality. Thus, it is not surprising to find data accuracy was low and monthly reporting form did not show calculated percentages. The data use at facility and district was non-existent, as observed by checking display of targets and their monitoring information. There were no comparisons available of facilities performance at the district level. These findings are also substantiated with the finding that less than one fifth of the respondents could specify steps of problem solving, which is an important step in use of information. It was also observed that facilities did not have all the HMIS forms available.

The perceived self-efficacy for HMIS tasks provided a rosy picture of the high proficiency and so was the case for perceptions of promoting culture of information. The respondents believed strongly that department promote data quality, use of information, problem solving, feedback, responsibility, accountability, availability of HMIS resources. The respondents also expressed that they use HMIS instruction manual and guideline for making correct diagnosis. However, this rosy picture did not reflect existing reality and showed wide gaps between perceptions and actual performance. The probable reasons for these disparities are: a) the respondents wanted to give a good impression to keep their self-esteem; b) blinded about their own capabilities and had an exaggerated perception. These blind spots provide an opportunity for upper management to take appropriate actions to bridge these gaps.

It is also evident from the findings that technical proficiency should be treated as a behavior, which needs to be changed and sustained. Second, behavior change needs supportive organizational structure and mechanisms to sustain them. Thus, organizational interventions are essential and complement behavioral change. The specific behavioral and organizational interventions are described in later section.

The study is cross-sectional and thus no casual inferences could be drawn. However, the validity of the findings has increased by triangulation of various methods – interviews, observation and focus group with key informants. The findings are also supported by previous findings, thus could be generalized to overall Pakistan.

PART II

ACTIVITIES FOR INTERVENTIONS DESIGN AND DEVELOPMENT OF NAP

ACTIVITIES FOR INTERVENTION DESIGN AND DEVELOPMENT OF NAP

CONTENTS

Table

ANNEX PART II

ACTIVITIES FOR INTERVENTION DESIGN AND DEVELOPMENT OF NAP

1. PREPARATORY ACTIVITIES FOR IMPLEMENTATION OF THE STUDY

(1) Explanation and discussion on Inception Report (IC/R)

The Inception Report (IC/R) was submitted and explained to Pakistani side. Through the serial meeting with Pakistani side. The GOP in principle accepted the IC/R. Minutes of meeting on IC/R was signed on 9th February 2004.

(2) 1st Steering Committee meeting

According to the Scope of Work for the Study (S/W) signed on 4th August 2003 between GOP and GOJ, the first Steering Committee meeting was held on January 24, 2004, chaired by Senior Joint Secretary, MOH, consist of members are as follows.

- Executive Director (ED), NHIRC
- Chief (Health) Planning and Development Division
- The National Health Programme Managers under MOH
- Deputy Director General (DDG), Planning & Development (P&D), MOH
- Representative of Federal Bureau of Statistics
- Representative of Ministry of Population Welfare (MOPW)
- Representative of Provincial P&D Departments
- HMIS Coordinators

On the first meeting, it was decided following points;

- Steering Committee organized by GOP to be responsible for authorization and determination for the Study.
- GOP organized Counterpart (C/P) team for jointly work at all times with Study Team.
- PHDs were to be participated as steering committee members since 2nd meeting.
- Efforts would be made to obtain the ownership of PHDs during implementation of the Study.

(3) Counterpart (C/P) meeting

Base upon the S/W, Pakistan side assigned a C/P team for smooth implementation of

the Study. The C/P meeting was held on 18th February, 5th and 16th March 2004, 3 times in total. The C/P team consists of the following representatives from relevant ministries and organization (MOH, NHIRC, P&D Division, National HMIS Cell, provincial HMIS Coordinators and WHO (World Health Organization)).

1) 1st C/P meeting（18th February 2004）

Main agenda of the 1st C/P meeting was as follows.

- Introduce of C/P team and Study Team members,
- Confirmation of the role of C/P,
- Explanation of the Study outline, and
- Explanation and discussion of basic concept of situation analysis.

C/P side basically agreed with the contents of the Study however pointed out two aspects; a) how to handle secondary/tertiary level hospitals and private sectors, and b) cost related to the Study and demarcation of cost coverage between Pakistan and Japan side.

2) 2nd C/P meeting （5th March 2004）

Main agenda was explanation and discussion on draft situation analysis methodology and role of Technical Advisory Group (TAG) in provincial level. Although C/P side again stressed the necessity of investigation on secondary/tertiary level hospitals and private sectors, basic consensus of the qualitative investigation regarding FLCF was build on, which was a core of HMIS. C/P side added that they were willing to join to elaborate the contents of questionnaires, too.

3) 3rd C/P meeting（16th March 2004）

In addition to the original C/P members, an expanded C/P meeting was held with participation of provincial officers and donors. Main agenda of the 3rd C/P meeting was explanation and discussion of outline of the Study, situation analysis methodology, study tools and questionnaires.

In basically C/Ps accepted the framework of situation analysis which covered all relevant sectors including FLCF, and to be developed model HIS in accordance with the results of situation analysis. It was confirmed that comprehensive cooperation and collaboration with C/P, Provincial governments and donors was available for situation analysis.

(4) Province meeting and 1st TAG meeting

Two meetings in each province were held on 21st-23rd February and 11th-13th March 2004. Agenda of the first meeting was an explanation of approach, contents and schedule of the Study, explanation of basic concept of situation analysis, explanation and discussions on organization of TAG and site selection of situation analysis. Agenda of the second meeting was explanation of TOR (terms of reference) for TAG, explanations of methodology of situation analysis and confirmation of target site of situation analysis.

TAG was organized in each province in order to implement situation analysis and to analyze its result. Main TAG members in each province are listed below.

- Provincial Director General (DG) Health - Chair
- Provincial HMIS Coordinators
- Provincial program coordinators
- Provincial Senior Planning Officer
- District Executive Director of Health (EDOH)
- District HMIS Coordinator
- Medical superintendent District Headquarter Hospital (DHQH)
- Medical superintendent (MS), Tertiary Hospital

(5) Explanation and discussion on detailed study plan in 2004

The detailed study plan for field investigation, situation analysis, developing conceptual framework and intervention design, which was prepared by the Study Team. The detailed study plan was explained to and discussed at C/P meeting and provincial TAG meetings in May 2004. Through the serial meeting with Pakistani side. The detailed study plan was accepted. The detailed of meetings held was shown in below.

1) 4th Counterpart meeting

Counterpart meeting was held in 25th May 2004 at NHIRC. Three presentations were carried out by Study Team; (a) detailed work plan for situation analysis and developing the conceptual framework and intervention design, (b) explanation on the methodologies of quantitative and qualitative investigations, (c) existing situation of VP-ISs and the computer software developed for LHW-IS and National Reconstruction Information Management System (NARIMS) by National Reconstruction Bureau (NRB).

2) 2nd Provincial TAG meetings

Four TAG meetings were held from 28th May to 7th June, 2004.

- Punjab province TAG meeting 28th May 2004
- Sindh province TAG meeting 29th May 2004
- Balochistan province TAG meeting 30th May 2004
- NWFP TAG meeting 7th June 2004

Main objectives of TAG meetings were explanation and discussions on the detailed study plan for situation analysis and intervention design. The detailed plan was accepted by each Provincial TAG. Major comments from TAG meetings were, (a) necessity of capacity building, (b) user friendly simple HIS, (c) utilization for the decision making, (d) feasible step of integration of VP-ISs, and (e) necessity of investigation for private sector.

2. ACTIVITIES FOR DEVELOPMENT OF CONCEPTUAL FRAMEWORK AND INTERVENTION DESIGN

(1) 3rd Provincial TAG meeting

As the results of agreement with Pakistani side at the previous counter meeting and Provincial TAG meetings for the detailed study plan, the Study Team was carried out the field investigations and situation analysis, and prepared a draft report on the analysis of the results and intervention options on September 2004. Based on the draft situation analysis report, 2nd provincial TAG meetings were held from 21st September to 2nd October, 2004.

- NWFP TAG meeting 21st and 22nd September 2004
- Sindh province TAG meeting 27th September 2004
- Balochistan province TAG meeting 29th and 30th September 2004
- Punjab province TAG meeting 1st and 2nd October 2004

For the necessity of involving the all TAG members for consensus building among them, the SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was applied for the analyses of proposed intervention options.

1) SWOT analysis

For the analysis of the intervention options, SWOT analysis was implemented at each provincial TAG meeting. The participants of TAG meetings are separated small groups.

In the small group work participants asked to comment on the strengths, weaknesses, opportunities, and threats of the proposed options using the "brain-writing" method. After each group completed its work, the results were presented for plenary discussion. Instructions for all groups were;

a. Each group was given options in several intervention areas for consideration and comment.

b. The main activity was to comment on each option in the intervention area. The following points were considered when making comments:

- **Desirability:** Does the option respond to the needs?
- **Feasibility:** Given the current organizational environment is it possible to implement the option?
- **Sustainability:** Can the implementation be maintained with existing human and financial resources?
- **Incentives / disincentives:** What encourages persons to work towards successful implementation; what discourages them?
- **Enabling / disabling conditions:** What organizational and environmental factors will support implementation; what factors will stand in the way of implementation?

c. Each participant wrote his / her comments on cards (one comment per card). Each comment pointed to a strength, weakness, opportunity, or threat in the intervention.

- **Strength:** advantage (improved information, skill, etc) provided by the intervention
- **Weakness:** limitation or deficiency in the intervention
- **Opportunity:** favorable situation in organization / environment that will help implementation
- **Threat:** major barrier to implementation in organization / environment

d. The group organizes the comments for each option into a **S**trength, **W**eakness, **O**pportunity and **T**hreat (SWOT) matrix.

Table 1 Matrix for SWOT analysis

	Positive	*Negative*
Internal	**Strengths**	**Weaknesses**
External	**Opportunities**	**Threats**

e. Groups were encouraged to seek ways to turn weaknesses into strengths, and threats into opportunities. For example, lack of resources for maintaining implementation was a threat; potential collaboration and pooling resources with other efforts could produce an opportunity.

(2) 4th C/P meeting

C/P meeting for discussions on the result of situation analysis and intervention options was held on 12th October 2004 at Islamabad with federal, provincial officers and donors. Main agenda of C/P meeting was as follows.

- Overview of the Study and situation analysis
- Clarification of objectives of HIS and proposed intervention for pilot testing
- Presentation on organizational and behavioral aspects.

The results of the TAG meetings were discussed at C/P meeting. Through the discussions, broad outlines of interventions were agreed upon. Various participants expressed different priorities and visions regarding information system and needs for tertiary hospitals and private sectors.

(3) Donor meeting

1st donor meeting was held on 12th October 2004 at Islamabad, participated with United Nations Children Fund (UNICEF), United Nations Population Fund (UNFPA) and Technical Management Assistant Agency (TAMA). Main agenda of donor meeting was as follows.

1) Sharing the common perceptions for improving HIS performance in the health sectors;
2) Initiating collaboration and adequate relations among relevant donors for improving performance of health system through HIS

The donors accepted well organized collaboration and adequate relations among relevant donors. During the discussions, following comments were stressed by

donors;

- For the private sector, there is no policy vision by government side, therefore, initiation and coordination between both sides is important.
- Collecting the indicators for Poverty Reduction Strategy Paper (PRSP), Millennium Development Goals (MDGs) are important.
- Monitoring and feedback system are necessary for HIS.
- Integration of the data at district level is acceptable.
- Details framework and timeline of the HIS is required. Those are good tools for further detailed discussion for collaboration.

(4) 2nd Steering committee meeting

On 14th October 2004, 2nd Steering Committee meeting was held at Islamabad, participants were MOH, provincial Health Secretaries, DG Health, JICA officials from Headquarters and Pakistan Office, and Study Team. During the meeting consensus was reached on the following points.

1) Vision and strategic approach for realization of the vision
   - The vision is to improve health status of the population through improving evidence-based health service delivery management.
   - The information system for that is a comprehensive district HIS that is based and managed at the district and meets the district's health information needs. At the same time it provides relevant data catering to federal and provincial planning and policy roles.
2) Staged approach
3) Provision of strategic plan and detailed design within two months

(5) 4th Provincial TAG meetings on the HIS vision/concept

In accordance with the agreement with 2nd Steering Committee meeting, the details of the strategic approaches, the steps of implementation and the implementation responsibilities for achieving the HIS vision were developed. In this regard, consensus building meetings were held with the four PHDs from 1st to 8th December 2004.

- Sindh province meeting — 1st December 2004
- Balochistan province meeting — 4th December 2004
- Punjab province meeting — 7th December 2004

- NWFP meeting 8th December 2004

Broadly, the PHDs endorsed the details of the strategic approaches, implementation stages and responsibilities of implementation, and the interventions for short, mid and long term stages. Recommendation/request to JICA for providing technical assistance for the expansion/replication of the HIS model was also made by the provincial governments in these meetings.

(6) 3rd Steering committee meeting on approval of the HIS vision/concept

3rd Steering Committee meeting for the HIS vision/concept for the health sector was held on 17th December 2004 in Islamabad. The meeting was chaired by new DG, MOH, and participated by representatives from MOH, PHDs and officials of other relevant organizations, and officials from JICA Pakistan office and the Study Team. The HIS vision/concept was approved by Steering Committee.

1) Consensus reached

- There was agreement on the strategic approaches, stages of implementation, and implementation responsibilities.
- The Steering Committee endorsed the agreements reached at the Provincial meetings held from 1st to 8th December 2004.
- There was a consensus on the importance of initially Pilot Test the HIS model. On the basis of the results of the pilot testing, a NAP will be developed.
- In order to facilitate wider representation of in-country technical experts and ensure ownership of the HIS design by the provincial and district governments, active participation of provincial and district governments will be ensured.

2) Other comments/recommendations

- The members of the Steering Committee, especially those representing the four provincial governments, reiterated their support for the Study.
- Representatives of the provincial governments and MOH requested continuation of JICA's support for the expansion and replication of the pilot-tested HIS to other districts in the mid-term stage.
- Evaluation for proper understanding of pilot design and addressing its strengths and weaknesses will be implemented before it is replicated.

(7) 1st Core group meeting for selection of indicators

1st Core group meeting for selection of indicators was held on January 17th and 18th 2005 in Islamabad. The participants were the provincial TAG members, i.e. 3

persons per each province, and one participant from Azad Jammu and Kashmir (AJK). The Federal participation was shared by two from MOH and MOPW, and JICA Pakistan Office. During the meeting, members were discussing for selection of most appropriable and suitable indicators which cater the needs for better management of district health services delivery and cares. Finally, all participants agreed and recommended the indicators.

(8) 2nd Core group meeting for intervention design

2nd Core group meeting was held in Islamabad on May 2nd to 3rd 2005 in Islamabad. The meeting was participated by Federal, Provincial and District level managers and experts, and JICA Pakistan Office. Main points of discussion were;

- Management structure, functions and authority of EDOH, Director of Health (DOH) and Facility In-charges at each province.
- Confirmation of indicators already selected in 1st Core group meetings as well as identification of decision makers and possible actions.
- Methodology for the selection of diseases for reporting.
- Involvement of parastatals/ private sector, tertiary hospitals and VPs in HIS.

(9) 5th Provincial TAG meetings

Four Provincial TAG meetings were held from 6th to 12th May 2005.

- NWFP TAG meeting — 6th to 7th May 2005
- Balochistan province TAG meeting — 9th to 10th May 2005
- Sindh province TAG meeting — 9th to 10th May 2005
- Punjab province TAG meeting — 11th to 12th May 2005

District Management Structure and Functions and Organizational /Behavioral analysis - situation analysis findings and organizational interventions were discussed. Also, indicators selected in 1st Core group meetings, identification of decision makers and possible actions were confirmed.

Major comments from TAG meetings were, (a) using the core indicators at monthly district performance review meetings by EDOH which should be mandatory (b) at least 10% of HMIS reports to be rechecked for verification of data (c) Provinces need to support for capacity building of districts. (d) Nazims and District Coordination Officers (DCOs) should be made oriented with the DHIS model.

(10) Meeting with PHDs on the discussion of NAP, design of DHIS and Pilot Test

Three meetings with PHDs were held from 24th to 27th August 2005.

- NWFP health department meeting in Peshawar 24th August 2005
- Punjab PHD meeting in Lahore 26th August 2005
- Sindh and Balochistan PHDs meeting in Karachi 27th August 2005

1) Consensus reached

- The summary paper comprising draft NAP and DHIS was, in principle, fully endorsed by all PHDs.
- The design should cover information of all relevant VPs in consolidated form. The PHD supports a single integrated HIS.
- The PHD assured its full collaboration with Study Team in finalizing the NAP through Pilot Test of design of DHIS.
- Staff will not be transferred in the Pilot Test district during pilot period.
- PHDs should be linked with Pilot Districts for better coordination and monitoring.

2) Recommendations

- The staffing requirement for HMIS Cell would be worked out.
- Previous HMIS-FLCF activities will be replaced by the DHIS in the Pilot Test districts.
- List of Pilot Districts according to selection priority will be suggested by PHDs during the forthcoming Steering Committee meeting.

(11) 4th Steering Committee meeting

As a part of wider consensus building process, 4th Steering Committee meeting was held on 29th August 2005 in Islamabad. Key functionaries of federal and provincial governments participated in the meeting. The purpose of the meeting was to have consensus on the summary paper of the draft NAP covering DHIS as the main intervention. Contents of discussions and consensus were;

- The participants appreciated the support of JICA and efforts of Study Team for the improvement of HISs which will help strengthen the devolution.
- The summary paper comprising draft NAP and DHIS design was, in principle, approved by the Steering Committee.
- They expressed expectations for the success of the Pilot Test.
- It was felt not to make any transfers of staff from Pilot districts except in

unavoidable circumstances.

- The suspension of the current HMIS-FLCF activities in the Pilot districts was endorsed by each province.
- During the meeting the provinces expressed their expectations for implementing the Pilot Test in 3-4 districts in each province. However, it was pointed out by the Study Team that manageable number of districts should be selected for better control on the Pilot Test activities.

(12) Meeting with PHDs on the discussion of NAP, design of DHIS and Pilot Test

Three meetings with PHDs were held from 9th to 15th December 2005. Each meeting was organized 2 sessions, 1st session was technical meeting for Pilot Test and 2nd session was high officials meetings for implementation of Pilot Test.

- Sindh and Balochistan PHDs meeting in Karachi 9th - 10th December 2005
- NWFP health department meeting in Peshawar 12th -13th December 2005
- Punjab PHD meeting in Lahore 14th - 15th December 2005

1) Consensus reached at technical meetings

- The consensus on the design of DHIS proposed by Study Team was built which is user friendly, having minimum cost and maximum benefit.
- Detailed discussions were made on tools and instruments at technical meetings, and consensus reached on the tools and instruments in principle.

2) Consensus reached at high officials meetings

- Each province agreed on undertaking of necessary support for implementation of Pilot Test.
- The members of Provincial Working Group for implementation of Pilot Test were nominated.
- Each province will propose Pilot District based on the criteria presented by Study team before 20th December, 2005.

(13) 5th Steering Committee meeting

5th Steering Committee meeting was held on 20th of December 2005. At the meeting, items given below were explained and discussed to obtain approval of Pakistani side on the implementation of Pilot Test.

- Finalization of target districts for Pilot Test
- Implementation plan of Pilot Test including training plan and M&E

- Formation of Provincial Working Groups (PWGs) and agreements for district
- Tools/ instruments for Pilot Test
- Appointment of Liaison Office Manager of Study Team for Pilot Test
- Terms of reference (TOR) for tender board and plan of tender for DHIS software

3 Activities for development of NAP

(1) Provincial working group (PWG) meetings

Organization of PWG, which is an implementation body of Pilot Test, was authorized at Steering Committee in December 2005. The first meeting with PWG in each province was held in February 2006 and items given below were explained and confirmed.

- Plan of action for DHIS Pilot Test
- Necessary recommendations and suggestions for DHIS Pilot Test
- Roles to be played by the PWG for the implementation of the DHIS Pilot Test
- List of preparatory activities at the provincial level and its schedule and responsibilities
- Identification of the provincial focal point for the DHIS Pilot Test

Schedule of meeting is shown below in the order of date of meeting:

- PWG meeting in NWFP 6th February 2006
- PWG meeting in Balochistan 13th February 2006
- PWG meeting in Sindh 15th February 2006
- PWG meeting in Punjab 17th February 2006

(2) Meetings at district level for implementation of Pilot Test

After the selection of target districts, the first meetings with relevant personnel at district level were held on the day after 1st PWG meeting and items given below were explained and confirmed.

- DHIS Pilot Test Plan, especially actions at the district level
- Schedule of implementation during the preparatory phase

In addition, prior to the implementation of Training of Trainers (TOT), the Orientation Workshops with district decision makers were held in March 2006. The purpose of orientation workshop was to share Pilot Test concept to decision makers

(District Nazim and District Coordination Officer (DCO)) in the target district,. as well as to confirm detailed schedule of facility staff training with technical level staff in the district.

- Swabi 22nd February 2006
- Thatta 22nd March 2006
- Quetta 24th March 2006

(3) 6th Steering Committee meeting

6th Steering Committee meeting was held on 26th August 2006 in Islamabad, comprising representatives from the Federal, provincial governments, Embassy of Japan and JICA Pakistan Office. The main objective of the meeting was to deliberate upon following major issues;

- Review the implementation status of the Study.
- Review the progress on NAP for improvement of HISs in Pakistan.
- To discuss the proposals for utilization of savings under the study during the JICA's fiscal year 2006 to 2007.

1) Consensus:

- No significant observations were raised on the implementation status of the Study.
- Study period will be extended till 28th February 2007.
- There was a consensus on proposed activities on NAP development
- DHIS software launching needs to be completed at the earliest which should also be carefully monitored.
- The savings in the study during JICA's fiscal year 2006 to 2007 need to be utilized in all four pilot districts preferably equitably.

2) Recommendations:

- It was recommended to utilize savings under the study during JICA's fiscal year 2006 to 2007 in all four Pilot districts as per need/requirement of the respective districts.
- No new pilot test in any district be launched (viz: Attock)
- It was decided to recommend to the MOH for taking up necessary actions for extension of the Study up-to 28th February 2007.

(4) Thematic Group meetings for NAP formulation

In order to facilitate the formulation of NAP, three Thematic Group meetings were

organized in September 2006. The themes of these meetings were i) District Health Information System (DHIS), ii) HIS for Tertiary Hospitals and iii) HIS for Private Health Sector. The purpose of each Thematic Group meeting was;

1) DHIS Thematic Group

- Final design of DHIS based on Pilot Test results
- Methodology and technical, organizational and behavioral requirements for implementing the DHIS throughout the country
- Mechanism of M&E and continuous improvement of DHIS to meet the changing information needs
- Major steps in country-wide implementation and continuous improvement of DHIS

2) Tertiary Hospital Information System Thematic Group

- Objectives and related indicators and data elements of Tertiary hospital information system (TH-IS) in the context of information needs for patient and hospital management and of public health importance
- Methodology and technical, organizational and behavioral requirements for implementing the TH-IS
- Major steps in the development and implementation of the TH-IS in the provinces

3) Private Sector Information System Thematic Group

- Objectives of data collection from the selected private health institutions/organizations
- Conceptual design of HISs for private sector (i.e. private health sector information system's indicators and design of data collection, compilation, transfer, entry, analysis and feedback processes) in the context of role of public health sector in relation to private health sector, type(s) of formal or informal private institutions/organizations that were focused, information needs of the public health sector to fulfill that role, and practicability /feasibility of establishing information system to collect relevant information to fulfill those needs
- Methodology and technical, organizational and behavioral requirements for implementing the Private Health Sector Information System (PvtHS-IS)
- Major steps in the development and implementation of the PvtHS-IS in the provinces.

The participants of the thematic groups were experts from the four provincial health departments and from NHIRC, MOH. After the successful completion of the thematic

group meetings, 1st Core group meeting was organized in Islamabad participated by provincial and federal high officials.

(5) 1st Core group meetings for NAP formulation

1st Core group meeting for NAP formulation was held on 18th September 2006 in Islamabad. The participants were representatives of MOH, NHIRC, PHDs and JICA Pakistan Office. The main objectives of the Core group meeting were;

- To review the recommendations of Thematic Groups Meeting
- To discuss conceptual design of NAP

Representatives from the three Thematic groups made presentation of the outcome of the respective meetings. Lastly, the Study Team presented the conceptual design of NAP. After detailed discussions on each topic the following recommendations were agreed upon.

1) DHIS

- At provincial level, there should be Director (Basic payment scale (BPS) 19/20) to head the Provincial HIS unit, and under him will be a full time Deputy Director (BPS 18/19) working as HIS focal person.
- At District level, there should be a BPS 17/18 Officer to head the DHIS unit exclusively as focal person.
- There should be full-time technical persons such as programmer, data analyst, computer operators at provincial HIS unit and computer operator at DHIS unit in the districts.
- To promote use of DHIS information for continuous performance improvement, quarterly inter-district meeting at the provincial level, and regular performance evaluation of EDOH should be institutionalized.

2) Tertiary Hospital HIS

- There should be a separate HIS unit in each Tertiary hospital.
- BPS 19 should be designated to work as in-charge of the respective tertiary hospital's HIS.
- There is a strong need to develop curriculum on HIS for under-graduate Medical and Paramedical Students.

3) Private Sector

- Regulation of private health sector is a pre-requisite for establishing PvtHS-IS
- Mapping of private health providers may be carried out initially and the PHDs

can take the initiative in this regard.

4) NAP

- Ownership of DHIS will be with the districts and provinces, and NHIRC will coordinate with /assist Provinces.
- HIS forum should look after all HIS requirements including future improvement/changes in HIS.
- HMIS-FLCF will be replaced by DHIS as soon as new tools, staff training and DHIS software are made available in the respective district.
- There should a single focal institution/office for HIS in public health sector. Thus, NHIRC at national level and Provincial HIS unit at provincial levels should be dealing with all HISs.
- Provincial Health Development Center (PHDC)/Provincial Health Service Academy (PHSA) along with District Health Development Centers (DHDCs) at district level should be strengthened to become the centers for HIS capacity building
- Data collection and reporting should be included in the Job-description of health managers and staff
- Initially NHIRC will arrange for supply of DHIS tools/instruments, etc. NHIRC will assist the provinces to continue the implementation of DHIS in the Pilot Districts by providing printed materials up-to June 2007 till the PHDs can have their own budget.

(6) 2nd Core group meetings for NAP formulation

2nd Core group meeting on improvement of HISs in Pakistan was held on 21st November 2006 in Islamabad. Participants were from MOH (NHIRC), PHDs of all four Provinces and JICA Pakistan Office. The purpose of meeting was;

- To share the results of DHIS evaluation.
- To finalize the proposed changes / modifications in DHIS instruments.
- To develop consensus on draft NAP.

1) Results of Evaluation of DHIS in Pilot Districts

It was observed that DHIS contents like instruments, indicators, curriculum, training methodology, Data Quality Assurance (DQA) mechanism and use of information trainings were well appreciated by the health facility staff and district managers. However, in all the Pilot districts the respondents were of the opinion that staff training duration was short. The participants of the meeting endorsed the contents of the evaluation report.

2) Review of proposed changes in DHIS instruments

These changes proposed by health facility staff and health managers during Pilot Test, monitoring and evaluation. The participants of the meeting critically reviewed the proposed changes and finalized all DHIS instruments.

3) Draft NAP

The salient features of draft NAP was presented by the Study Team. The Core group discussed the contents and approved the draft NAP, which will be referred to Steering Committee for its final approval.

The following suggestions were finally agreed upon;

- There should be four separate provincial PC-1s for DHIS.
- Initial funding for the implementation of DHIS should be arranged by NHIRC for at least two to three years
- In the districts where there is no DHDC, a training center / unit should be established and strengthened in EDOH office.
- For developing ownership, district governments should be taken into confidence. For this an advocacy plan should be developed for future DHIS funding in regular (Non-developmental) budget.

(6) Meetings with federal and provincial authorities for the implementation of NAP

Federal and provincial decision makers meetings were held from 14th to 20th December 2006 headed by Mr. Yojiro Ishii, Mission leader, Director of Health Division, JICA Tokyo. Objective meeting and mission was to exchange views on the implementation of NAP with federal and provincial authorities.

Schedule of meeting is shown below:

- Federal Secretary Health/DG meeting 14th December 2006
- Punjab meeting 15th December 2006
- Balochistan meeting 16th December 2006
- Sindh meeting 16th December 2006
- NWFP meeting 18th December 2006
- Federal DG meeting 20th December 2006

Remarks by Pakistani authorities and JICA mission were;

1) Remarks by Pakistani authorities

- Federal authorities committed to implement DHIS in the whole country and to avoid the duplication of HIS (i.e. HMIS-FLCF, Health Matrix Network (HMN), Integrated Disease Surveillance (IDS)). NHIRC is only coordinating, monitoring, and technical support body for HIS at Federal level.
- HIS forum will be established for improvement of HIS.
- Each provincial government fully own the DHIS as its system and is committed to implement DHIS in the whole province.
- Each provincial government has initiated the preparation of financial arrangement (provincial PC-1 or provincial regular budget from 2007/8) for the implementation of DHIS or will prepare the PC-1 by the end of February 2007..
- Some provinces welcomes continuous assistance from JICA for implementation of DHIS and improvement of HIS.

2) Remarks by JICA

- JICA highly appreciating the initiative and ownership of DHIS implementation taken by each tier.
- JICA will consider further technical assistance to improve the HIS, including Tertiary hospital IS and Private health sector IS.

(7) Final Steering Committee meeting

Final Steering Committee meeting was held in NHIRC on 26th January, 2007. The meeting was chaired by DG Health, MOH with participation from provinces and other federal organizations/programs. Main features of the Study and software were presented. Official procedure for requesting JICA's technical assistance for TH-IS and PvtHS-IS was explained by JICA. Following decisions were made:

- AJK and FATA/FANA[1] will be included in NAP for implementation of DHIS. NHIRC may initiate action accordingly with AJK and FATA/FANA.
- Commitment from MOH and PHDs was reassured for DHIS implementation.
- NHIRC may provide support for gradual implementation of DHIS throughout the country including AJK and FATA/FANA.
- NHIRC and AZM will be in contact for training and maintenance of DHIS Software during replication of DHIS.

[1] AJK: Azad Jammu and Kashmir, FATA: Federally Administered Tribal Areas, FANA: Federally Administered Northern Areas

- NAP was approved as way forward for implantation of DHIS and development of tertiary care hospitals and private health sector HISs.

(8) DHIS seminar

A seminar on DHIS was held on 27th January, 2007. The objective of the seminar was primarily to brief and disseminate the DHIS model to the development partners and international agencies as well as to seek reassurance /commitment of the government of for its replication. The seminar was able to achieve the commitment of government for DHIS replication. International partners appreciated the DHIS model and wished its implementation throughout the country. They expressed pleasure over the commitment of the government in this regard.

PART III TABLES AND FIGURES

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- National Health Planning and coordination with provinces
- Liaison and agreements with other countries and international organizations in the fields of health, drugs and medicines.
- International aspects of medical facilities and public health; International Health and medical facilities abroad.
- Scholarships / fellowships, training courses in health from International Health Agencies such as WHO and UNICEF.
- Medical, nursing, dental, pharmaceutical and allied education:
    - Maintenance of educational standards.
    - Education abroad; and
    - Educational facilities for backward areas and for foreign nationals except the nomination of candidates from Federal Administered Tribal Areas for admission to Medical Colleges.
- Standardization and manufacture of biological and pharmaceutical products
- Vital Health Statistics
- Medical and health services for Federal Government employees.
- National associations in medical and allied fields such as the Red Crescent Society and T.B Association.
- Coordinating medical arrangements and health delivery systems for the Afghan refugees.
- Legislation pertaining to drugs and medicines, including narcotics and psychotropic, but excluding functions assigned to the Pakistan Narcotics Control Board
- Administration of Drugs Act.1976 and poison and dangerous drugs
- Prevention of the extension from one province to another of infectious and contagious diseases.
- Lunacy and mental deficiency.
- Administrative control of the Pakistan Medical Research Council (PMRC)
- Administrative Control of the National Institute of Handicapped(NIHd).Islamabad.

<u>Punjab</u>

The role and responsibilities of Health Department after devolution encompass the following major areas:

- Policy Formulation: The Health Department maintains trilateral linkage with national, provincial and district governments in the sphere of health policies, planning and projects. It determines priorities and lays down strategies to translate national commitments and international obligations into action.
- Regulatory: The Health Department frames laws, rules and regulations to enforce policies of the Government in areas such as foodstuffs, blood safety, drugs, smoking etc.
- Standard Setting: The Health Department lays down standards for quality control of drugs, electro-medical equipment and quality of health care services. It also prescribes standards for medical education and training of doctors, nurses and paramedics.
- Technical Support: The Health Department provides technical support for capacity building of District Governments in administrative, financial and development areas. It provides necessary personnel and arranges for their appropriate training.
- Resource Mobilization: The Health Department seeks to fill resource gaps through budgetary and extra-budgetary resources. It explores new avenues such as public-private partnerships and seeks diversification of resources.

<u>Sindh</u>

- Policy development, legislation and monitoring the implementation
- Supervision and monitoring of provincial institutions and district performance and provide technical guidance.
- Coordination and regulation of Medical, Dental, Nursing & and Paramedical Education
- Recruitment, transfer, posting, promotion & disciplinary action of all cadres /grades for provincial institutions
- Recruitment, transfer, posting, promotion &disciplinary action from BPS 18& above for doctors and BPS 17 & above for other cadres of district.
- Planning and Development for all provincially managed institutions and macro level planning for the districts
- Policy dialogue /coordination with Federal /district Government and Donors
- Procurement of goods /services for provincially managed institutions, vehicles, electro -medical equipment, technical assistance and rate contract for medicines for districts.

- Constitution of Medical Boards for provincial employees, Standing & Special Medical Board (SBM) for all employees.
- Data analysis & feedback to MoH and Districts
- Budget allocation and control for provincial institutions only.
- Health and Nutrition Education activities
- Undertake Health System Research
- Development of minimum standards of service delivery.
- Provision of technical support to the Districts in all respect.
- Resolve inter and intra districts conflicts.
- Annual monitoring of district performance against agreed indicators.

NWFP

As per a document "Reforming the Health Sector in the NWFP" the following functions are assigned to Provincial Health Department:

- Make health policy for the province.
- Legislate on provincial health issues.
- Ensure drugs control under the Drugs Control Act.
- Carry out monitoring and regulatory functions of health/medical institutions, both in public and private sectors.
- Coordinate and regulate, medical, dental nursing and paramedical education.
- Conduct health research and related health information gathering (HMIS).
- Coordinate and interact with donors and international agencies.
- Carry out all aspects of personnel management of the present provincial cadres in health.
- carry out all provincial procurements and M&R. Ensure functioning of the Medicine Coordination Cell (MCC).
- plan, implement, supervise and monitor health programs transcending district jurisdiction.

Balochistan

- Provision of health services to the population of the province, including preventive and curative care through the set up of provincially administered hospitals/institutions.
- Management of Federally designed programs on immunization (EPI), Control of Diarrhoeal Diseases (CDD) Malaria Control Program, ARI Program, AIDS

Control Program, Health Management Information System (HMIS), and National Program for Family Planning and Primary Health Care etc.

- Planning and Management for the Health system.
- Procurement of transport, specialized equipment.
- Development of new projects in consultation with District Governments
- Human Resource Development.
- Regulatory function.
- Procurement of drugs through medical store Depot (MSD) for provincial institutions.
- Issuing of drugs sale licenses

RESPONSIBILITIES OF EXECUTIVE DISTRICT OFFICER (HEALTH), SINDH

1. Responsible for maintaining and enhancing health statues of people of district by the integrated and coordinated decisions for improving the district health system in consistence with national health policy.

2. Exercise Administrative, financial and Technical control over and guidance to all medical, paramedical and auxiliary staff in all the Government Health Institutions working under him in the district and have powers of intra district transfer of staff up to BPS-11 including nursing cadre.

3. Implement all health policies and programs of federal and provincial government in district for improvement in PHC services delivery and health of people.

4. Supervise, monitor, evaluate and coordinate all activities of PHC and vertical programs in district to get maximum health coverage and improvement in service delivery.

5. Plan, carry out and supervise all the measures connected with the control and prevention of the communicable diseases and non-communicable diseases including the rabies. He will arrange to provide preventive and curative aid, at the time of Epidemics and other calamities.

6. Work for the improvement of environmental sanitation in his jurisdiction in collaboration with local councils authorities and other health related agencies in district including the environmental protection agencies (EPA)

7. Provide necessary guidance regarding the sanitary arrangements in the schedules and un-scheduled fairs held in the district.

8. Serve as a Technical Expert for private institutions and local bodies, in the fields of preventive, curative treatment of diseases and promotion of helath.

9. Responsible for the collection, compilation and up to date record of the vital statistics and other health related data from all health facilities including the teaching hospitals present in district through HMIS and feed back horizontally and vertically.

10. Carry out and liaison the duties under the all acts (pure food ordinance, factory act PMDC act, Civil defense act, Drug act, Leprosy act etc) in the district and issue of license.

11. Coordinate the local councils, in their work of improving the sanitary conditions, Water Supply, drainage and other public health measures.

12. Maintain liaison with Social Welfare Officer, and all other voluntary agencies, which are working towards the improvement of Public Health and Medical aid facilities in the district.

13. Identification, preparation and implementation of development projects in districts, this includes ADP proposals up to 20 million, preparation of PC-1 according to the budget allocated and schedule of new expenditures.

14. Responsible for human resource development and management of health department within given authority.

15. He has power of inspection of drug store and Trades and issuance of license. For trade license, he has to develop and implement by-laws.

16. With the help of managers responsible for preparation of district health budget and plans and ensure effective financial management.

17. Responsible for monitoring of performance indicators within his jurisdiction.

18. Responsible for condemnation and disposal of unserviceable vehicles/equipment.

19. Coordinate and improve the health services by sharing experiences with other districts.

20. Call regular meeting of MS DHQ/, THOs/I/C RHCs and DHMT members for reviewing health activities in district.

21. Conduct situation analysis exercise periodically for reviewing health plan.

22. He will involve community in decision-making and supervision of health services for better health care.

23. Carry out health awareness activity by mobilization of community and various sectors by health walks, seminars, workshops, radio talks, newspapers and handouts.

24. Liaisons with other health agencies like NGOs, other district departments, and private sector for better health care in district.

25. Identification of health problems and conduction of research on confronting health problem with help of Provincial government.

26. Ensure safe and proper disposal of solid waste from all health facilities.

27. Implementation of services standard/quality assurance in district.

28. Formulation and implementation of policies pertaining to institution of user charges and levy of related and subsequent fees by medical officers in district.

29. Coordination with Electro-medical workshop at provincial level for repair and maintenance of bio medical equipment's

30. Coordination with Quality control board at Provincial level for ensuring supply and availability of quality medicine in the line with national health policy.

31. Technical scrutiny, standardization and purchase of stores and capital goods and bio medical equipment and establishment of medical stores Depot at district level.

32. Responsible for the formation of District Health Management Team according to guidelines circulated by government.

33. Deal with Service matters except those entrusted to Health Department/S&GAD/Coordination Department in case of regular employees of the provincial government up to the BS-17.

34. Recruitment of officers and officials in district on contract basis from time to time under the District Government Rules of Business.

35. Maintenance of transport of district health department for effective and speedy out reach health activities.

36. Financial management and auditing of resources allocated for district.

37. Contingency/Emergency Preparedness plan for district.

38. Tour for at least 10 days within his jurisdiction every month.

39. Perform any other duty/job assigned to him by the Director General Health Services Sindh Government./DCO

Annex Table 2 Responsibilities of district health department for each province

Punjab

As per Rules of Business of the Local Government, Punjab Gazette August, 2001 attached therewith a document "Devolution in Health: Progress and Prospects" functions relating to the following areas on the guidelines given by the Provincial Government will be performed as under: -

- Prevention and control of infectious and contagious diseases:
  - Tuberculosis:
  - Eradication/Control of Malaria:
  - Lepers Act 1898;
  - Treatment of patients bitten by rabid animals;
  - Adulteration of foodstuff;
  - Government Public Analyst;
  - Nutrition surveys;
  - Nutrition and publicity in regard to food;
  - Vaccination and inoculation;
  - Maternity and Child Welfare; and
  - Port Quarantine.

- Management of health care facilities and provision of health care services in the district including DHQ and THQs Hospitals, RHC and BHUs but excluding any hospital/Health facility affiliated with the Medical College.
- Audit Cell to undertake financial, managerial and clinical audit of health facilities in districts.
- Monitoring and inspection of all health care facilities in the respective district.
- Data collection and compilation of vital health statistics.
- Planning and Development of health care services delivery for improving health status of population in accordance with the community perceived and locally ascertained health care needs through Primary Health Care (PHC) approach.
- Preparation of development schemes, budget, schedule of new expenditure and ADP proposals up to Rs 5 million.
- Service matters except those entrusted to Health Department/Services & General Administration Department in case of regular employees of the provincial government including BS-17, Recruitment of officers and officials in the district on contract basis from time to time under the District Government Rules of Business.

- Health Equipment Maintenance (HEM) for ensuring availability of state of the art & functional bio medical technology.
- Transport maintenance as an essential component of speedy provision of outreach health care services.
- District Quality Control Board (DQCB) under the overall technical support from the Provincial Quality Control Board (PQCB) for ensuring supply & availability of quality medicines in line with the National Health Policy.
- Technical scrutiny, standardization and purchase of stores and capital goods and bio medical equipment for each health facility in respective districts.
- Government Medical Stores Depot (MSD) at each district for ensuring availability of appropriate quantity of reserves and timely distribution of routine and incidental drugs to all health care facilities.
- Surgeon Medico-legal Office and its functions relating to the constitution of Medico -legal examination.
- All Administrative and related matters of Nursing Cadres up to BS-17.
- Formulation and implementation of policies pertaining to institution of user charges and levy of related and subsequent fee by Medical Officers in districts.
- In a time span ranging over 5 years the office of the Chief Chemical Examiner will be transferred and its responsibilities thereof will be entrusted to the districts.

Sindh

Implement policies and programs (including foreign funded projects) in line with federal and provincial policy guidelines.

- Administrative control of all the medical, paramedical and auxiliary staff of the district.
- Appointment up to BPS-17 by the district.
- Posting and transfers of Officers /Officials up to the BPS-19 within the district.
- Technical guidance to public, private health institutions for health promotion and disease prevention.
- Enforcement of all health related acts.
- Inter-sectoral coordination for health related activities.
- Collection and compilation of MIS data.
- Monitoring and supervision of health services at district level.
- Planning, preparation, and implementation of development projects.
- Procurement of medicines, equipment, furniture and other goods.
- Preparation of Annual Health Plans and budget and ensure effective financial management.
- Resource generation as per government guidelines.

- Monitoring of performance indicators.
- Condemnation and disposal of unserviceable vehicles/equipment.
- Prepare and implement solid waste management.

NWFP

As per Rules of Business 2001, District Government, NWFP, the following functions are assigned to health:

- Prevention and control of infections and contagious diseases.
- Tuberculosis.
- Eradication/Control of Malaria.
- Leprosy Act.
- Treatment of patients bitten by rabid animal.
- Adulteration of food stuffs.
- Nutrition and publicity in regard to food.
- Nutrition and publicity in regard to surveys.
- Vaccinations and inoculation.
- Maternity and child welfare.
- Port Quarantine.
- Medical attendance of Government servants.
- Levy of fees by Medical Officers.
- Control of Medical drugs, poisons and dangerous drugs (Drug Act and Rules)
- Matters related to prevention and control of AIDS and viral Hepatitis.
- Health Management Information System.
- Primary Health Care.
- Expanded Program on Immunization (EPI).
- Communicable Disease Control (CDC).
- Rural Health.
- Carry out all aspects of Personnel Management of the District Cadres in Health.
- Plan, Implement, Supervise and Monitor Health Programs within district jurisdiction.
- Mother Child Health and Family Planning.
- Public Sector Hospitals in the district.

Balochistan

As per Balochistan Gazette Notification dated 26th April 2002, functions with regard to health are delineated hereunder:

1) Public Health

Execution of functions relating to the following areas on the guidelines given by the Provincial Government:-

- Prevention and control of infectious and contagious diseases.
- Tuberculosis.
- Eradication/Control of Malaria.
- Lepers Act 1898.
- Treatment of patients bitten by rabid animals.
- Adulteration of food stuffs.
- Government Public Analyst.
- Nutrition surveys.
- Nutrition and publicity in regard to food.
- Vaccination and inoculation; and
- Port Quarantine.

2) Basic and Rural Health, Child and Women Health, District and Tehsil Hospitals and Population Welfare

Subject to law, policy and guidelines of the Government/Health Department.

- Management of health care facilities and provision of health care services in the district including maternity and child welfare in the
  - District Headquarter Hospitals (DHQs)
  - Tehsil Headquarter Hospitals (THQs)
  - Rural Health Centers (RHCs)
  - Basic Health Units (BHUs).
- Excluding any hospital/health facility affiliated with the Medical College/Tertiary Hospitals.
- Audit Cell to undertake financial, managerial and clinical audit of health facilities in districts.
- Monitoring and inspection of all health care facilities in the respective district
- Data collection and compilation of vital health statistics.
- Planning and Development of health care services delivery for improving health status of population in accordance with the community perceived and locally ascertained health care needs in order to pursue the “Health for All” goal through Primary Health Care (PHC) approach of providing equitable health services.
- Preparation of development schemes, budget, schedule of new expenditure and ADP proposals.

- Health Equipment Maintenance (HEM) for ensuring availability of state of the art & functional bio medical technology.
- Transport maintenance as an essential component of speedy provision of outreach health care services.
- District Quality Control Board (DQCB) under the overall technical support from the Provincial Quality Control Board (PQCB) for ensuring supply & availability of quality medicines in line with the National Health Policy.
- Full powers for purchase of medicines in accordance with their budget allocations as per specification and policies fixed by the Provincial Government.
- Government Medical Stores Deport. (MSD) at appropriate quantity of reserves and timely distribution of routine and incidental drugs to all health care facilities.
- Surgeon Medico-legal Office and its functions relating to the constitution of Medico -legal examination.
- Formulation and implementation of policies pertaining to institution of user charges and levy of related and subsequent fee by Medical Officers in districts.
- In a time span ranging over 5 years the office of the Chief Chemical Examiner will be transferred and its responsibilities thereof will be entrusted to the districts.

Annex Table 3 Cash benefits extended by PESSI

1. Sickness Benefit
2. Sickness Benefit to TB/Cancer
3. Maternity Benefit
4. Iddat Benefit
5. Death Grant
6. Injury Benefit
7. Disablement gratuity
8. Disablement pension
9. Survivors pension
10. Rehabilitation (Artificial limbs)

Annex Table 4 Monthly report on family planning services for december, 2003 (by Rawalpindi local office to head office)

S.No	Name of ITC/SSD	CONDOM	PILLS	IUD	INJ	TOTAL
1.	ITC JHELUM	-	-	-	-	-
2.	ITC KTM	120	300	4	10	434
3.	ITC HASSANABDAL	-	-	-	-	-
4.	ITC I-10/4 ISLAMABAD	06	1	-	-	7
5.	ITC CITY RAWALPINDI	-	-	-	-	-
6.	SSD ATM JHELUM	-	-	-	-	-
7.	SSD GUJAR KHAN	25	-	-	2	27
8.	SSD MANDRA	04	02	-	05	11
9.	SSD LAWARANCE-PUR	20	-	-	2	22
10.	SSD MURREE	-	-	-	-	-
11.	SSD AABPARA	-	-	-	-	-
12	SSD WESTRIDGE	1	-	-	-	1
13.	SSD PCH RAWALPINDI	10	-	-	-	10
14.	SSD MBC RAWALPINDI	-	-	-	-	-
15.	SSD HUMAK ISLAMABAD	-	-	-	-	-
16.	SSD CHAKWAL	-	4	-	2	6

Annex Table 5 Sample mortality report of social security hospital, Jauharabad.

DATE:_____

PATIENTS NAME _____ AGE:_____

SEX_____ S.S.No._____ UNITS _____

DISPENSARY: _____ DATE OF ADMISSION_____

ADMISSION NUMBER:_____ DEPARTMENT:_____

DATE OF EXPIRY_____ TIME OF EXPIRY:_____

NAME OF SPECIALIST/ CONSLULTANT:_____

MODE OF PRESENTATION :(A) EMERGENCY:_____

(B) OPD _____

HISTORY & PHYSICAL EXAMINATIN(+VE FINDINGS ONLY:

_____

_____

_____

INVESTIGATIONS:_____

_____

PROVISIONAL DIAGNOSIS: _____

TREATMENT: _____

FINAL DIAGNOSIS: _____

CAUSE OF DEATH: _____

SPECIALIST/CONSULTATANTS REMARKS: _____

SIGNTURE OF M.O._____ NAME_____

SIGNATURE OF SPECIALIST/CONSULTANT:_____

NAME:_____

Annex Table 6 Format for reporting HCV+VE cases

Hospital: _____ Month_____

i. Number of patients examined for Hepatitis-C_____

ii. Number of patients found + Ve for HCV _____

DETAIL

NAME OF PARTIENT	S.S.NO	RELATION WITH WORKER

Annex Table 7 Sharif social security hospital Multan Road Lahore -statistical return for the month of February, 2004

Name of Section	Referred From SSD/Mini Hosp		Admitted in Hospital		Referred To Other Hospital		Leave Advised /issued
	Self	Dependent	Self	Dependent	Self	Dependent	
Vaccination	-	668	-	-	-	-	-
Medical	1217	1957	42	106	05	08	56
Psychiatry	235	389	08	18	-	01	04
Dermatology	702	1073	12	18	-	01	15
Diabetics	360	859	-	-	-	-	-
Hypertension	47	164	-		-	-	-
Chest Disease	340	650	13	15	-	-	203
Pediatrics.	-	999	-	94	-	30	-
General Surgery	577	437	55	79	06	22	81
Urology	416	428	17	21	-	02	33
Orthopedic	874	1021	46	55	02	05	321
Gynecology	13	1244	-	82	-	-	1
M.C.H	-	-	-	-	-	-	-
ENT	287	588	14	20	14	15	19
Ophthalmology	862	1600	17	59	33	76	44
Emergency	901	765	-	-	-	-	-
T.B.	259	479	09	16	-	-	1740
Dental	279	274	-	-	-	01	-
Cardiology	566	1389	76	33	02	14	-
Physiotherapy	451	253	-	-	-	-	-
Dialysis Centre	36	87	36	87	-	-	-
I.C.U.	07	17	07	17	-	-	-
Nursery	-	24	-	24	-	-	-
Out Of Region	559	744	-	-	-	-	-
L. Room	-	200	-	200	-	-	-
Staff	887	712	05	27	-	-	-
Grand Total	9875	17021	357	971	62	175	2516

Obstetrics:
No. Of deliveries: 268 Normal Deliveries: 200 C/Sections: 68
Operations:

Operation	Septic	Gynae	G. Surgery	Urology	Ortho	Eye	ENT	Emergency	Cardiac	Total
Major	-	19	50	29	33	62	18	-	06	217
Minor	75	29	38	01	17	03	07	304	04	478

Total O.P.D: 26896
Total Admissions: 1328
Total Operations: 763

Annex Table 8 Highlights of the Punjan employees social security institution

1.	Secured Workers	5,44,800
2.	Family Members of Workers	32,28,600
3.	Big Hospitals	08
4.	Mini Hospitals	6
5.	Social Security Medical Centers	39
6.	Social Security Dispensaries	134
7.	Social Security Emergency Centers	88
8.	Specialists	140
9.	Medical Officer (Male & Female)	652
10.	Nursing Staff	412
11.	Dispensers	941
12.	Other Para-Medical Staff	2,674
13.	Ambulances	133
14.	Hospital Beds	1,345

Annex Table 9 PESSI health facilities

(i) Social Security Emergency Centre

Social Security Emergency Center is the smallest PESSI medical outlet preferably established inside the premises of industrial Units in order to provide first aid to the secured workers. Main features of the Centre are:

- Workers Strength: 500
- Timings: 8:00 A.M. to 2.00 P.M.
- Facilities: First Aid management
  Minor Ailments
- Staff: Head Dispenser (1)
  Dispenser (1)
  Peon Cum Chowkidar (1)
  (Sweeper (Part Time) (1)

(ii) Social Security Dispensary

The Social Security Dispensary is established in the labour concentrated areas and it provides treatment facilities to the workers and their dependents.

- Workers Strength: 500 – 2000
- Timings: 8.00 A.M. to 2.00 P.M.
- Facilities: Treatments of all the ailments
  Ambulance facility
  Basic Laboratory Facility
  Family Planning Services
  Immunization
  Minor Operations
  Normal Deliveries
- Staff:

Medical Officer	1
Women Medical Officer	1
Dispensers	3
Dai	1
Driver	1
Naib Qasid	1
Chowkidar	1
Sweeper	1

(iii) Social Security Medical Centre

The Social Security Medical Centers basically provide all the medical care facilities available in the Social Security Dispensary. However, it works round the clock.

- Workers Strength Above 2000 Workers
- Timings Round the Clock
- Facilities
  - Treatments of all the ailments
  - Ambulance facility
  - Basic Laboratory Facility
  - Family Planning Services
  - Immunization
  - Minor Operations
  - Normal Deliveries
  - X-Ray
- Staff

(Morning Shift)

Medical Officer	1
Women Medical Officer	1
Dispensers	4
Vaccinator	1
Midwife/Dai	1
Lab Assistant	1
Junior Clerk	1
Driver	1
Mali	1
Naib Qasid	1
Chowkidar	1
Sweeper	1

(Evening Shift)

Medical Officer	1
Dispensers	2
Driver	1
Chowkidar	1
Naib Qasid	1

(iv) Mini Hospitals

Mini Hospital have been established at places where the PESSI does not have its own major hospitals and an effort has been made to provide the basic specialized facilities like Gynecology, Medicines, Pediatrics in these Mini Hospitals either through direct recruitment or by enlistment of Specialist on the approved panel. Mini Hospitals work as filter clinics and the workers are referred to the main Hospitals for specialized care not available in the Mini Hospitals.

LIST OF PESSI MINI HOSPITALS

Sr. No.	MINI HOSPITAS	BED CAPACITY
1	Social Security Mini Hospital Sheikhupura, Shahdara	10
2.	Social Security Mini Hospital Jaranwala, Faisablabad(East)	10
3	Social Security Mini Hospital Muzaffargarh, Dera Ghazi Khan	10
4.	Social Security Mini Hospital Rahim Yar Khan, Bahawalpur	10
5.	Social Security Mini Hospital Sialkot, Gujranwla (East)	10
6..	Social Security Mini Hospital Gujranwala (West)	10

(v) Main Hospitals

Main Hospitals have been established with the intent to provide tertiary care to the referred patients.

FACILITIES AVAILABLE IN PESSI MAIN HOSPITALS

General Surgery	Cardiac Surgery	Renal Transplant
Dental Surgery	Gynecology & Obstetrics	Pediatrics
Dermatology	ENT	Eye
Psychiatry	Physiotherapy	Medicine
Nephrology	Cardiology	Urology
Orthopedics	Radiology	T.B. & Chest Diseases
Vaccinations	Blood Bank	Family Planning Services

LIST OF PESSI MAIN HOSPITALS

Sr. No.	MAIN HOSPITAL	BED CAPACITY
1.	Social Security Hospital, Multan Road Lahore	610
2	Social Security Hospital, Kot Lakhpat, Lahore ,Feroze Pur Road Lahore	30
3	Social Security Hospital,Sahdara, G.T. Road, More Shahdara ,Lahore	30
4	Social Security Hospital, Faisalabad, Susan Road Madina Town, Faisalabd	300
5	Khawaja Fareed Social Security Hospital, Multan Vehari Road Multlan	50
6	Social Security Hospital,Gujranwala, Model Town, Gujranwla	100
7	Social Security Hospital, I-12/ Khyban Road, Islamabad	200
8	Social Security Hospital, Jauharad, Sargodha Region	25

Annex Table 10 Essential drugs/Vaccines/Supplies

Essential drugs/ vaccines/supplies		Data filled	% Data Filled	Same source	% Same source	Correct	% Correct
A. BCG Vaccine (dose)	Received	94/124	75.8	55/94	58.5	21/94	22.3
	Issued for care	95/124	76.6	55/95	57.9	25/95	26.3
	Discarded	86/124	69.4	43/86	50.0	22/86	25.6
	Closing Balance	93/124	75.0	53/93	57.0	29/93	31.2
	Days out of Stock	50/124	40.3	26/50	52.0	20/49	40.8
B. DPT vaccine (dose)	Received	93/124	75.0	53/93	57.0	21/93	22.6
	Issued for care	93/124	75.0	52/93	55.9	25/93	26.9
	Discarded	84/124	67.7	39/84	46.4	21/84	25.0
	Closing Balance	92/124	74.2	50/92	54.3	27/91	29.7
	Days out of Stock	48/124	38.7	24/48	50.0	18/47	38.3
C. Polio Vaccine (dose)	Received	94/124	75.8	54/94	57.4	22/94	23.4
	Issued for care	95/124	76.6	55/95	57.9	25/95	26.3
	Discarded	86/124	69.4	43/86	50.0	23/86	26.7
	Closing Balance	94/124	75.8	54/94	57.4	28/93	30.1
	Days out of Stock	50/124	40.3	26/50	52.0	20/49	40.8
D. TT Vaccine (dose)	Received	94/124	75.8	54/94	57.4	23/94	24.5
	Issued for care	95/124	76.6	54/95	56.8	25/95	26.3
	Discarded	87/124	70.2	44/87	50.6	22/87	25.3
	Closing Balance	94/124	75.8	54/94	57.4	30/93	32.3
	Days out of Stock	51/124	41.1	27/51	52.9	19/50	38.0
E. Measles Vaccine (dose)	Received	94/124	75.8	54/94	57.4	23/94	24.5
	Issued for care	95/124	76.6	53/95	55.8	24/95	25.3
	Discarded	87/124	70.2	45/87	51.7	20/87	23.0
	Closing Balance	94/124	75.8	54/94	57.4	27/93	29.0
	Days out of Stock	50/124	40.3	28/50	56.0	20/49	40.8
F. DT Vaccine (dose)	Received	81/124	65.3	40/81	49.4	19/81	23.5
	Issued for care	80/124	64.5	38/80	47.5	20/80	25.0
	Discarded	75/124	60.5	34/75	45.3	18/75	24.0
	Closing Balance	78/124	62.9	36/78	46.2	19/77	24.7
	Days out of Stock	47/124	37.9	22/47	46.8	14/46	30.4

G. Syringes (piece)	Received	79/124	63.7	42/79	53.2	19/79	24.1
	Issued for care	78/124	62.9	40/78	51.3	21/78	26.9
	Discarded	66/124	53.2	35/66	53.0	18/67	26.9
	Closing Balance	78/124	62.9	41/78	52.6	25/77	32.5
	Days out of Stock	50/124	40.3	24/50	48.0	15/49	30.6
H. Needles (dose)	Received	63/124	50.8	26/63	41.3	18/63	28.6
	Issued for care	62/124	50.0	23/62	37.1	17/62	27.4
	Discarded	57/124	46.0	21/57	36.8	15/56	26.8
	Closing Balance	60/124	48.4	24/60	40.0	19/60	31.7
	Days out of Stock	42/124	33.9	16/42	38.1	12/42	28.6
I. Oral Contraceptive (cycle)	Received	54/124	43.5	17/54	31.5	13/54	24.1
	Issued for care	55/124	44.4	17/55	30.9	13/55	23.6
	Discarded	49/124	39.5	12/49	24.5	8/49	16.3
	Closing Balance	56/124	45.2	19/56	33.9	12/55	21.8
	Days out of Stock	33/124	26.6	10/33	30.3	6/34	17.6
J. Condoms (piece)	Received	52/124	41.9	17/52	32.7	13/52	25.0
	Issued for care	54/124	43.5	17/53	32.1	13/53	24.5
	Discarded	47/124	37.9	12/47	25.5	10/47	21.3
	Closing Balance	55/124	44.4	19/55	34.5	14/55	25.5
	Days out of Stock	34/124	27.4	10/34	29.4	6/34	17.6
K. Inj. Contraceptive (dose)	Received	52/124	41.9	17/52	32.7	13/52	25.0
	Issued for care	54/124	43.5	18/53	34.0	14/54	25.9
	Discarded	46/124	37.1	12/46	26.1	9/46	19.6
	Closing Balance	55/124	44.4	19/55	34.5	16/55	29.1
	Days out of Stock	35/124	28.2	10/35	28.6	6/35	17.1
L. IUDs (piece)	Received	52/124	41.9	18/52	34.6	15/52	28.8
	Issued for care	54/124	43.5	18/54	33.3	15/54	27.8
	Discarded	47/124	37.9	13/47	27.7	10/47	21.3
	Closing Balance	55/124	44.4	20/55	36.4	17/55	30.9
	Days out of Stock	35/124	28.2	10/36	27.8	9/35	25.7
M. ORS (packet)	Days out of Stock	98/124	79.0	81/98	82.7	65/98	66.3
N. Cotrimoxazole (tablet)	Days out of Stock	99/124	79.8	80/99	80.8	66/99	66.7
O. Cotrimoxazole syrup (bottle)	Days out of Stock	101/124	81.5	83/101	82.2	61/101	60.4

P. Chloroquine (tablet)	Days Stock	out	of 99/124	79.8	80/99	80.8	58/99	58.6
Q. Primaquine (tablet)	Days Stock	out	of 101/124	81.5	75/101	74.3	57/101	56.4
R. Iron Tablets (tablet)	Days Stock	out	of 101/124	81.5	79/101	78.2	54/101	53.5
S. Folate Tablets (tablet)	Days Stock	out	of 99/124	79.8	77/99	77.8	43/98	43.9
T. Streptmycin (vial)	Days Stock	out	of 98/124	79.0	76/98	77.6	53/97	54.6
U. Isoniazid (INH)	Days Stock	out	of 97/124	78.2	74/97	76.3	50/96	52.1
V. INH + Tb1 (tablet)	Days Stock	out	of 98/124	79.0	71/98	72.4	46/97	47.4
W. Ziehl-Nielsen (bottle)	Days Stock	out	of 96/124	77.4	68/96	70.8	45/96	46.9

Annex Table 11 Budget and Expenditure of EDOH, Swabi NWFP for 2002-2003

BUDGET AND EXPENDITURE OF EXECUTIVE DISTRICT OFFICER (HEALTH), SWABI
(INCLUDING DHQ HOSPITAL SWABI AND TBC SWABI)

NAME OF INSTITUTION	BUDGET			EXPENDITURE		
	SALARY	NON-SALARY		SALARY	NON-SALARY	
DHQ Hospital, Swabi	10,195,890	2,582,000		9,649,586	2,574,724	
Admin EDOH	1,885,380	470,300		1,772,898	355,329	
Civil Hospital	5,299,338	1,476,600		5,145,906	1,244,916	
RHC	2,893,960	733,200		2,781,476	588,576	
BHU	17,493,762	3,625,730		16,302,953	3,503,721	
Civil Dispensary	1,876,441	361,700		2,009,928	345,969	
MCHC	458,241	101,500		456,457	83,871	
Malaria	1,887,571	50,900		1,910,393	49,295	
EPI	3,481,370	72,300		3,471,821	66,650	
D/F/S	429,435	108,500		495,929	101,486	
TBC	422,762	284,200		412,357	281,244	
TOTAL	46,324,150	9,866,930	56,191,080	44,409,704	9,195,781	53,605,485

Annex Table 12 Sample of Money Receipt Statement by the EDOH Office, Swabi

RECEIPT OF EDOH SWABI

		DHQ HOSPITAL	TBC	TOTAL
OPD	718,979	529,824	28,199	1,277,002
INDOOR	21,811	143,430	-	165,241
X-RAY	76,969	92,853	-	169,822
BLOOD BANK	-	7,560	-	7,560
LABORATORY	223,285	221,139	-	444,424
ULTRASOUND	-	321,516	-	321,516
AMBULANCE	63,314	99,848	-	163,162
DRUG LICENSE FEE	80,150	-	-	80,150
ECG	-	115,688	-	115,688
Miscellaneous	145,907	45,361	-	191,268
TBC	28,199	-		
DHQ HOSPITAL	1,577,219	1,577,219	28,199	
	2,935,833			2,935,833

Annex Table 13 Permanent register of vaccination

Team/Centre: _____ City./U.C S: _____ District:_____

Remarks	Date of Vaccination																Date of Birth	Parentage & Address	Name	Card No.	S.No.
	T.T					Booster		M.S.L	D.P.T			O.P.V.				B.C.G					
		IV		II	I	O.P.T	O.P.V		III	II	I	III	II	I	Birth						

Annex Table 14 Daily vaccination register

Team/Centre _____City /Distt._____

Remarks/ Signature	No. of O.R.S Packet	Detail of Vaccine against Diseases						Permanent Address. (If not available)/ Husband's Occupation	Date of Birth	Parent/ Husband's Name.	Name	Card No.	S.No.
		T.T	D.T	M.S.L	D.P.T	O.P.V.	B.C.G						

Annex Table 15 Voucher for receiving vaccines from the District Office

EXPANDED PROGRAMME ON IMMUIZATION PUNJAB
DISTRICT RAWALPINDI

Voucher No._____
Dated: _____

Received the following epi vaccines as per quantity shown against each items from district office Rawalpindi

Issued: _____ Through: _____

S.No	Vaccine	Demand	Issue	Temp When Issued	Expiry Date	Batch No	Remarks
1.	BCG With saline						
2.	Measles –do-						
3.	Polio with Dropper						
4.	DPT						
5.	TT						
6.	HBV						
7.	DPT S/N						
8.	EPI Card						
9.	BCG S/N						

Instructions:

1. Go straight to your office and keep the vaccine in the refrigerator, Polio and Measles Vaccine in the Deep Freezer Temp -20.
2. Vaccine Carrier Should not be opened during transit,(3). Do not sit on the vaccine carrier(4) Do not keep the vaccine in the sun
3. Ice packs must be kept in Frozen Condition along with vaccine during transit/Received. (6) All the entries must be made on the stock register.

Issued by: _____ C/S _____ Received by: _____

Annex Table 16 Monthly EPI Report

PUNJAB HEALTH DEPARTMENT
OFFICE OF THE DISTRICT OFFICER (HEALTH0
RAWALPINDI.

MONTHLY VACCINATION REPORT
VACCINES, SYRINGES STOCK POSITION

MONTH :_____ (2002) UC/WARD No. _____
TEHSIL_____
Fixed Center: _____ Number of out reach teams: _____

Vaccination	0-6 Month	7-11 Month	Total 0-11 Month	12-23 Month	Total Vaccination
BCG					
DPT-I					
DPT-II					
DPT-II					
OPV-0					
OPV-I					
OPV-II					
OPV-III					
OPV-IV					
HBV Vaccine I					
HBV II					
HBV III					
MEASLE					
I-IMMUNIZED					

DESCRIPTION	PREGNANT LADIES	CHILD BEARING AGE WOMEN	TOTAL
TT-I			
TT-II			
TT-III			
TT-IV			

VISITS PAID DURIGN THE MONTH

	DGHS	EDOH	DOH	DDOH	CDCO	DSV	CSV	ASV	CDCT	IV	PREV	TOTAL
Health Facility												
Urban Teams												
Rural Teams												
Total												

SYRINGES STOCK POSITION

	Balance	Received	Total	Used	Wasted	TOTAL	Balance
BCG							
DPT							
HBV							
POLIO							
MEASLE							
T.T							
Syringes 26 G							
Syringes 24 G							

VACCINATOR (HEALTH)

DISTRICT OFFICER

RAWALPINDI

Annex Table 17 Monthly EPI defaulter list by vaccinator

MONTHLY DEFAULTERS LIST OF VACCINATOR

U/C———————— HEALTH CENTER———————TEHSIL ———————— DIST: ————————

No of Children not Vaccinated BCG ———OPV-O——— DPT-I———DPT-II———DPT-III ————————

OPV-I ——— OPV-II ——— OPV-III——— HBV-I——— HBV-II ——— HBV-III——— Measles ———

S.No	Name of Child	Father Name	Age/Date of Birth	Complete Home Address	Card No.	Name of Vaccine /Not Utilized	Ex-Date of Vaccination	Vaccination Date
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

Name of Vaccinator _____ Signature _____ ASV Name _____ Signature _____ DDHO Signature _____

Annex Table 18 Report of district epi staff & logistics status

No. of Tehsils	No. of UCs	District status of Vaccinators					District status of Inspectors Vaccination				District status of ASVs				District status of CSVs/DSVs			
		Sanction Posts	Working at Present	Vacant Posts	Substituted staff as vaccinator	New posts required	Sanction Post	Working at Present	Vacant Posts	New posts required	Sanction Post	Working at Present	Vacant Posts	New posts required	Sanction Posts	Working at Present	Vacant Posts	New posts required

Total No. of FLCF	FLCF Working as EPI center	Type of Cold Chain available	No. of cold Chain available at FLCF	Type of cold Chain available at Tehsil stores	No. of cold Chain Available at Tehsil stores	Type of cold Chain Available at District stores	No. of cold chain Available at District stores	No. of cold chain Out of order in district	
								Repairable	irreparable
		Refrigerator		Refrigerator		Refrigerator			
		ILRs		ILRs		ILRs			
		TCW		TCW		TCW			
		Deep Freezers		Deep Freezers		Deep Freezers			
		Cold Boxes		Cold Boxes		Cold Boxes			
		Carriers for FLCF		Vaccine Carriers		Vaccine Carriers			
		Carriers for Field staff							

Sr.	Vaccines	Total Target Population	last issue From Prov. EPI stores	Last Quantity Received		Balance in the District		Recent Requirement	
				Doses	Vials	Doses	Vials	Doses	Vials
1	BCG								
2	DPT								
3	OPV								
4	HBV								
5	Measles								
6	TT								
	Syringes	Total Target population	Last issue From Prov. EPI stores	Last Quantity Received		Balance in the District		Recent Requirement	
7	Syringes 27 G								
8	Syringes 24 G								
9	Syringes 2cc								
10	Syringes 5 CC								

Executive District Officer (H)

Office Phone:
Office Fax:

Annex Table 19 Monitoring checklist for EPI supervisors

[illegible]NG CHECKLIST FOR EPI SUPERVISORS

Name of UC _____ Name of Vaccinator / LHW _____ Village / Locality _____ Date _____ Facility Visit

Time ___

Name _____

RHC/BHU/THQ/ DHQ/ MCH

Vaccinators / LHWs Performance

(a) Outreach activity

Present in the Designated area (Y/N)	Mosque Announcement (Y/N)	# Home Visit	# Registration of Pregnant women	# Registration of newborns	Defaulters list (Prepared & #)	EPI Cards (Y/N)	Daily Vaccination Registers (Y/N)	Safety Boxe (Y/N)

(b) Area /House Immunization coverage evaluation by visiting supervisor

				BCG / Date		OPV-0 / Date		DPT-1/ OPV-1/ HBV-1/ Date		DPT-11/OPV-11/ HBV-11/ Date		DPT-III/OPV-III/HBV-III /Date		Measles/Date	
Child 's Name	Father's Name	Age	Card No.	Target Group (0-60 days)	Defaulters	Target Group Within 40 days)	Defaulters	Target Group (6-10 weeks)	Defaulters	Target Group (1014 weeks)	Defaulters	Target Group (14-18 weeks)	Defaulters	Target Group (9-10 months)	Defaulters
0-11 months															
1															
2															
3															
4															
5															
6															
7															
12-23 months															
1															
2															
3															
4															
5															
6															
7															

Vaccines	Stock Position with Batch No. & Date of Expiry		Date of Last receipt
	In Stock register	In Stores	
BCG			
DPT			
HBV			
MEASLES			
TT			

Total No. of recent target achieved ____ Total No. of defaulters covered ____ Total immunization coverage ____

Note: During area/house evaluation supervisor will not 7 children from 0-11 months & 7 children 12-23 months of age.

CBA's Name	Husband's Name	Age	Card. No.	TT-I	TT-II	TT-III	TT-IV	TT-V	EDO	Date of injection
1										
2										
3										
4										
5										
6										
7										

Tour Observations

(C) Vaccine & cold chain.

Icepacks available	Vaccines kept dry	Vaccines available in No.						No. of AD-syringes available	
		BCG	OPV	DPT	HBV	Measles	TT	24 G	27 G

(d) Vaccination Services Coverage Report on day of Visit:

Target of Day	BCG	DPT			OPV			HBV			Measles			TT		
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III

Defaulters _____ Target _____ Total Immunization Coverage _____

Name of Visiting Supervisor _____ Designation _____ Signature _____

- Cold Chain
- Correct Position
- Plug scured
- Stabilizer attached
- Dial thermometer available
- Vacc. /Temperature chart maintaine
- Temperature at the time of visit
- Thermostat correctly adjusted
- Vaccines stored within limits
- Vaccines properly placed
- Linked with automatic generator
- Generator in working order
- Power break down arrangement
- Stock register available
- Stock register entries upto date

Annex Table 20 Immediate notification of acute flaccid paralysis (AFP) case

IMMEDIATE NOTIFICATION OF ACUTE FLACCID PARALYSIS (AFP) CASE

(One Form in Duplicate for each Case to be Completed)

To,

The District Health Officer

(Tel:

I hereby notify the occurrence of a case of Acute Flaccid Paralysis.

PATIENT'S NAME							
FATHER'S NAME							
COMPLETE ADDRESS:							
HOUSE NO:							
STREET VILLAGE MOZA:							
UNION COUNCIL:							
CITY TEHSIL TAULKA:							
DISTRICT:							
Date of Birth OR Age in Months	Day	Month	Year	Age in Month	Sex	Male	Female
Date of Case Detection	Day	Month	Year	Date of Onset Weakness/Paralysis	Day	Month	Year

The case was referred to:

The case is admitted in:

NOTTIFIED BY:

SIGNATURE:

NAME:

DESIGNATION:

Date: ADDRESS:

NOTE: Thank you for notifying the AFP case. Please inform immediately your DHO also by telephone.

Annex Table 21 Weekly Zero Report for AFP Surveillance

PEI PAKISTAN
Weekly Zero Report for AFP Surveillance

Week No: From date----------to----------

Name of Health Facility _____

District: _____ Province: _____

I have seen and reported _____ case(s) of AFP during this week

Destination: _____ Signature: _____

(Please send this report to DHO office by every Friday)

PEI PAKISTAN
Weekly Zero Report for AFP Surveillance

Week No: From date----------to----------

Name of Health Facility _____

District: _____ Province: _____

I have seen and reported _____ case(s) of AFP during this week

Destination: _____ Signature: _____

(Please send this report to DHO office by every Friday)

Annex Table 22 Line –list of acute flaccid paralysis

LINE –LIST OF ACUTE FLACCID PARALYSIS

DISTRICT: _____ PROVINCE:_____ WEEK: MONTH:
YEAR:

Epid.No	Name of Case	Sex	Age (M)	Address	Date of			Fever at onset Y/N	Rapid paralysis Y/N	Assymetry Y/N	OPV Doses		STOOL SAMPLES				LAB Results				60 Days follow up		Classification			
					Onset of Paralysis	Notification	Investigation				Routine	Supplemental	Date& condition		Date		S1		S2		Date	Residual Para/ weak	Confirmed	Compt	Discard	Final Diagnosis
													S1	S2	Sent to Lab	Result		ITSD	Preliminary	ITSD						

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PEI PAKISTAN
District Weekly Zero Report for AFP Surveillance

Name of District: No. Health Facilities submitted report Total No. of Health Facilities:
---------- _____ _____

Year:----------

S.NO	Name of Health Facility/Site	WEEKS (Put Y if the report is received in time and X if the report is not received in time)																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Total No. of Health Facilities Submitted Report																											
% of Health Facilities Submitted Report (Completeness)																											
Total No. of Health Facilities Submitted Report in Time																											
% of Health Facilities Submitted Report in Time (Timeliness)																											

Annex Table 23 Provincial Weekly Zero Report for AFP Surveillance at Provincial

Name of Province:_____ Date From:_____
to:_____
No. of Districts: _____ Month: _____
Number of Active Surveillance Sites: _____ Year: _____

	Week No.		1		2		3		4		5	
S.No	**Name of District**	No. Reporting Sites	% of Health Facilities Submitted Report (Timeliness)	% of Health Facilities Submitted Report(Completeness)	% of Health Facilities Submitted Report(Timeliness)	% of Health Facilities Submitted Report(Completeness)	% of Health Facilities Submitted Report(Timeliness)	% of Health Facilities Submitted Report in Time (Completeness)	% of Health Facilities Submitted Report(Timeliness)	% of Health Facilities Submitted Report(Completeness)	% of Health Facilities Submitted Report(Timeliness)	% of Health Facilities Submitted Report(Completeness)
Provincial Total	Submitted Report (Completeness)											
	Submitted Report (Completeness)											
	No. of Health Facilities Submitted Report											
	Submitted Report (Timeliness)											

Signature of Provincial Manager EPI: _____ Date: _____

Annex Table 24 Provincial weekly active surveillance report for AFP surveillance

PEI PAKISTAN

Provincial Weekly Active Surveillance Report for AFP Surveillance

Name of Province: _____ Total No. of District:_____

Number of Active Surveillance Sites:_____

Month:_____ Year:_____

	WEEKS								
	Week No.		1		2		3	4	5
S.No	**Name of District**	No. Active Surveillance Sites	% of Health Facilities Visited during the week	% of Health Facilities Visited during the week	% of Health Facilities Visited during the week	% of Health Facilities Visited during the week	% of Health Facilities Visited during the week	% of Health Facilities Visited during the week	% of Health Facilities Visited during the week
TOTAL PROVINCE									

Signature of Provincial Manager EPI:_____ Date:_____

Annex Table 25 Malaria Monthly Surveillance Activity Report

SURVEILLANCE ACTIVITIES DISTRICT RAWALPINDI																								
TEHSIL	UNION COUNCIL	LOCALITIES	POPULATION	A.C.D		P.C.D				OTHE		TOTAL				B.E.R.	S.P.R.	P.I.	PROGRESSIVE TOTAL SINCE				A.S.P.R	A.P.S
				SLIDES	+VE	EXIT WORKED	SLIDES	+VE		SLIDES	+VE	SLIDES	P.V	P.F	TOTAL				SLIDES	P.V	P.F	TOTAL		
RAWALPINDI																								
TIXILA																								
MURREE																								
KOTLI SATTIAN																								
KAHUTA																								
GUJAR KHAN																								
RAWALPINDI CITY																								
TIXILA TOWN																								
MURREE TOWN																								
KAHUTA TOWN																								
GUJAR KHAN TOWN																								
DOLATE TOWN																								
TOTAL DISTRICT																								

Annex Table 26 Malaria case detection result form

COMMUNICABLE DISEASE CONTROL
(MALARIA)

GOVERNMETN OF THE PUNJAB
HEALTH DEPARTMENT

CASE DETECTION RECORD

(EVA M/2)

Total

Male	Female	Fever	Fever History	Follow Up

(FEVER CASE)

No

Code

Name of Locality …….

Name of Blood Connector……

Designation……..

Date

Examination Microscopest……...

Date……

AGE	Sex	No Examd.	PARASITES				
			V	F	Mix	I	Total
<1							
1-2							
3-4							
5-9							
10-15							
16+							
G. Total							

Annex Table 27 Malaria laboratory result record form

FIELD AND LABORATORY RESULTS

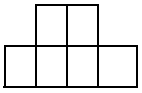
Serial NO	Block and House No	NAME OF			CASE			FEVER AT		Follow up	Date of Fever	Nature of Stey	Drug Given	Laboratory Ref. No	Microscopest Result
					AGE										
		CASE	FATHER		Year	Month	Sex	Time Of Visit	Last Month						
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

IMMIGRANT = 1 NOMAD = N
RESIDENT = R VISIT = V

Annex Table 28 C D O (MALARIA)
(EVA-M/9)

GOVERNMENT OF THE PUNJAB
HEALTH DEPARTMENT
BLOOD LABORATORY REFERANCE RECORD

Code No.



Page No Date of Receipt…. ☐ Date of Receipt…… ☐ ☐ ☐

Sr. NO	Code No.			No. of Slides	Date Blood		No. of days after collect		No. of Slides with time interval (in days) Between smear collected						
									Received ZHQ			Examined			
	S	SS	Loc		Recvd	Exam	Recvd	Exam	1-3	4-7	More	8-15	16-20	21-30	More
Record to be Prepared Sector wise					Total										
					Previous page G. Total										
					G. Total										

Annex Table 29 Maralia Report (1)

OFFICE OF THE DISTRICT OFFICER HEALTH, RAWALPINDI

FOR THE MONTH OF……..

1. ***Summary of Laboratory Activities***

a) Total Slides pending on first of the month:
b) Total Slides received during the month:
c) Total Slides Examined /Re-Examined during the month:
d) Total Slides Pending on last day of the month:
e) Total Slides Checked by senior Micropscopist:
f) Total Working days for all microscopists:
g) Total working days for microscopical work only:
h) Everage No of Slides / Micspt /Working day: Actual
.Gross

2. **Microscopist Efficiency**.

1. Syeda Raqim _____ 2. Syeda Tasnm _____
3. Tariq Mehmood _____ 4. Asghar _____
5. Mumtaz _____ 6. Israr _____
7. Iftikhar _____ 8. Iftikhar Imran _____
9. Zamir _____ 10. Naseer. _____
11. Shafqat _____ 12. Imtinan- Ur- Rehman. _____

4. **Summary of Time Lag**

Total interval between slides collection and received and exam.

Total slides			Received		Examined	
1-3	4-7	More	1-7	8-15	16-20	21-30 More
%						

5. **Summary of Positive Cases:**

6. **Summary of Positive Cases Investigation:**

7. **Radical Treatment: Total +ve Case: _____Total Treated:_____**

8. **Summary of Surveillance Results**:

Nil	1-49	50-74	75-99	100-120	More	Total.

9. **Summary of Follow up cases. Total_____ Follow up Completed _____**

10. **Vacancies: S/Micspt _____ Micspt_____ CDCI _____CDC Sup._____**

11. **Analysis of Supervisory Visits by Supervisory Staff.**

DHO _____ CDCOAE_____ CDCI _____ Others _____

12. **Supplies.**

Annex Table 30 Malaria Report (2)

OFFICE OF THE DISTRICT OFFICER (H) SR RAWALPINDI

No /CDC Dated Rawalpindi the / 220

To

The Director (CDC)
Health Services, Punjab Lahore

Subject: DISTRICT CONSOLIDATED REPORT FOR THE MONTH OF

1. Total slides collected and examined from various sources during the month are as under:

Sources	Slides	PV	PF	Mix	Total
ACD					
PCD					
Others					
Total					

2. Average number of slides examined and re-examined per microscopist per working day
   Actual _____ Gross _____
3. Total working days for microscopical work only _____
4. Total interval between slides received and taken between 1 – 7 days _____
5. Total slides interval between examined and taken between 1-15 days _____
6. Total slides checked by S. Microscopist during the month _____
7. Entomology

DISTRICT OFFICER (HEALTH)
RAWALPINDI.

No. /CDC
Copy forwarded for information to:

1. The Executive District Officer (Health) Rawalpindi.
2. The Director Malaria Central 4 West Area, Islamabad.

DISTRICT OFFICER (HEALTH)
RAWALPINDI.

Annex Table 31 Malaria Report (3)

GOVERNMENT OF THE PUNJAB
HEALTH DEPARTMENT
CDC (MALARIA)

(EVA- M/4)

DISTIRCT _____

TEHSIL _____

UNION COUNCIL _____

MONTHLY DETAILED MALARIOMETRIC ACTIVITIES REPORT FOR THE MONTH OF ……19

FROM DHO	TO DGHS
NO. 19	DL

UNION COUNCIL CODE NO.	LOCALITY CODE NO/ EXTING NO.	FOLLOW UP		ACTIVE CASE DETECTION						PASSIVE CASE DETECTION									SURVEYS ECS + MBS + GEN.					GRAND TOTAL				
		CASE TO BE FOLLOW	CASES FOLLOW	LOC EXAM	SLIDES COLLEDT	P.V	P.F	MIX	TOTAL +VE	TOTAL POSTS	POSTS WORKED	P.V	P.F	MIX	TOTAL +VE	CLINICAL CASES													
																PUO	MALARIA	TOTAL										

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Annex Table 32 Malaria Report (4)

GOVERNMENT OF THE PUNJAB,
HEALTH DEPARTMENT,
CDC (Malaria). **EVA/M-3**
FEVER CASES REPORT **S.No.**

Village/Hospital ……..F.R. Post No. ☐

S. No	Name of sick Person with Father's Name. Caste & Detailed Address	Age	Date of Slides	No. of Tab.

GOVERNMENT OF THE PUNJAB
HEALTH DEPARTMENT
CDC (Malaria).Distt. Rawalpindi **EVA/M-3**
FEVER CASES REPORT **S. No.**

Village _____ Tehsil _____ Thana _____
Type of Post _____ _____ F.R. Post No. ☐

S. No	Name of sick Person with Father's Name. Caste & Detailed Address	Age	Date of		No of Tab	Lab. Ref No	Result.
			Fever	Slide taken			

S. No.	Result

S. No.
F.R. Post No ☐
Date Slide Sent _____

Slides sent on: ☐☐☐ Slides sent on: ☐☐☐ NAME OF SENDER _____ Date _____ Sign _____

GOVERNMENT OF THE UPNJAB (EVA-M/7)
HELALTH ~~DEPARTMENT~~ (CDC MALARIA) CODE No. ☐☐☐☐

_____

RADICAL TREATMENT RECORD Lab. Ref. No._____

Locality _____ Block No. _____ House No. _____

Name of Patient _____ S.d.w/o _____ Age _____

Blood collected during _____ by _____

Date of (i) blood Collection _____ (ii) Examination _____

Blood examination result: P.f ☐ P.v ☐ P.m. ☐

DRUG PRESRIBED BY MEDICAL OFFICER			To be filled in by C.D.C. Supervisor actually administering the drug to the Patient daily.				
Day of Treatment	No. of Tablets.		Date of Treatment	Treatment given No. of Tablets		Signatures	REMARKS (Refusal, absent etc.)
	Chlor	Prima		Chlor	Prima		
Ist							
2nd							
3rd							
4th							
5th							

Treatment issued by	DHO	AE	CDCCO	Blood smear taken on the completion of treatment yes/No.
SIGNATURE				Name and Signature of C.D.C Supervisor
DATE				Date:

INSTRUCTIONS:

(1) Drugs should never be left with patients. Patient must swallow the drug Before C.D.C Official.
(2) No drug to be given empty stomach.
(3) Treatment be given continuously for prescribed days.
(4) If the drug is vomited another dosage is to be given
(5) To childrens drug should be given mixed up with sugar etc.
(6) Blood amear must be obtained at the end of treatment from the patient.

Annex Table 33 Malaria Report (5)

P U N J A B **(EVA-M/10)**
MALARIA ERADICATION PROGRAMME

WEEKLY RECORD OF BLOOD

LABORATORY

Week from_____ to _____

S L I DES E X A M I N E D																		
Date of Week																		
Name of Microscoies	EX	No + IVE	No. EX	EX	No + IVE	No. EX	EX	No + IVE	No. EX	EX	No + IVE	No. EX	EX	No + IVE	No. EX	EX	No + IVE	No. EX
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
Total																		

Records of slides for Week:

1. No. of Pending at begging week:
2. No. Received during week:
3. No. Examined during the week:
4. No. pending at he end of week.

5. No. Checked by Sr. Micro.
6. No. Sent to PRL for Checking
7. No. Re-Examined by Micro
8. No. Examined for other zones.

Remarks:_____

_____

DHO **A. ENTOMOLOGIST** **Sr. Microscopist**

Annex Table 34 Tuberculosis register

Tuberculosis Register (TB 03)

Doctor's Training Course
National Tuberculosis Control Programme

Year_____2003

									Type of Patient						Sputum examined Upper Space Result Lower space: Laboratory number						Date Treatment Stopped					
Date of Registration	District TB No.	Name (In full)	Sex M/F	Age	Address (in full)	Name of Treatment Centre	Date Start Treatment & Category	Disease Classification P/EP	New (N)	Relapse ®	Treatment and Failure (F)	Treatment after Default (D)	Transfer in (T)	Other	month	Smear at the end of: 2nd Month	3rd Month	4th Month	5th Month	6th Month	1 Cured	2 Treatment completed	3 Died	4 Failure	5 Defaulted	6 Transfer Out

Annex Table 35 Tuberculosis treatment card

SS **NATIONAL TUBERCULOSOS PROGRAMME**

TUBERCULOSOS TREATMENT CARD

Patient's Name _____ Father's/Husband's Name: _____ District TB No: _____ Date Treatment Started: _____

Address (in full): _____ Diagnostic Center: _____

Name and address of Contact Person: _____ Treatment Center: _____

Disease Classification
Pulmonary ☐ Extra –Pulmonary ☐
Site: _____

Age: _____ Sex M ☐ F ☐ BCG: no scar ☐ scar seen ☐ scar dubious ☐

Treatment supporter: _____
(Type/name): _____

Type of Patient
Treatment
New ☐ Failure ☐
Transfer in ☐ Relapse ☐
Treatment after default ☐ other ☐
Specify: _____

INTIMAL INTENSIVE PHASE

Tick appropriate box and indicate daily number of tablets and dosage of S (grams):

CAT 1

New Case ☐
(smear-pos, seriously iii
Smear-neg or extra-pulm)

☐☐☐
HR Z E(S)

H: isoniazed
R: rifampicin

CAT2

Retreatment ☐

☐☐☐☐
HR Z E S

Z: purazinamide S: streptomycin
E: ethambutol

Use following codes of drug intake in appropriate box

☐ Drugs administered under direct observation ☐ Drugs self administered ☐ Drugs not taken

Month	Results of Sputum Examination			Weight (KG)	Other Investigation (if advised)
	Lovsl Lsnotsyoty				
	Date	Lab No.	Smer Result		
0					

Day / Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

II. CONSTITUTION PHASE

CAT 1

New Case ☐
(Smear-pos, seriously iii
Smear-neg or extra-pulm)

☐ HT

OR ☐☐ daily (6 months) H E

CAT2

Retreatment ☐

☐☐ daily (5 months) HR E

Enter X whenever drugs are collected for self- supervised administration and draw a horizontal line (X_____) to indicate number of days supply given.

Treatment Out come	Date
Cured	
Treatment completed	
Died	
Failure	
Defaulted	
Transferred out	

Day / Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Remarks (side effects, chemotherapy of contacts etc):

Annex Table 36 Birth Register at Union Council Office

BIRTH REGISTER

Form A.
U/C: Dohak Khaba Tehsil: Dohak Khaba Dist : Rawalpindi Year: 2001

1	2	3	4						5	6	7	8	9	10
Reg. No	Reporting Date of Birth	Date of Birth	Gender		Father Name	Mother Name	Place of Birth	Designation	Cast	Religion	Address	Name of Child	Name of Midwife	Name /Father Name of Reporter & Signature
			M	F										
1	8/12/2001	26/9/2001	M		Zaheer Allahi S/o Noor Allahi	Najma Shaheen	Clinic	Trade	Chudary	Islam	Dohak Khaba	Amir Allahi	Zahida	Zaheer Allahi S/o Noor Allahi
2	26/12/2001	26/9/2001		F	M. Arshad S/o Haji Amam Din	Zakiya Arshad	Home	Labor	Mughal	Islam	Mahala Farooz din	Tiyba Arshad	Zahida	Amam Din S/o Fazial Din
3	26/12/2001	5/11/2001	M		M. Javid S/o M. Din	Shahzia	Home	Taylor	Kashmiri	Islam	Dohak Khaba	Raheem Javid	Shameem Bagum	M. Javid S/o M. Din Dohak Khaba
4	19/12/2001	30/11/2001		F	Kamran Shazad S/o M. Bashir	Khakshan Naz	Home	Employee		Islam	Qasimabad	Saher	Shameem	Yasmeen Kusar

Annex Table 37 Death Register at Union Council Office

DEATH REGISTER

Form B.
U/C _____ Dist Rawalpindi_____ Year_____

1	2	3	4				5	6	7	8	9	10
Reg. No	Reporting Date of Death	Date of Death	Name/Father Name:	Cast of the Deceased	Religion	Address	Father Name / Husband Name	Gender	Age	Cause of Death	Place of Death	Name /Father Name of Reporter & Signature
54	06/9/2002	28/9/2001	Farooq Sultan S/o Amir Allahi	Mughal	Islam	H# 583, St# 10 Qasimabad	Amir Allahi	Female	75 Years	Natural Death	Home	M. Ayub
55	18/9/2002	11/3/1987	Haji M.Azeem S/o Wali dad	Pathan	Islam	H#1476, St# 3 Mughal Town	Wali dad	Male	75 Years	Heart Attack	Home	M. Ayub
56	24/9/2002	05/8/2002	Aftikhar Ahmad Qazi S/o Ali Akbar	Hashmi	Islam	H#1472, St #12, Qasimabad	Ali Akbar	Male	65 Years	Heart Attack	Home	Iqbal Ahmad
57	24/9/2002	29/08/2002	Taj bibi	Bati, Rajput	Islam	H# NE/687, Muhala, Aslamabad	Sardar Khan(Late)	Female	45 Years	Disease	Home	Zafar Mahmood Qazi

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
INSTITUTION IDENTIFICATION		Identification No.							Dup						
		Institution Name							Dup		Dup	Dup	Dup		
		Province													
		Division							Dup						
		District									Dup	Dup	Dup		
		Tehshil/Taluka													
		Union Council							Dup						
		Incharge Name													
POPULATION DATA		Catchment Area Population	121/124	97.6	71/121	58.7	35/121	28.9	Dup						
		month (CA population/300) (1)	46/124	37.1	20/46	43.5	9/46	19.6							
		Number of Births Registered (2)	101/124	81.5	70/101	69.3	43/100	43							
		Number of Newborns Weighed (3)	97/124	78.2	66/97	68	36/96	37.5	Dup						
		Number of Low Birth Weight Babies (4)	92/124	74.2	55/92	59.8	45/92	48.9	Dup						
MEETINGS		Number of Staff Meetings held	101/124	81.5	42/100	42	21/101	20.8							
		Meetings with TBAs	97/124	78.2	38/96	39.6	23/97	23.7							
		Meetings with CHWs	100/124	80.6	42/99	42.4	24/100	24							
		Meetings with Health Committee or Community Leaders	94/124	75.8	37/93	39.8	23/94	24.5	Dup						
HEALTH EDUCATION SESSIONS		Health Education Sessions in Institution	101/124	81.5	37/100	37	22/101	21.8							
		Health Education Sessions in Schools	96/124	77.4	32/95	33.7	22/96	22.9	Dup						
		Health Education Sessions in Community	95/124	76.6	33/94	35.1	21/95	22.1							
HOME VISITS		Home visits by Facility Personnel	93/124	75	37/92	40.2	19/93	20.4							
ESSENTIAL VACCINES	A. BCG Vaccine (dose)	Received	94/124	75.8	55/94	58.5	21/94	22.3		Dup					
		Issued for care	95/124	76.6	55/95	57.9	25/95	26.3		Dup					
		Discarded	86/124	69.4	43/86	50	22/86	25.6		Dup					
		Closing Balance	93/124	75	53/93	57	29/93	31.2		Dup					
		Days out of Stock	50/124	40.3	26/50	52	20/49	40.8							
	B. DPT vaccine (dose)	Received	93/124	75	53/93	57	21/93	22.6		Dup					

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
		Issued for care	93/124	75	52/93	55.9	25/93	26.9		Dup					
		Discarded	84/124	67.7	39/84	46.4	21/84	25		Dup					
		Closing Balance	92/124	74.2	50/92	54.3	27/91	29.7		Dup					
		Days out of Stock	48/124	38.7	24/48	50	18/47	38.3							
	C. Polio Vaccine (dose)	Received	94/124	75.8	54/94	57.4	22/94	23.4		Dup					
		Issued for care	95/124	76.6	55/95	57.9	25/95	26.3		Dup					
		Discarded	86/124	69.4	43/86	50	23/86	26.7		Dup					
		Closing Balance	94/124	75.8	54/94	57.4	28/93	30.1		Dup					
		Days out of Stock	50/124	40.3	26/50	52	20/49	40.8							
	D. TT Vaccine (dose)	Received	94/124	75.8	54/94	57.4	23/94	24.5		Dup					
		Issued for care	95/124	76.6	54/95	56.8	25/95	26.3		Dup					
		Discarded	87/124	70.2	44/87	50.6	22/87	25.3		Dup					
		Closing Balance	94/124	75.8	54/94	57.4	30/93	32.3		Dup					
		Days out of Stock	51/124	41.1	27/51	52.9	19/50	38							
	E. Measles Vaccine (dose)	Received	94/124	75.8	54/94	57.4	23/94	24.5		Dup					
		Issued for care	95/124	76.6	53/95	55.8	24/95	25.3		Dup					
		Discarded	87/124	70.2	45/87	51.7	20/87	23		Dup					
		Closing Balance	94/124	75.8	54/94	57.4	27/93	29		Dup					
		Days out of Stock	50/124	40.3	28/50	56	20/49	40.8							
	F. DT Vaccine (dose)	Received	81/124	65.3	40/81	49.4	19/81	23.5							
		Issued for care	80/124	64.5	38/80	47.5	20/80	25							
		Discarded	75/124	60.5	34/75	45.3	18/75	24							
		Closing Balance	78/124	62.9	36/78	46.2	19/77	24.7							
		Days out of Stock	47/124	37.9	22/47	46.8	14/46	30.4							
ESSENTIAL SUPPLIES	G. Syringes (piece)	Received	79/124	63.7	42/79	53.2	19/79	24.1							
		Issued for care	78/124	62.9	40/78	51.3	21/78	26.9							
		Discarded	66/124	53.2	35/66	53	18/67	26.9							
		Closing Balance	78/124	62.9	41/78	52.6	25/77	32.5							
		Days out of Stock	50/124	40.3	24/50	48	15/49	30.6							
	H. Needles (dose)	Received	63/124	50.8	26/63	41.3	18/63	28.6							
		Issued for care	62/124	50	23/62	37.1	17/62	27.4							
		Discarded	57/124	46	21/57	36.8	15/56	26.8							
		Closing Balance	60/124	48.4	24/60	40	19/60	31.7							
		Days out of Stock	42/124	33.9	16/42	38.1	12/42	28.6							
	I. Oral Contraceptive	Received	54/124	43.5	17/54	31.5	13/54	24.1							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	(cycle)	Issued for care	55/124	44.4	17/55	30.9	13/55	23.6							
		Discarded	49/124	39.5	12/49	24.5	8/49	16.3							
		Closing Balance	56/124	45.2	19/56	33.9	12/55	21.8							
		Days out of Stock	33/124	26.6	10/33	30.3	6/34	17.6							
	J. Condoms (piece)	Received	52/124	41.9	17/52	32.7	13/52	25							
		Issued for care	54/124	43.5	17/53	32.1	13/53	24.5							
		Discarded	47/124	37.9	12/47	25.5	10/47	21.3							
		Closing Balance	55/124	44.4	19/55	34.5	14/55	25.5							
		Days out of Stock	34/124	27.4	10/34	29.4	6/34	17.6							
	K. Inj. Contraceptive (dose)	Received	52/124	41.9	17/52	32.7	13/52	25							
		Issued for care	54/124	43.5	18/53	34	14/54	25.9							
		Discarded	46/124	37.1	12/46	26.1	9/46	19.6							
		Closing Balance	55/124	44.4	19/55	34.5	16/55	29.1							
		Days out of Stock	35/124	28.2	10/35	28.6	6/35	17.1							
	L. IUDs (piece)	Received	52/124	41.9	18/52	34.6	15/52	28.8							
		Issued for care	54/124	43.5	18/54	33.3	15/54	27.8							
		Discarded	47/124	37.9	13/47	27.7	10/47	21.3							
		Closing Balance	55/124	44.4	20/55	36.4	17/55	30.9							
		Days out of Stock	35/124	28.2	10/36	27.8	9/35	25.7							
ESSENTIAL Drugs	M. ORS (packet)	Days out of Stock	98/124	79	81/98	82.7	65/98	66.3							
	N. Cotrimoxazole (tablet)	Days out of Stock	99/124	79.8	80/99	80.8	66/99	66.7							
	O. Cotrimoxazole syrup (bottle)	Days out of Stock	101/124	81.5	83/101	82.2	61/101	60.4							
	P. Chloroquine (tablet)	Days out of Stock	99/124	79.8	80/99	80.8	58/99	58.6							
	Q. Primaquine (tablet)	Days out of Stock	101/124	81.5	75/101	74.3	57/101	56.4							
	R. Iron Tablets (tablet)	Days out of Stock	101/124	81.5	79/101	78.2	54/101	53.5							
	S. Folate Tablets (tablet)	Days out of Stock	99/124	79.8	77/99	77.8	43/98	43.9							
	T. Streptmycin (vial)	Days out of Stock	98/124	79	76/98	77.6	53/97	54.6							
	U. Isoniazid (INH)	Days out of Stock	97/124	78.2	74/97	76.3	50/96	52.1							
	V. INH + Tb1 (tablet)	Days out of Stock	98/124	79	71/98	72.4	46/97	47.4							
	W. Ziehl-Nielsen (bottle)	Days out of Stock	96/124	77.4	68/96	70.8	45/96	46.9							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
COMMENTS/ RECOMMENDATIONS/ACHIEVEMENTS															
CURATIVE CARE															
New Cases (all diseases by age group)	Male	< 1 year of age	123/124	99.2	106/123	86.2	87/123	70.7							
		1-4 years of age	123/124	99.2	106/123	86.2	86/123	69.9							
		5-14 years of age	123/124	99.2	106/123	86.2	83/123	67.5							
		15-44 years of age	123/124	99.2	106/123	86.2	83/123	67.5							
		>=45 years of age	122/124	98.4	105/122	86.1	85/122	69.7							
		Total	122/124	98.4	105/122	86.1	79/122	64.8							
	Female	< 1 year of age	123/124	99.2	105/123	85.4	85/123	69.1							
		1-4 years of age	123/124	99.2	105/123	85.4	85/123	69.1							
		5-14 years of age	123/124	99.2	106/123	86.2	85/123	69.1							
		15-44 years of age	123/124	99.2	106/123	86.2	84/123	68.3							
		>=45 years of age	122/124	98.4	105/122	86.1	84/122	68.9							
		Total	121/124	97.6	106/121	87.6	82/121	67.8							
	Total New Cases	< 1 year of age	113/124	91.1	94/113	83.2	79/113	69.9							
		1-4 years of age	113/124	91.1	95/ 113	84.1	79/113	69.9							
		5-14 years of age	113/124	91.1	95/113	84.1	78/113	69							
		15-44 years of age	113/124	91.1	95/113	84 .1	76/113	67.3							
		>=45 years of age	112/124	90.3	94/112	83.9	79/112	70.5							
		Total	121/124	97.6	102/121	84.3	77/121	63.6							
	Old Cases Total		101/124	81.5	79/101	78.2	59/101	58.4							
	Total Visits (3.+4.)		101/124	81.5	80/101	79.2	58/101	57.4							
	Cases Referred		68/124	54.8	49/68	72.1	34/68	50							
Health Problems (Priority diseases)	101. Diarrhoea	< 1 year of age	122/124	98.4	103/122	84.4	95/122	77.9	Dup						
		1-4 years of age	123/124	99.2	103/123	83.7	95/123	77.2	Dup						
		>=5 years of age	123/124	99.2	103/123	83.7	94/123	76.4	Dup						
		Total	122/124	98.4	101/122	82.8	89/122	73							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	102. Dysntery	< 1 year of age	120/124	96.8	100/121	82.6	90/121	74.4							
		1-4 years of age	121/124	97.6	101/122	82.8	91/122	74.6							
		>=5 years of age	121/124	97.6	102/121	84.3	91/121	75.2							
		Total	119/124	96	100/119	84	86/119	72.3							
	103. Acute respiratory infections (ARI)	< 1 year of age	122/124	98.4	103/122	84.4	93/122	76.2	Dup						
		1-4 years of age	123/124	99.2	103/123	83.7	90/123	73.2	Dup						
		>=5 years of age	123/124	99.2	102/123	82.9	93/123	75.6	Dup						
		Total	122/124	98.4	102/122	83.6	89/122	73							
	104. Fever (clinical malaria)	< 1 year of age	115/124	92.7	93/115	80.9	84/115	73	Dup						
		1-4 years of age	119/124	96	95/119	79.8	87/119	73.1	Dup						
		>=5 years of age	123/124	99.2	101/123	82.1	85/123	69.1	Dup						
		Total	122/124	98.4	101/122	82.8	86/122	70.5							
	105. Cough more than 2 weeks	< 1 year of age	99/124	79.8	69/99	69.7	64/99	64.6			Dup				
		1-4 years of age	99/124	79.8	69/99	69.7	65/99	65.7			Dup				
		>=5 years of age	99/124	79.8	70/99	70.7	62/99	62.6			Dup				
		Total	97/124	78.2	68/97	70.1	61/97	62.9			Dup				
	106. Suspected Cholera	< 1 year of age	91/124	73.4	62/90	68.9	55/90	61.1							
		1-4 years of age	90/124	72.6	61/89	68.5	55/89	61.8							
		>=5 years of age	89/124	71.8	60/88	68.2	56/88	63.6							
		Total	87/124	70.2	59/87	67.8	54/87	62.1							
	107. Suspected Meningococcal Meningitis	< 1 year of age	91/124	73.4	60/90	66.7	54/90	60							
		1-4 years of age	89/124	71.8	58/88	65.9	54/88	61.4							
		>=5 years of age	89/124	71.8	58/88	65.9	55/88	62.5							
		Total	87/124	70.2	57/87	65.6	53/87	60.9							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	108. Poliomyelitis	< 1 year of age	90/124	72.6	60/89	67.4	54/89	60.7							
		1-4 years of age	88/124	71	58/87	66.7	54/87	62.1							
		>=5 years of age	88/124	71	58/87	66.7	55/87	63.2							
		Total	86/124	69.4	57/86	66.3	53/86	61.6							
	109. Measles	< 1 year of age	90/124	72.6	59/89	66.3	53/89	59.6							
		1-4 years of age	88/124	71	60/87	69	55/87	63.2							
		>=5 years of age	88/124	71	59/87	67.8	55/87	63.2							
		Total	87/124	70.2	59/87	67.8	52/87	59.8							
	110. Neonatal tetanus	< 1 year of age	87/124	70.2	59/87	67.8	52/87	59.8							
		Total	85/124	68.5	56/85	65.9	52/85	61.2							
	111. Diphtheria	< 1 year of age	88/124	71	59/87	67.8	53/87	60.9							
		1-4 years of age	81/124	65.3	52/80	65	49/80	61.3							
		>=5 years of age	89/124	71.8	59/88	67	55/88	62.5							
		Total	85/124	68.5	56/85	65.9	53/85	62.4							
	112. Whooping Cough	< 1 year of age	90/124	72.6	60/89	67.4	54/89	60.7							
		1-4 years of age	88/124	71	58/87	66.7	54/87	62.1							
		>=5 years of age	88/124	71	58/87	66.7	55/87	63.2							
		Total	86/124	69.4	57/86	66.3	53/86	61.6							
	113. Goiter	< 1 year of age	90/124	72.6	60/89	67.4	54/89	60.7							
		1-4 years of age	88/124	71	58/87	66.7	54/87	62.1							
		>=5 years of age	88/124	71	59/87	67.8	56/87	64.4							
		Total	86/124	69.4	58/86	67.4	54/86	62.8							
	114. Suspected Viral Hepatitis	< 1 year of age	90/124	72.6	61/90	67.8	55/90	61.1							
		1-4 years of age	89/124	71.8	61/89	68.5	56/89	62.9							
		>=5 years of age	90/124	72.6	61/90	67.8	57/90	63.3							
		Total	88/124	71	60/88	68.2	56/88	63.6							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	115. Suspected AIDS	< 1 year of age	90/124	72.6	61/90	67.8	53/89	59.6							
		1-4 years of age	88/124	71	59/88	67	53/87	60.9							
		>=5 years of age	87/124	70.2	58/87	66.7	53/86	61.6							
		Total	85/124	68.5	56/85	65.9	51/84	60.7							
	116. Snake Bite with Signs of Poisoning	< 1 year of age	90/124	72.6	61/90	67.8	54/90	60							
		1-4 years of age	88/124	71	59/88	67	54/88	61.4							
		>=5 years of age	88/124	71	59/88	67	55/88	62.5							
		Total	86/124	69.4	57/86	66.3	53/86	61.6							
	117. Dog Bite	< 1 year of age	89/124	71.8	60/89	67.4	54/89	60.7							
		1-4 years of age	89/124	71.8	60/89	67.4	56/89	62.9							
		>=5 years of age	91/124	73.4	62/92	67.4	58/92	63							
		Total	91/124	73.4	62/90	68.9	57/90	63.3							
	118. Scabies	< 1 year of age	96/124	77.4	68/96	70.8	59/96	61.5	Dup						
		1-4 years of age	104/124	83.9	74/103	71.8	68/103	66	Dup						
		>=5 years of age	109/124	87.9	83/108	76.9	75/108	69.4	Dup						
		Total	108/124	87.1	82/106	77.4	74/106	69.8							
	Total New Cases Priority Disease	< 1 year of age	100/124	80.6	78/100	78	69/100	69							
		1-4 years of age	102/124	82.3	79/102	77.5	68/102	66.7							
		>=5 years of age	101/124	81.5	79/101	78.2	63/101	62.4							
		Total	100/124	80.6	78/100	78	64/100	64							
Diarrhoea (New Cases under 5 years)	a. Number of Diarrhoea Cases under 5 years	Without	117/124	94.4	92/117	78.6	76/117	65							
		Some	108/124	87.1	85/108	78.7	71/108	65.7							
		Severe	106/124	85.5	81/106	76.4	72/106	67.9							
		Not specified	106/124	85.5	79/106	74.5	71/106	67							
		Total Diarrhoea Cases under 5 years	116/124	93.5	92/115	80	77/115	67	Dup						
	b. % of total Diarrhoea Cases Under 5 Years	Without	20/124	16.1	16/20	80	14/20	70							
		Some	21/124	16.9	16/21	76.2	13/21	61.9							
		Severe	22/124	17.7	17/22	77.3	15/22	68.2							
		Not specified	23/124	18.5	17/23	73.9	14/23	60.9							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
Dysentery (New Cases under 5 years)	a. Number of Dysentery Cases under 5 years	Without	115/124	92.7	86/115	74.8	76/115	66.1							
		Some	109/124	87.9	79/109	72.5	73/109	67							
		Severe	105/124	84.7	76/105	72.4	70/105	66.7							
		Not specified	103/124	83.1	75/103	72.8	68/103	66							
		Total Dysentery Cases under 5 years	113/124	91.1	83/113	73.5	74/113	65.5							
	b. % of total Dysentery Cases Under 5 Years	Without	26/124	21	21/26	80.8	15/26	57.7							
		Some	23/124	18.5	17/23	73.9	16/23	69.6							
		Severe	24/124	19.4	18/24	75	17/24	70.8							
		Not specified	23/124	18.5	18/23	78.3	17/23	73.9							
Acute Respiratory Infections	a. Number of ARI Cases under 5 years	No Pneumonia	120/124	96.8	93/120	77.5	74/120	61.7							
		Pneumonia	110/124	88.7	84/110	76.4	71/110	64.5							
		Severe Pneumonia	105/124	84.7	80/105	76.2	72/105	68.6							
		Very Severe Disease	105/124	84.7	79/105	75.2	73/105	69.5							
		Unknown	102/124	82.3	78/102	76.5	71/102	69.6							
		Total ARI Cases under 5 years	121/124	97.6	96/121	79.3	78/120	65	Dup						
	b. % of total ARI Cases Under 5 Years	No Pneumonia	20/124	16.1	15/20	75	14/20	70							
		Pneumonia	18/124	14.5	13/18	72.2	12/18	66.7							
		Severe Pneumonia	19/124	15.3	14/19	73.7	13/19	68.4							
		Very Severe Disease	18/124	14.5	14/18	77.8	13/18	72.2							
		Unknown	16/124	12.9	12/16	75	12/16	75							
Malaria	104. Number of Fver Cases	Blood Slides Examined in Facility	93/124	75	66/93	71	52/93	55.9						Dup	Dup
		Blood Slides Sent Out	98/124	79	71/98	72.4	53/98	54.1						Dup	Dup
		Blood Slides Not Taken	104/124	83.9	76/103	73.8	59/103	57.3						Dup	Dup
	Total Fever Cases		114/124	91.9	88/114	77.2	70/113	61.9							
	Total Number of Slide Examined	Internal	66/124	53.2	10/65	15.4	5/66	7.6						Dup	Dup
		External	67/124	54	10/66	15.2	6/67	9						Dup	Dup
	Number of Slide Malaria Parasite Positive	Number Internal	66/124	53.2	10/66	15.2	5/66	7.6						Dup	
		Number External	65/124	52.4	11/64	17.2	7/65	10.8						Dup	
	Number of Slides Plasmodium Falciparum Positive	Number Internal	62/124	50	9/62	14.5	5/63	7.9						Dup	
		Number External	63/124	50.8	12/63	19	7/64	10.9						Dup	

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
Tuberculosis	Number of Cases of Cough more than 2 weeks	Sputum Smears Examined in facility	68/124	54.8	43/68	63.2	39/68	57.4							
		Patient Referred for sputum smear	72/124	58.1	46/72	63.9	41/72	56.9							
		Total Cases Cough More Than 2 weeks													
	Number of Sputum Smear Series Done	Internal	54/124	43.5	13/53	24.5	9/53	17							
		External	59/124	47.6	13/58	22.4	11/59	18.6							
	Number of Smears Series AFB Positive	Number Internal	54/124	43.5	11/54	20.4	11/54	20.4			Dup	Dup	Dup		
		Number External	53/124	42.7	10/52	19.2	7/54	13			Dup	Dup	Dup		
	Tuberculosis Patients under Treatment at end of	Number	52/124	41.9	22/52	42.3	12/52	23.1			Dup	Dup	Dup		
	Started Treatment This Month	Total Number Started treatment (including new)	56/124	45.2	22/55	40	15/55	27.3			Dup	Dup	Dup		
		Number of new cases	54/124	43.5	22/54	40.7	15/54	27.8			Dup	Dup	Dup		
	Discharged during this month	"Total Number Discharged (including cured	53/124	42.7	21/53	39.6	14/53	26.4			Dup				
		Number of Lost as Defaulters	53/124	42.7	23/53	43.4	19/52	36.5			Dup	Dup			
	Tuberculosis Patients under Treatment at end of this month	Number	52/124	41.9	24/52	46.2	11/52	21.2			Dup	Dup	Dup		
Immunizable Childhood Diseases	108 Poliomyelitis	Not Vaccinated	50/124	40.3	33/50	66	29/50	58							
		Partially Vaccinated	48/124	38.7	31/48	64.6	28/48	58.3							
		Fully Vaccinated	48/124	38.7	30/48	62.5	28/48	58.3							
		Vaccination Status Unknown	48/124	38.7	31/48	64.6	28/48	58.3							
		Total Cases	43/124	34.7	28/43	65.1	26/43	60.5							
	109 Measles	Not Vaccinated	50/124	40.3	33/50	66	29/50	58							
		Partially Vaccinated	48/124	38.7	31/48	64.6	28/48	58.3							
		Fully Vaccinated	47/124	37.9	30/47	63.8	28/47	59.6							
		Vaccination Status Unknown	48/124	38.7	31/48	64.6	28/48	58.3							
		Total Cases	42/124	33.9	28/42	66.7	27/42	64.3							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	110 Neonatal Tetanus	Not Vaccinated	50/124	40.3	33/50	66	29/50	58							
		Partially Vaccinated	48/124	38.7	31/48	64.6	28/48	58.3							
		Fully Vaccinated	48/124	38.7	31/48	64.6	28/48	58.3							
		Vaccination Status Unknown	48/124	38.7	31/48	64.6	28/48	58.3							
		Total Cases	42/124	33.9	28/42	66.7	26/42	61.9							
	111 Diphtheria	Not Vaccinated	50/124	40.3	33/50	66	29/50	58							
		Partially Vaccinated	48/124	38.7	31/48	64.6	28/48	58.3							
		Fully Vaccinated	48/124	38.7	31/48	64.6	28/48	58.3							
		Vaccination Status Unknown	48/124	38.7	31/48	64.6	28/48	58.3							
		Total Cases	43/124	34.7	28/43	65.1	26/43	60.5							
		% of Cases Fully Vaccinated	17/124	13.7	14/17	82.4	14/17	82.4							
	112 Whooping Cough	Not Vaccinated	50/124	40.3	33/50	66	29/50	58							
		Partially Vaccinated	48/124	38.7	31/48	64.6	28/49	57.1							
		Fully Vaccinated	48/124	38.7	31/48	64.6	28/49	57.1							
		Vaccination Status Unknown	48/124	38.7	31/48	64.6	28/49	57.1							
		Total Cases	42/124	33.9	29/43	67.4	26/44	59.1							
Malnutrition	Total Weight	Normal	83/124	66.9	63/83	75.9	54/83	65.1							
	Normal	Normal	85/124	68.5	64/85	75.3	56/85	65.9							
	Moderate Malnutrition	Normal	84/124	67.7	63/84	75	56/84	66.7							
	severe Malnutrition	Normal	81/124	65.3	62/81	76.5	54/81	66.7							
Mother and Child Care Preventive Activities	A. Pre-natal Care	Expected New Pregnancies this month (CA Population/ 270)	32/124	25.8	25/32	78.1	12/32	37.5							
		Number Newly Registered (2)	104/124	83.9	73/104	70.2	37/104	35.6	Dup						
		Newly Registered During 1st Trimester (3)	102/124	82.3	72/102	70.6	40/102	39.2							
		Haemoglobin under 1(gm% at 1st measurement (4)	83/124	66.9	50/83	60.2	24/83	28.9							
		Total visits (5)	104/124	83.9	70/104	67.3	30/104	28.8	Dup						
		No. of Re-visits	79/124	63.7	53/80	66.3	21/80	26.3							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	B. Deliveries	Expected Deliveries this month	32/124	25.8	24/32	75	13/32	40.6							
		Total Number of Deliveries (2)	104/124	83.9	70/104	67.3	38/104	36.5	Dup						
		Number of Stillbirths (3)	94/124	75.8	61/94	64.9	42/94	44.7	Dup						
		Number of Abortions (4)	92/124	74.2	58/92	63	40/92	43.5	Dup						
		No. of Deliveries by Trained Persons (5)	104/124	83.9	69/104	66.3	34/104	32.7							
		No. of Deliveries in your Facility (6)	92/124	74.2	58/92	63	34/92	37							
	C. Post-natal Care	Number of Deliveries in month previous to reporting month (7)	91/124	73.4	59/91	64.8	29/91	31.9							
		Received at least 1 Postnatal Visit	87/124	70.2	55/87	63.2	26/87	29.9							
	D. Maternal Deaths	Number	60/124	48.4	42/57	73.7	39/58	67.2	Dup						
	E. Family Planning	Total Visits	93/124	75	63/93	67.7	42/93	45.2	Dup						
		Male	90/124	72.6	54/88	61.4	41/88	46.6							
		Female	94/124	75.8	61/92	66.3	39/92	42.4							
		New Cases	92/124	74.2	65/92	70.7	41/93	44.1							
		Old Cases	94/124	75.8	66/94	70.2	38/95	40							
	Visits by contraceptive method	Condom	89/124	71.8	56/88	63.6	43/88	48.9	Dup						
		Foam	82/124	66.1	51/81	63	45/81	55.6							
		Pills	90/124	72.6	60/90	66.7	40/90	44.4	Dup						
		Injection	93/124	75	63/93	67.7	42/93	45.2	Dup						
		IUCD	91/124	73.4	62/91	68.1	50/91	54.9	Dup						
		Surgery	84/124	67.7	51/84	60.7	42/84	50	Dup						
	Units Distributed	Condom	75/124	60.5	48/75	64	37/75	49.3	Dup						
		Foam	72/124	58.1	44/72	61.1	37/72	51.4							
		Pills	75/124	60.5	49/75	65.3	32/75	42.7	Dup						
		Injection	75/124	60.5	48/75	64	33/75	44							
		IUCD	75/124	60.5	49/75	65.3	38/75	50.7							
	Referred		72/124	58.1	41/72	56.9	34/72	47.2							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	F. Growth Monitoring	Expected Children Under 1 Year this month (CA Pop/320)	29/124	23.4	13/28	46.4	5/28	17.9							
		No. Newly Registered under 1 year (2)	73/124	58.9	47/73	64.4	24/72	33.3							
		Total Visits (3)	71/124	57.3	45/71	63.4	18/71	25.4							
		No. Normal Nutrition Status	61/124	49.2	37/60	61.7	13/60	21.7							
	G. Vaccinations	Catchment area population (if different from page 1)	12/124	9.7	8/12	66.7	7/12	58.3							
		Number Fixed Centres	12/124	9.7	8/11	72.7	7/11	63.6							
		Number Outreach Teams	13/124	10.5	8/11	72.7	6/11	54.5							
		Number Mobile Units	8/124	6.5	3/8	37.5	2/8	25							
	BCG	0-11 months	102/124	82.3	55/102	53.9	43/102	42.2		Dup					
		12-23 months	74/124	59.7	34/74	45.9	29/74	39.2		Dup					
		>=2 years of age	54/124	43.5	27/54	50	24/54	44.4		Dup					
		Total Children	91/124	73.4	50/93	53.8	39/93	41.9		Dup					
	DPT-1	0-11 months	101/124	81.5	55/101	54.5	42/101	41.6		Dup					
		12-23 months	73/124	58.9	35/73	47.9	29/74	39.2		Dup					
		Total Children	88/124	71	50/90	55.6	42/90	46.7							
	DPT-2	0-11 months	102/124	82.3	53/102	52	42/102	41.2		Dup					
		12-23 months	74/124	59.7	35/74	47.3	30/74	40.5		Dup					
		Total Children	91/124	73.4	47/91	51.6	41/91	45.1		Dup					
	DPT-3	0-11 months	102/124	82.3	54/102	52.9	40/101	39.6		Dup					
		12-23 months	74/124	59.7	36/74	48.6	32/75	42.7		Dup					
		Total Children	91/124	73.4	49/91	53.8	41/91	45.1		Dup					
	DPT-Booster	12-23 months	64/124	51.6	27/64	42.2	22/64	34.4		Dup					
		Total Children	64/124	51.6	31/64	48.4	27/64	42.2		Dup					
	OPV-Zero	0-11 months	98/124	79	50/98	51	41/98	41.8		Dup					
		Total Children	83/124	66.9	44/83	53	37/82	45.1		Dup					
	OPV-1	0-11 months	100/124	80.6	51/100	51	39/100	39		Dup					
		12-23 months	71/124	57.3	31/70	44.3	24/70	34.3		Dup					
		>=2 years of age	55/124	44.4	23/54	42.6	18/55	32.7		Dup					
		Total Children	87/124	70.2	46/87	52.9	35/87	40.2		Dup					

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
	OPV-2	0-11 months	98/124	79	51/98	52	38/97	39.2		Dup					
		12-23 months	71/124	57.3	31/70	44.3	25/70	35.7		Dup					
		>=2 years of age	56/124	45.2	23/55	41.8	20/56	35.7		Dup					
		Total Children	84/124	67.7	44/84	52.4	34/83	41		Dup					
	OPV-3	0-11 months	99/124	79.8	50/99	50.5	40/99	40.4		Dup					
		12-23 months	70/124	56.5	31/69	44.9	26/70	37.1		Dup					
		>=2 years of age	54/124	43.5	21/53	39.6	18/53	34		Dup					
		Total Children	87/124	70.2	46/87	52.9	35/86	40.7		Dup					
	OPV-Booster	12-23 months	60/124	48.4	24/60	40	21/60	35		Dup					
		>=2 years of age	51/124	41.1	20/51	39.2	19/51	37.3		Dup					
		Total Children	57/124	46	26/57	45.6	23/56	41.1		Dup					
	DT1	0-11 months	74/124	59.7	35/74	47.3	32/74	43.2							
		12-23 months	56/124	45.2	23/56	41.1	22/56	39.3							
		>=2 years of age	49/124	39.5	21/49	42.9	19/50	38							
		Total Children	64/124	51.6	33/64	51.6	30/64	46.9							
	DT2	0-11 months	71/124	57.3	34/73	46.6	32/73	43.8							
		12-23 months	57/124	46	23/57	40.4	22/57	38.6							
		>=2 years of age	50/124	40.3	21/50	42	19/51	37.3							
		Total Children	66/124	53.2	33/66	50	30/66	45.5							
	DT-Booster	12-23 months	57/124	46	25/57	43.9	25/57	43.9							
		>=2 years of age	49/124	39.5	23/49	46.9	22/50	44							
		Total Children	64/124	51.6	33/65	50.8	30/65	46.2							
	Measles	0-11 months	96/124	77.4	55/97	56.7	47/97	48.5		Dup					
		12-23 months	73/124	58.9	36/74	48.6	32/74	43.2		Dup					
		>=2 years of age	56/124	45.2	25/56	44.6	23/56	41.1		Dup					
		Total Children	83/124	66.9	48/83	57.8	41/83	49.4		Dup					
	Fully Immunized Children	0-11 months	46/124	37.1	19/46	41.3	17/46	37							
		12-23 months	39/124	31.5	13/39	33.3	12/39	30.8							
		>=2 years of age	29/124	23.4	7/29	24.1	6/29	20.7							
		Total Children	38/124	30.6	18/38	47.4	13/38	34.2							

Annex Table 38 Result of observation checklist to assess accuracy of data reported in monthly report and check of duplicated items between monthly report and vertical programs

NAME1	NAME2	NAME3	Data filled		Same source		Correct		LHW	EPI	Tuberculosis			Malaria	
			OK	%	OK	%	OK	%	***Community Based***		TB07	TB08	TB09	EVAM4	EVAM9
Target Group for TT Vaccines	Pregnant women	TT-I	101/124	81.5	56/100	56	46/101	45.5		Dup					
		TT-II	100/124	80.6	55/99	55.6	45/99	45.5		Dup					
		TT-III	82/124	66.1	44/81	54.3	38/81	46.9							
		TT-IV	74/124	59.7	39/73	53.4	35/73	47.9							
		TT-V	68/124	54.8	35/67	52.2	32/67	47.8							
	Child Bearing Age Women	TT-I	63/124	50.8	30/63	47.6	26/63	41.3		Dup					
		TT-II	64/124	51.6	32/64	50	26/64	40.6		Dup					
		TT-III	57/124	46	29/57	50.9	25/57	43.9							
		TT-IV	58/124	46.8	27/58	46.6	24/58	41.4							
		TT-V	56/124	45.2	25/56	44.6	22/56	39.3							
	Total	TT-I	85/124	68.5	46/85	54.1	35/85	41.2		Dup					
		TT-II	84/124	67.7	46/83	55.4	35/83	42.2		Dup					
		TT-III	76/124	61.3	41/75	54.7	33/75	44							
		TT-IV	67/124	54	35/66	53	31/66	47							
		TT-V	62/124	50	33/61	54.1	29/61	47.5	Dup						

* Form used by confirmation

FLCF FF2 : Monthly Report

LHW Monthly Report for Health Facility

EPI Monthly Vaccination Report and Vaccines,Syringes,Stock Position

Tuberculosis TB07 : Case Finding

TB08 : Sputum Conversion at 2 and / or 3 months

TB09 : Treatment result

Malaria EVA / M-4 : Monthly Detailed Malariometric Active Report

EVA / M-9 : Blood Laboratory Reference Record

Annex Table 39 Potential routine health indicators

	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
1. Health Status and Disease Patterns															
1.1. Malaria															
1.1.1. Fever (presumed malaria) proportional morbidity Num: Number of new cases of fever Den: Number of total new cases	LHW	HMIS	HMIS				HMIS LHW								1. Should the basic count of malaria cases reported be clinically diagnosed cases (fever, presumed malaria) or only those with laboratory confirmation (API), or both?
1.1.2. Annual Parasite Incidence (API) Num: Number of positive slides for parasite in a year x 1000 Den: Total population									MCP HMIS	MCP HMIS	MCP	MCP		MCP HMIS	1. Incidence based on positive slides can also be calculated for a period less than a year. 2. HMIS/FLCF data are incomplete compared to MCP because they do not cover all laboratories.
1.1.3. P. Falciparum proportion Num: P Falciparum positive cases x 100 Den: Total MP positive cases		MCP HMIS	MCP HMIS	MCP	MCP		MCP HMIS								1. HMIS/FLCF data are incomplete compared to MCP because they do not cover all laboratories.
1.1.4. Slide positivity rate (SPR) Num: MP positive cases x 100 Den: Total slides examined		MCP HMIS	MCP HMIS	MCP	MCP		MCP HMIS								1. Measures acuity of clinical diagnosis. It could be reviewed at facility level and used for supervision at district level. Practical value of aggregation and calculation at higher levels not clear. 2. HMIS/FLCF data are incomplete compared to MCP because they do not cover all laboratories.
1.1.5. Annual Blood Examination Rate (ABER) Num: Smears examined in a year x 100 Den: Total population		MCP HMIS	MCP HMIS	MCP	MCP		MCP HMIS								1. HMIS/FLCF data are incomplete compared to MCP because they do not cover all laboratories.
1.1.6. Vector Density Num: Number of mosquitoes collected Den: Number of man hours spent in search		MCP	MCP	MCP	MCP		MCP								
1.1.7. Malaria Case fatality rate Num: Number of deaths due to malaria x 100 Den: Number of admission of diagnosed malaria															*1. Currently captured/used by MCP?* 2. Could be captured through HMIS / SLCF, sentinel sites or LQAS.
1.2. Tuberculosis															
1.2.1. Pulmonary tuberculosis case detection rate Num: Number of new cases of pulmonary tuberculosis Den: Number of new cases expected		TCP	TCP	TCP	TCP	TCP?	TCP								1. HMIS includes no data elements as defined by DOTS protocol
1.2.2. Tuberculosis Treatment Cure Rate Num: Number of patients in DOTS cohort who were cured Den: Number of patients who started treatment during the same period (DOTS cohort)		TCP	TCP	TCP	TCP	TCP?	TCP								1. HMIS includes no data elements as defined by DOTS protocol

Annex Table 39 Potential routine health indicators

	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
1.2.3. Tuberculosis cases under treatment Num: Number of patients under DOTS treatment Den: depends on indicator	LHW	HMIS	HMIS				LHW HMIS								1. Both LHW and HMIS record the number of TB cases under treatment, Normally these do not form a complete DOTS cohort, and there is no standard indicator for monitoring them. Default rate could be used to monitor TB treatment at facilities.
1.3. HIV / AIDS															
1.3.1. HIV Prevalence (as detected through serosurvey) Num: Number of women with HIV+ test during antenatal seroprevalence screening Den: Total number of women with antenatal seroprevalence screening															1. This is MDG indicator. It is not clear what National AIDS control program considers as primary indicator.
1.4. Childhood Morbidity and Mortality															
1.4.1. Diarrhoea Incidence and severity Num: Number of new cases of diarrhoea under 5 years of age Den: Total number of children under age 5 years in catchment area	LHW	HMIS	HMIS				HMIS LHW								1. LHW records cases and uses proportional morbidity as indicator. 2. HMIS allows for recording severity of dehydration, although this seems to be inconsistently recorded.
1.4.2. Diarrhoea Case Fatality Rate Num: Number of deaths due to diarrhoea among children under 5 years of age Den: Number of admissions of diagnosed diarrhoea among under 5s															
1.4.3. Dysentary Incidence and severity Num: Number of new cases of dysentary under 5 years of age Den: Total number of children under age 5 years in catchment area	LHW	HMIS	HMIS				HMIS LHW								1. LHW records cases and uses proportional morbidity as indicator. ***(Check whether LHWs record dysentary.)*** 2. HMIS allows for recording severity of dehydration, although this seems to be inconsistently recorded.
1.4.4. ARI Incidence and severity Num: Number of new cases of ARI under 5 years of age Den: Total number of children under age 5 years in catchment area	LHW	HMIS	HMIS				HMIS LHW								1. LHW records cases and uses proportional morbidity as indicator. 2. HMIS allows for recording presence / severity of pneumonia, although this seems to be inconsistently recorded.
1.4.5. Pneumonia Incidence Num: Number of new cases of pneumonia under 5 years of age Den: Total number of children under age 5 years in catchment area		HMIS	HMIS				HMIS								1. HMIS allows for recording presence / severity of pneumonia in connection with ARI cases, although this seems to be inconsistently recorded.
1.4.6. Pneumonia Case Fatality Rate Num: Number of deaths due to pneumonia among children under 5 years of age Den: Number of admissions of diagnosed pneumonia among under 5s															

Annex Table 39 Potential routine health indicators

	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
1.4.7. Top 5 Childhood Diseases (proportional Num: Total number of diagnoses due to each of the top 5 diseases in children under age 5 years Den: Total number of diagnoses in children under age 5		HMIS	HMIS				HMIS								1. Annual totals calculated from monthly disease reports
1.5. General Morbidity															
1.5.1. Top 10 Diseases (all ages) (proportional Num: Total number of diagnoses due to each of the top 10 diseases Den: Total number of diagnoses		HMIS	HMIS				HMIS								1. Annual totals calculated from monthly disease reports
2. Reproductive and Child Health (preventive care)															
2.1. Reproductive Health															
2.1.1. First Antenatal Attendance Num: Number of newly registered pregnant women Den: Number of expected pregnancies in catchment population	LHW	HMIS	HMIS				LHW HMIS								1. HMIS and LHW numerators and denominators are different. LHW numerator is number of pregnant women she identifies. HMIS is number presenting for care by medical professional. Monthly denominator for HMIS is .0037 (annual .044) total population; for LHW, denominator is .0033 (annual .040) total population - this is deliveries for HMIS.
2.1.2. Average antenatal attendances Num: Total number of attendances at antenatal clinic Den: Number of registered pregnant women															1. HMIS revision proposes % with at least 2 antenatal visits. Average attendances is easier to record. % with 2, 3, etc can come from LQAS when necessary. 2. HMIS currently records % registered in first trimester. Is this a feasible target?
2.1.3. Anemia in pregnancy (high risk pregnancies) Num: Number of registered pregnant women with Hb level < 10 gm% at first measurement Den: Number of pregnant women registered		HMIS	HMIS				HMIS								

Annex Table 39 Potential routine health indicators

	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
2.1.4. Deliveries Attended by Trained Health Personnel Num: Total number of deliveries attended by trained health personnel Den: Number of expected deliveries in catchment population	LHW	HMIS		HMIS (via FLCF form)			LHW HMIS								1. HMIS and LHW definitions of "trained health personnel" are different, and denominators are different. According to HMIS, trained personnel are "WMO, MO, LHV, FHT, and trained dai". LHW definition is "doctors, nurses, LVVs, and midwife only. Trained and untrained TBAs are not included." Monthly denominator for HMIS is .0033 (annual .04) total population; for LHW, denominator is number of live births and still births recorded. 2. Confirm that HMIS/FLCF records deliveries at hospitals where it is used
2.1.5. Births at BEOC / CEOC facilities Num: Total number of births in BEOC/CEOC facilities Den: Number of expected births in catchment population															1. WHP target is at least 15%
2.1.6. Obstetric complications treated at BEOC / CEOC facilities Num: Total number of obstetric complications treated in BEOC/CEOC facilities Den: Total number of obstetric complications in catchment population															1. WHP target is 100%
2.1.7. Caesarian section rate Num: Total number of Caesarian sections Den: Total number of deliveries at institutions that provide Caesarian sections															1. WHP denominator is expected births; expected rate is 5 to 15%
2.1.8. Obstetric case fatality rate at EOC facilities Num: Total number of deaths due to obstetric complications Den: Total number of admissions with obstetric complications															1. WHP target is < 1%
2.1.9. First Postnatal Attendance Num: Number of new attendances at postnatal clinic Den: Number of expected deliveries in catchment population	LHW	HMIS	HMIS				LHW HMIS								1. HMIS and LHW numerators and denominators are different. HMIS numerator is number of first postnatal attendances for care by medical professional; LHW is number of postnatal cases visited within 24 hours by LHW. HMIS denominator is number of deliveries registered, not number expected; LHW annual denominator is .032 population.

Annex Table 39 Potential routine health indicators

	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
2.1.10. Contraceptive Prevalence Rate Num: Number of new and continuing family planning acceptors Den: Number of women of child bearing age in catchment population	LHW	HMIS	HMIS		FWC other?	???	LHW HMIS								1. HMIS indicators do not include CPR, but number of new and old family planning acceptors. CPR based on facility distribution can be estimated from this. LHWs report number of modern and traditional family planning users, regardless of method source, with eligible couples as denominator. It is a population based estimate, and should reflect overall prevalence in the community. 2. Records kept by MPW, Family Welfare Centers, etc not yet investigated. 3. It is also possible to estimate CPR from contraceptives distributed, but this method is less intuitive.
2.2. Child Health															
2.2.1. BCG Immunisation Num: Number of children under 1 year of age who have received BCG immunisation Den: : Number of children under 1 year		EPI HMIS	EPI HMIS		EPI		EPI HMIS								
2.2.2. DPT III Immunisation Num: Number of children under 1 year of age who have received DPT III immunisation Den: : Number of children under 1 year		EPI HMIS	EPI HMIS		EPI		EPI HMIS								
2.2.3. Diphtheria Incidence Num: Number of new cases of diphtheria Den: Total population of catchment area		HMIS	HMIS				HMIS								1. HMIS allows for recording diphtheria cases along with vaccination status. It does not calculate incidence. 2. EPI uses HMIS data to monitor vaccine preventable disease.
2.2.4. Pertussis Incidence Num: Number of new cases of pertussis Den: Total population of catchment area		HMIS	HMIS				HMIS								1. HMIS allows for recording pertussis (whooping cough) cases along with vaccination status. It does not calculate incidence. 2. EPI uses HMIS data to monitor vaccine preventable disease.
2.2.5. OPV III Immunisation Num: Number of children under 1 year of age who have received OPV III immunisation Den: : Number of children under 1 year		EPI HMIS	EPI HMIS		EPI		EPI HMIS								1. Are both OPV III and DPT III really needed? Normally they are quite similar. LQAS could be used to investigate differences.
2.2.6. Poliomyelitis cases Num: Number of new cases of polio Den:1	AFP	AFP HMIS	AFP HMIS	AFP	AFP	AFP	AFP HMIS								1. HMIS allows for recording poliomyelitis cases along with vaccination status. It is not known how the diagnosis, which is made nationally, is recorded in HMIS. HMIS does not calculate incidence. 2. The AFP surveillance system is the authoritative source for both poliomyelitis and AFP.

Annex Table 39 Potential routine health indicators

	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
2.2.7. Acute flacid paralysis (AFP) Num: Number of new cases of AFP Den:Total number of <15 years in catchment area	AFP	AFP HMIS	AFP HMIS	AFP	AFP	AFP	AFP HMIS								1. A value between 1 and 3 ***(check)*** is needed for certification of surveillance sensitivity for polio eradication. 2. The AFP surveillance system is the authoritative source for both poliomyelitis and AFP.
2.2.8. Measles Immunisation Num: Number of children under 1 year of age who have received measles immunisation Den: : Number of children under 1 year		EPI HMIS	EPI HMIS		EPI		EPI HMIS								
2.2.9. Measles Incidence Num: Number of new cases of measles Den: Total population of catchment area		HMIS	HMIS				HMIS								1. HMIS allows for recording measles cases along with vaccination status. It does not calculate incidence. 2. EPI uses HMIS data to monitor vaccine preventable disease.
2.2.10. Fully Immunised Children Num: Number of children under 1 year of age who have received DPT III immunisation Den: : Number of children under 1 year	LHW	EPI HMIS	EPI HMIS		EPI		LHW EPI HMIS								1. LHW records number of children completing immunization; it is not known whether this is limited to children <1 year. 2. HMIS monthly denominator is .0031 (.0375 annual) population; LHW population denominator is .030 annual population. ***3. Check that EPI does report FIC.***
2.2.11. Pregnancies protected against tetanus Num: Number of pregnant women who have received TT2, TT3, TT4, or TT5 according to protocol Den: : Number of estimated pregnancies	LHW	EPI HMIS	EPI HMIS		EPI		LHW EPI HMIS								1. Women whose TT status confers lifetime immunity (TT5) should be included in numerator. This can only be known from history taken during antenatal care. HMIS and LHW apparently use this definition, although this should be confirmed. EPI reports TT2+ doses for pregnant women as proxy for preganancies protected. 2. LHW denominator is number of women visited during month. Annual indicator value not calculated in LHW system.
2.2.12. Neonatal Tetanus Incidence Num: Number of new cases of neonatal tetanus Den: Expected live births in catchment area		HMIS	HMIS				HMIS								1. HMIS allows for recording neonatal tetanus cases along with vaccination status. It does not calculate incidence. 2. EPI uses HMIS data to monitor vaccine preventable disease.

Annex Table 39 Potential routine health indicators

	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
2.2.13. Underweight Prevalence Num: Number of weight for age <3 years with severe/moderate malnutrition Den: Number of weights recorded for <3 years	LHW	HMIS	HMIS				LHW HMIS								1. Survey gives more accurate estimate 2. Ideally numerator is "children with severe/moderate malnutrition" and denominator "children weighed", but this is difficult to record
2.2.14. Low birth weight Num: Number of newborns weighed in first 7 days of life with weight < 2.5 kg Den: Number of newborns weighed in first 7 days of life	LHW	HMIS	HMIS				LHW HMIS								
3. Environment - Water and Sanitation															
3.1. Access to safe drinking water Num: Number of households with access to safe drinking water Den: Total number of households in catchment area	LHW						LHW								1. "safe drinking water" is tap, hand pump, spring/canal, well. 2. LHW records monthly, but only annual assessment is needed for action
3.2. Access to sanitation facility Num: Number of households with toilet (with sewerage / septic tank) Den: Total number of households in catchment area	LHW						LHW								1. LHW records monthly, but only annual assessment is needed for action
4. Supporting Systems															
4.1. Drugs and Supplies															
4.1.1. Availlability of essential drugs and medical Num: Number of months in the time period under investigation in which no out of stock condition in the store was detected for indicator drugs and supplies Den: Months in time period x number of supplies	LHW	HMIS	HMIS				LHW HMIS								1. LHW system tracks drugs / supplies used for LHW program. 2. HMIS system tracks drugs / supplies coming from vertical programs (vaccines and contraceptives) as well as local supply
4.1.2. Expiration of medical supplies Num: Units of drugs and laboratory supplies removed from the stock balance because the expiry date of use has passed Den: Months in time period															1. Collect monthly/quarterly
4.2. Finance															
4.2.1. Per capita expenditure on health Num: expenditure on health Den: catchment population															1. Collect annually
4.2.2. Budget utilization Num: expenditure Den: budget															1. Collect monthly/quarterly
4.2.3. Proportional district expenditure on administration, primary health care, and hospitals Num: expenditure on administration, FLCF, and hospital Den: total expenditure															1. How can this indicator be aggregated upwards to include provincial / national levels 2. Collect annually

Annex Table 39 Potential routine health indicators

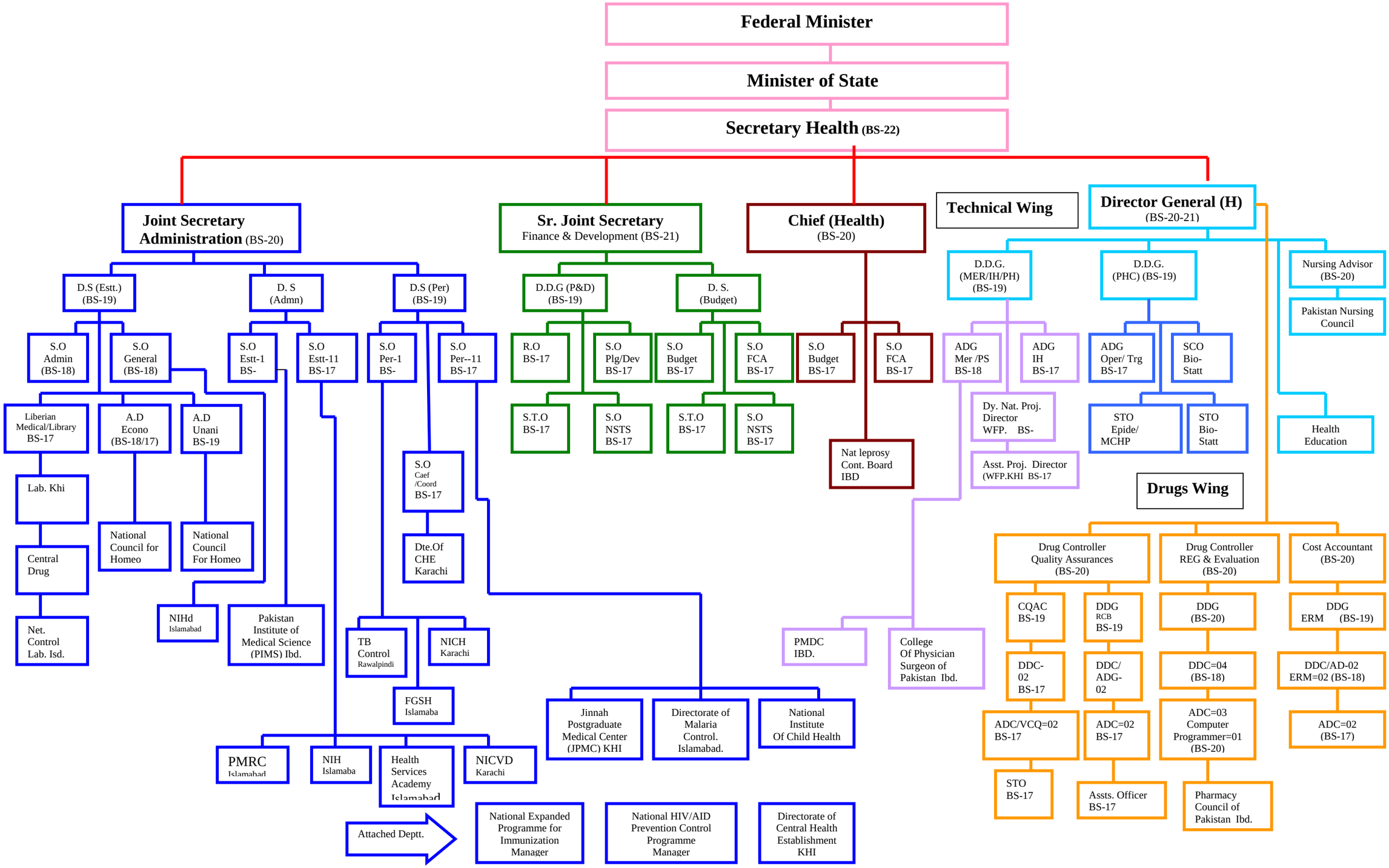
	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
4.3. Human Resources															
4.3.1. Population per doctor, per nurse, per LHW Num: catchment population Den: number of practitioners								LHW						LHW	1. Other cadres needed? 2. HMIS indicators 18.5 - 18.8 need similar data, but their HMIS source is not known.
4.3.2. Beds per doctor, per nurse at hospital Num: number of beds Den: number of practitioners															1. Other cadres needed? 2. Collect annually
4.3.3. Staff Deployment: The proportion of established positions that are occupied Num:Total number of established positions occupied Den: Total number of established positions as specified by standards															1. Other cadres needed? 2. HMIS indicators 18.5 - 18.8 need similar data, but their HMIS source is not known.
4.3.4. Accessibility of female provider of reproductive health care services Num:Total number of facilities with female provider of reproductive health care services Den: Total number of facilities															1. Collect annually
4.3.5. LHW Deployment: The proportion of target population covered Num:Target population covered Den: Target population								LHW						LHW	
4.3.6. Physician availability at FLCF Num: Days physician available Den: Days FLCF open															
4.3.7. OPD practitioner curative care productivity Num: OPD attendances / practitioners Den: Number of days services provided during period under investigation															1. Current HMIS records OPD attendance, but not number of practitioners. Current HMIS practice is to calculate visits / day, although this is not in the "formal" list of HMIS indicators.
4.3.8. Inpatient practitioner productivity Num: patient bed days / practitioners Den: Number of days services provided during period under investigation															1. Collect monthly / quarterly
4.3.9. Staff training Num: Facilities with staff trained in IMCI, AIDS, etc Den: Number of facilities															1. Collect annually 2. Which skills should be included
4.4. Capital Assets: Facilities and Equipment															
4.4.1. Population per health facility (by facility type) Num: number of facilities (disaggregated by BHU, RHC, hospital, etc) Den: catchment population									HMIS	HMIS				HMIS	
4.4.2. Faciilties operational (by facility type) Num: number of facilities operational (disaggregated by BHU, RHC, hospital, etc) Den: number of facilities															1. Collect annually
4.4.3. Faciilties equipped to standard (by facility type) Num: number of facilities equipped to standard (disaggregated by BHU, RHC, hospital, etc) Den: number of facilities															1. Collect annually

Annex Table 39 Potential routine health indicators

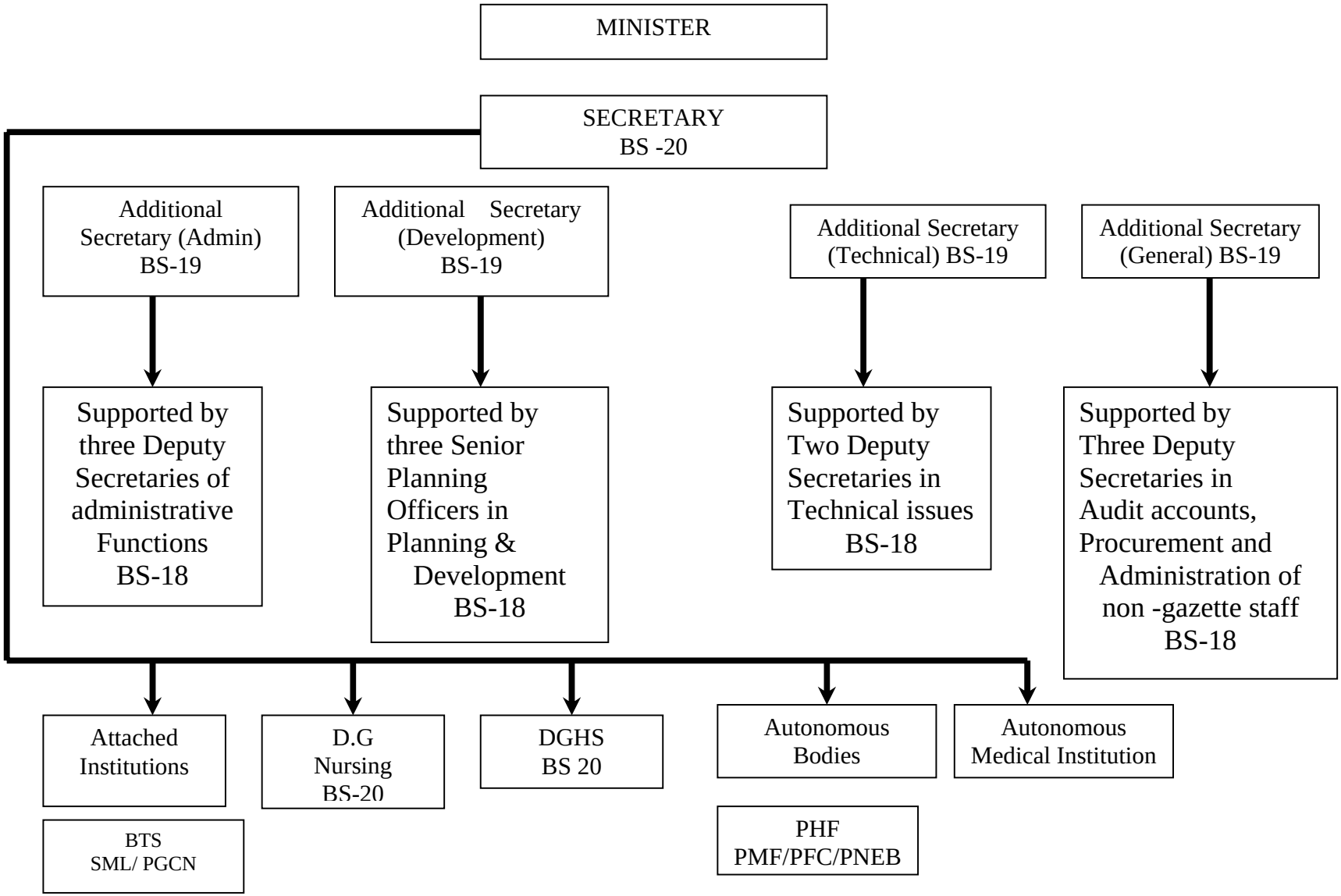
	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
4.4.4. Faciilties equipped to BEOC or CEOC standard (by facility type) Num: number of facilities equipped to standard (disaggregated by BHU, RHC, hospital, etc) Den: number of facilities															1. Collect annually 2. WHP standard: "At least 4 Basic EOC facilities and 1 Comprehensive EOC facility for 500,000 population"
4.4.5. Population per bed Num: number of beds Den: catchment population															1. Collect annually
4.4.6. OPD curative attendances per capita`per year Num: OPD visits Den: catchment population									HMIS	HMIS				HMIS	1. HMIS does not calculate this indicator, although the information is available
4.4.7. OPD utilization Num: OPD visits Den: Number of days services provided during period under investigation		HMIS	HMIS				HMIS								1. Current HMIS practice is to calculate this indicator, although it is not in the "formal" list of HMIS indicators.
4.4.8. Admisssions per capita`per year Num: hospital admissions Den: catchment population															1. Collect monthly / quarterly 2. Include RHC admissions?
4.4.9. Bed occupancy rate (BOR) Num: Number of patient bed days Den: Number of beds in institution x Number of days in time period under review															1. Collect monthly / quarterly 2. Include RHCs?
4.4.10. Average length of stay (ALOS) Num: Number of patient bed days during the period Den: Total number of admissions during the same period															1. Collect monthly / quarterly 2. Include RHCs?
4.5. Information system															
4.5.1. Reporting completeness Num: Number of reports received Den: Number of reports expected in the time period under investigation	LHW	HMIS	HMIS				LHW HMIS								1. LHW reports "reporting compliance", defined as % expected reports submitted, from LHWs and FLCFs (logistics).
4.5.2. Reporting timeliness Num: Number of reports received in time Den: Number of reports expected in the time period under investigation		HMIS	HMIS				HMIS								
5. Vital Events															
5.1. Population Num: Total population and target groups like pregnancies, deliveries, live births, under 1 years, under 5 years, CBA, etc Den: 1								LHW	EPI Malaria HMIS					LHW EPI Malaria HMIS	1. It appears that each system uses its own assumptions regarding population and target group proportions. This should be investigated with parallel programs and documented.
5.2. Crude birth rate Num: Number of live births during a year Den: Mid year registered population								LHW						LHW	1. Has the accuracy of this estimate ever been evaluated?
5.3. Crude death rate Num: Number of deaths during a year Den: Mid year registered population								LHW						LHW	1. Has the accuracy of this estimate ever been evaluated?

Annex Table 39 Potential routine health indicators

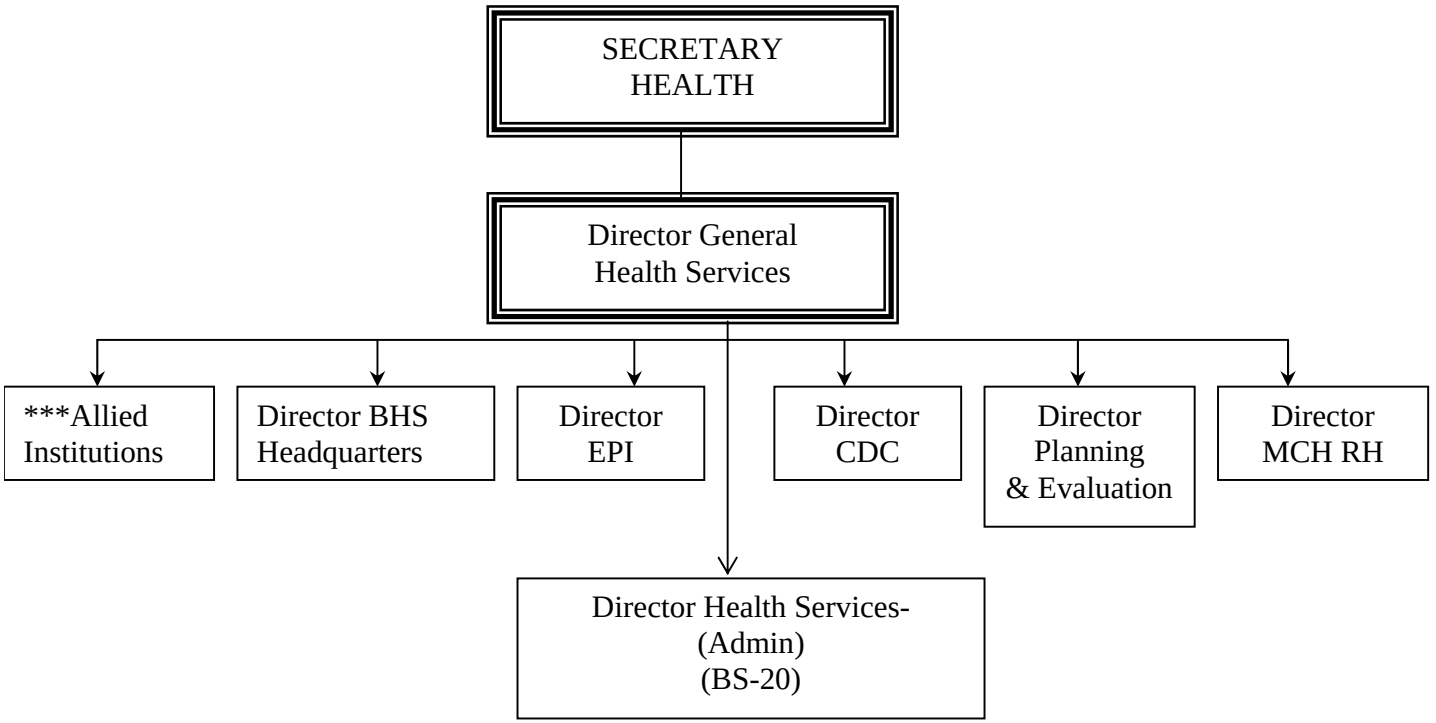
	Current data sources - monthly / quarterly							Current data sources - annual							Comments / Questions
	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	Comm-unity	FLCF	Hos OPD	Hosp IPD	other MoH	private	District	
5.4. Infant mortality rate (for a specific period) Num: Number of deaths of under 1 years Den: Number of live births	LHW						LHW								1. Dr. Kakar (WHO) has compared IMR from LHW-MIS with results of Multi Indicator Cluster Surveys (MICS) of UNICEF and found significant differences. 2. LHW defines numerator as "number of early neonatal deaths (within 1 week of birth) + number of infant deaths (age more than 1 week but less than 1 year)
5.5.Perinatal mortality rate (for a specific period) Num: Number of perinatal deaths (number of still births + number of deaths within 1 week of birth) Den: Number of live births (number of still births + number of live births)	LHW						LHW								1. Has the accuracy of this estimate ever been evaluated?
5.6. Maternal mortality rate (for a specific period) Num: Number of maternal deaths Den: Number of live births	LHW						LHW								1. LHW system includes procedures and indicators for verifying maternal deaths. 1. Has the accuracy of this estimate ever been evaluated?



Annex Figure 1 **Organization chart of Ministry of Health**

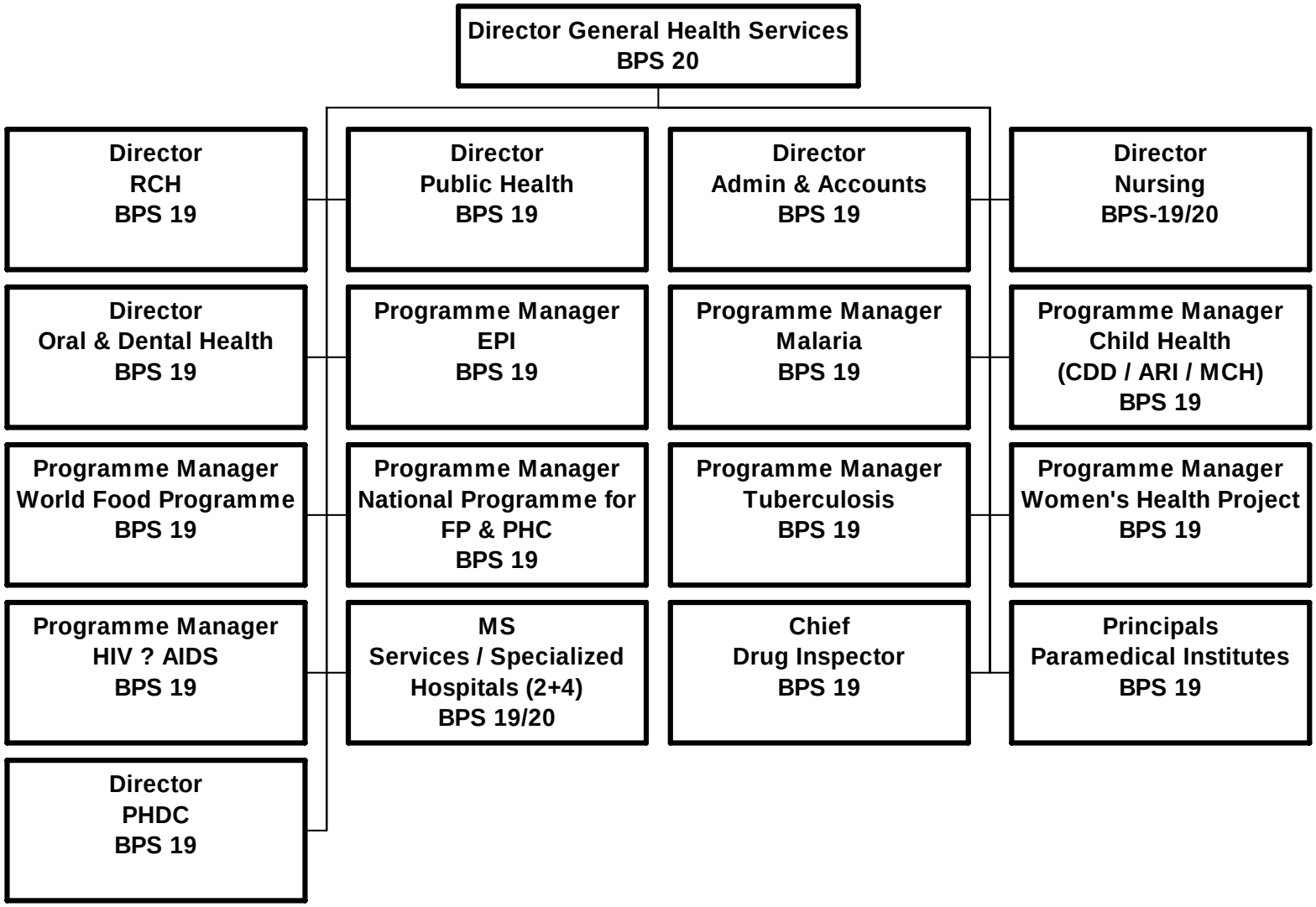


Annex Figure 2 Punjab Provincial Secretariat, Health Department

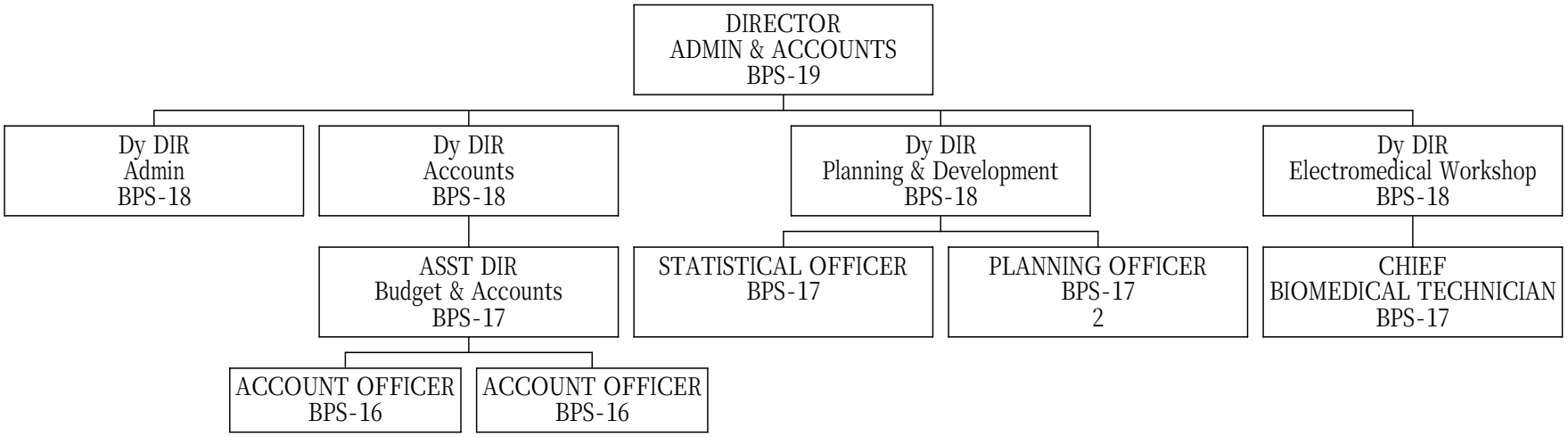


***Institutions Allied With DGHS
Samli Sanatorium Hospital
National Program For FP & PHC
Provincial Health Development Centre
Chief Chemical Examiner
Public Health Nursing Schools
Drug Testing Laboratory
Paramedical Schools
Government. Public Analyst
Health Equipment Maintenance Organization
Transport Maintenance

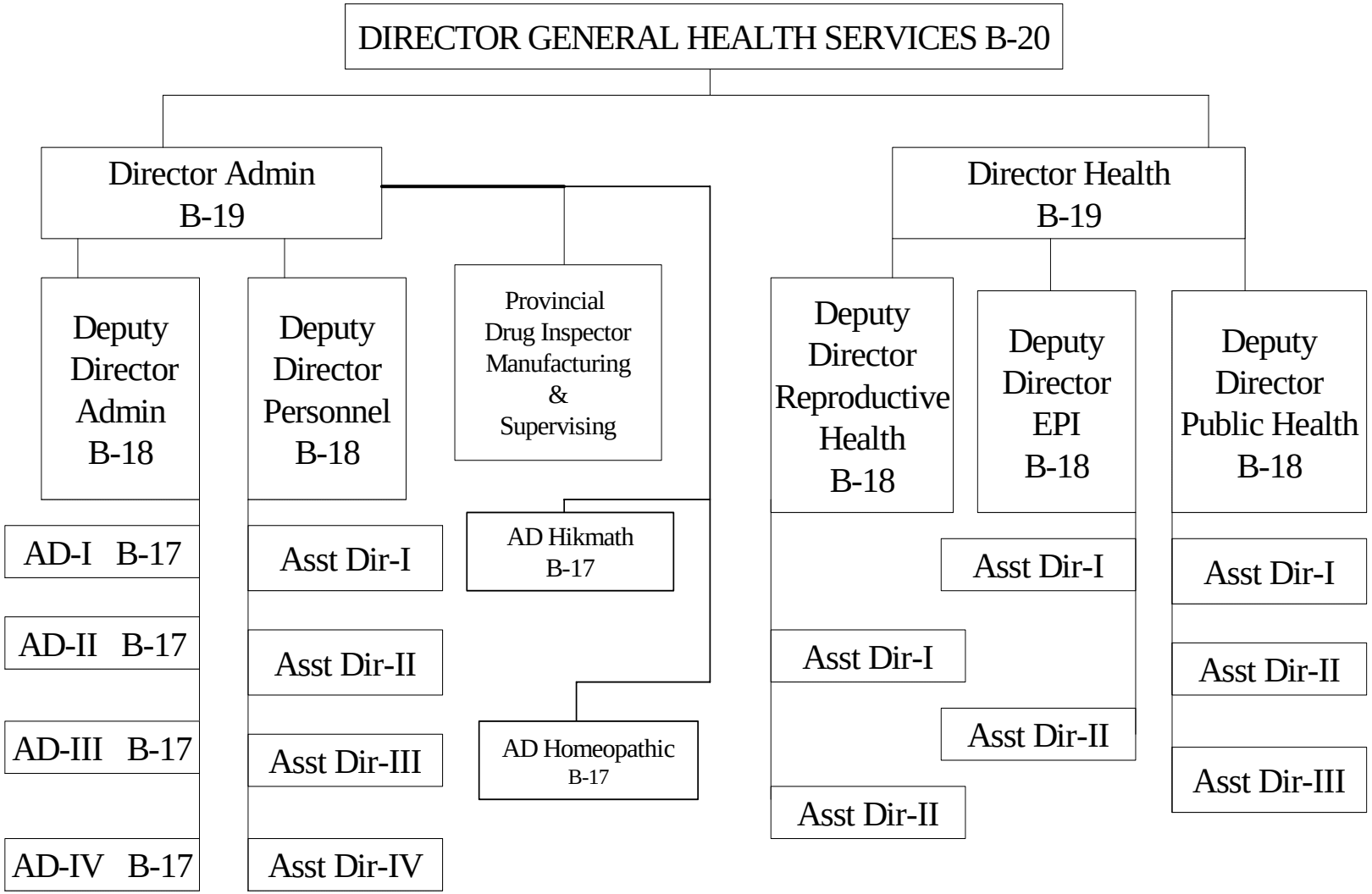
Annex Figure 3 Punjab Directorate General of Health Services



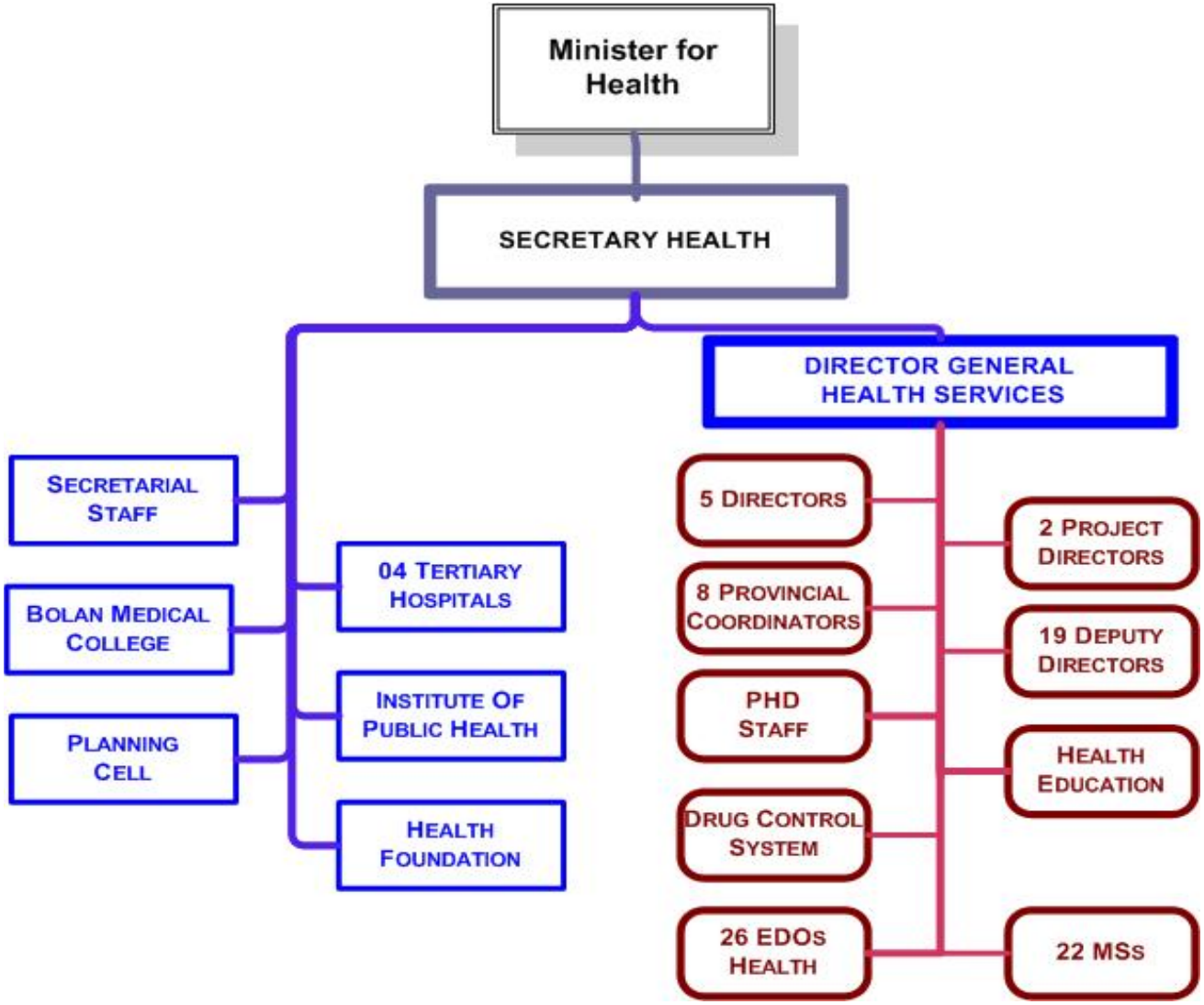
Annex Figure 4 Organization chart of directorate general health services, Sindh



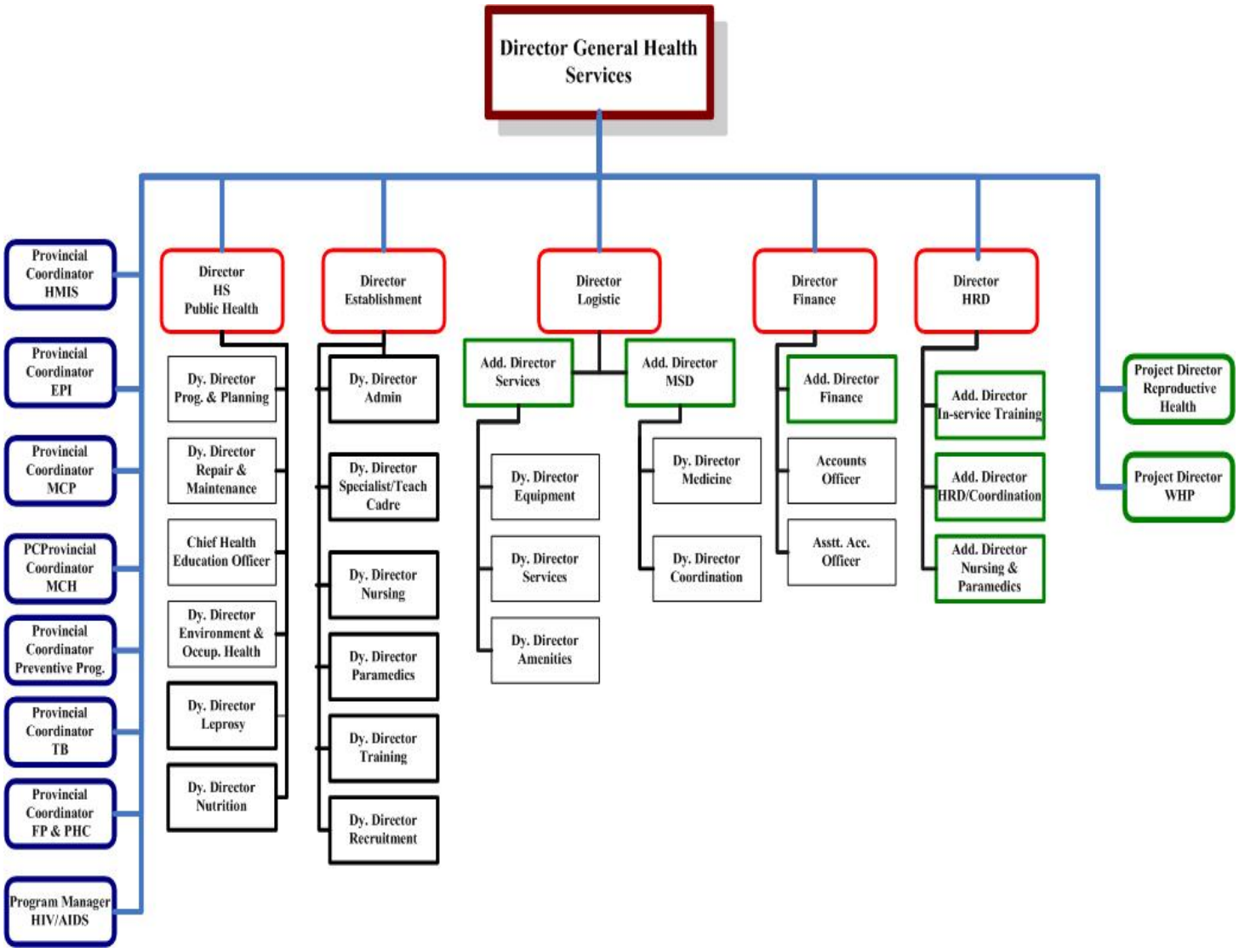
Organization chart of directorate general health services, Sindh (Continued)



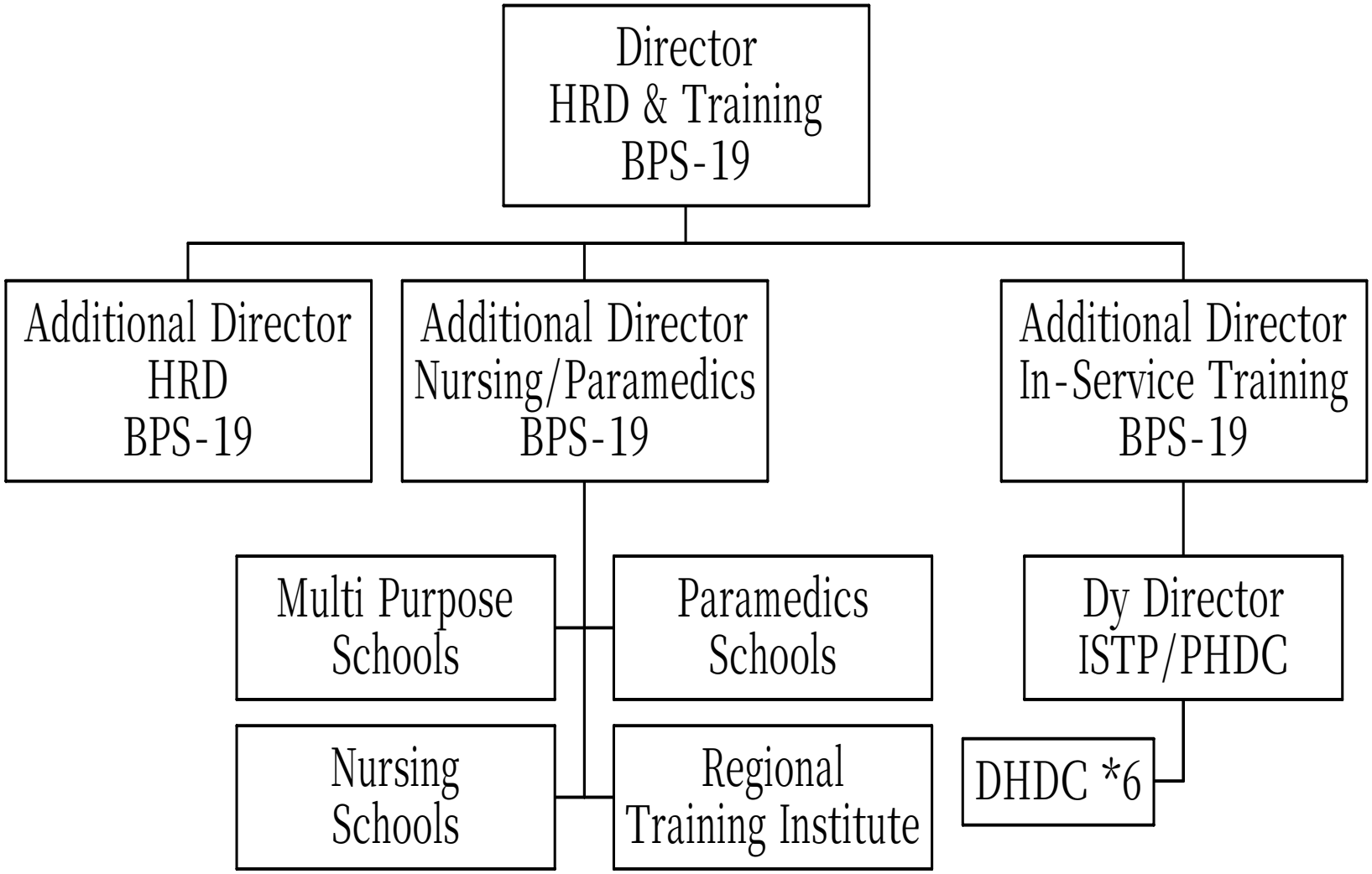
Annex Figure 5 Organization chart of directorate general health services, NWFP



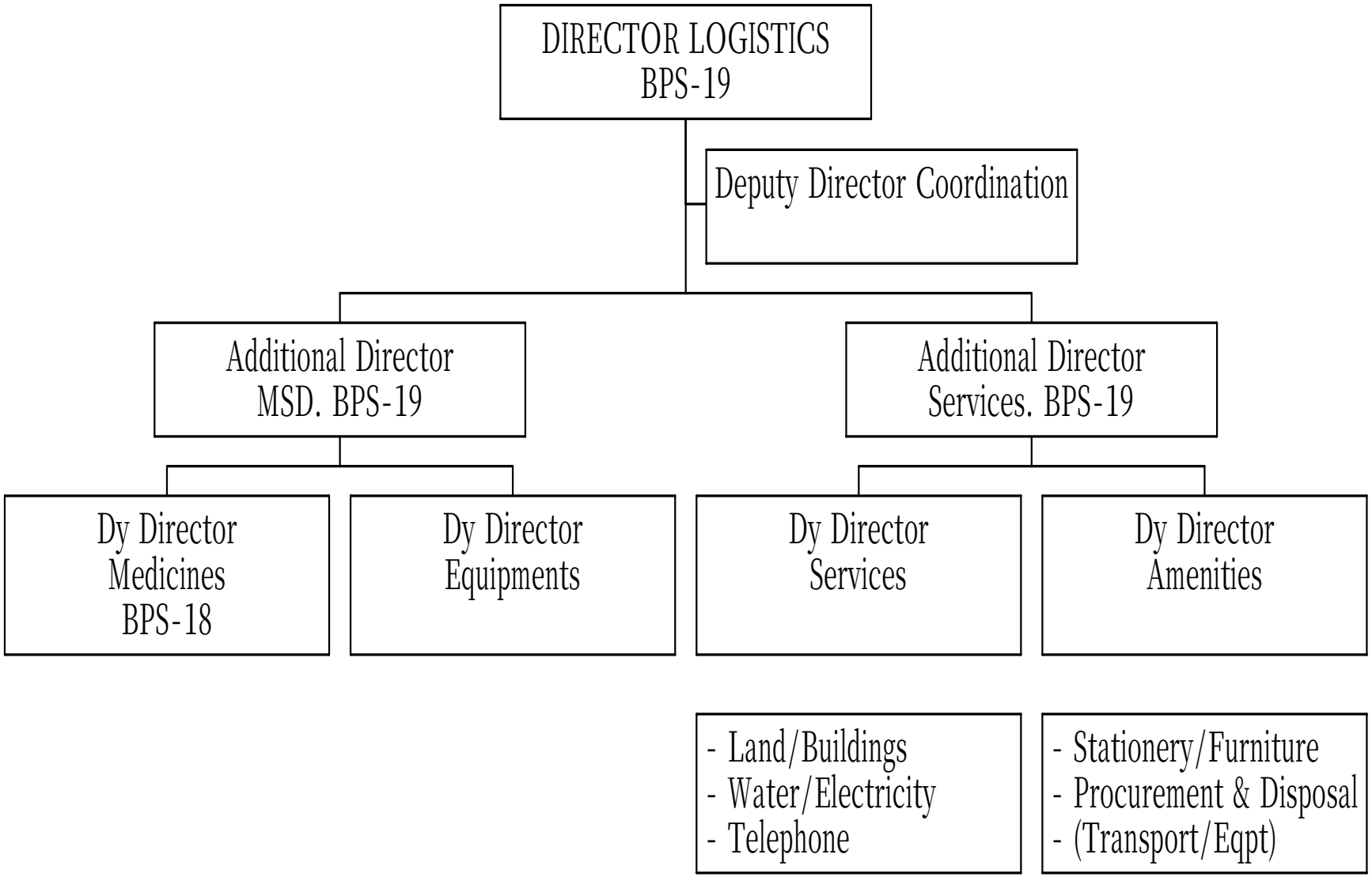
Annex Figure 6 Organization chart of provincial department of health, Balochistan



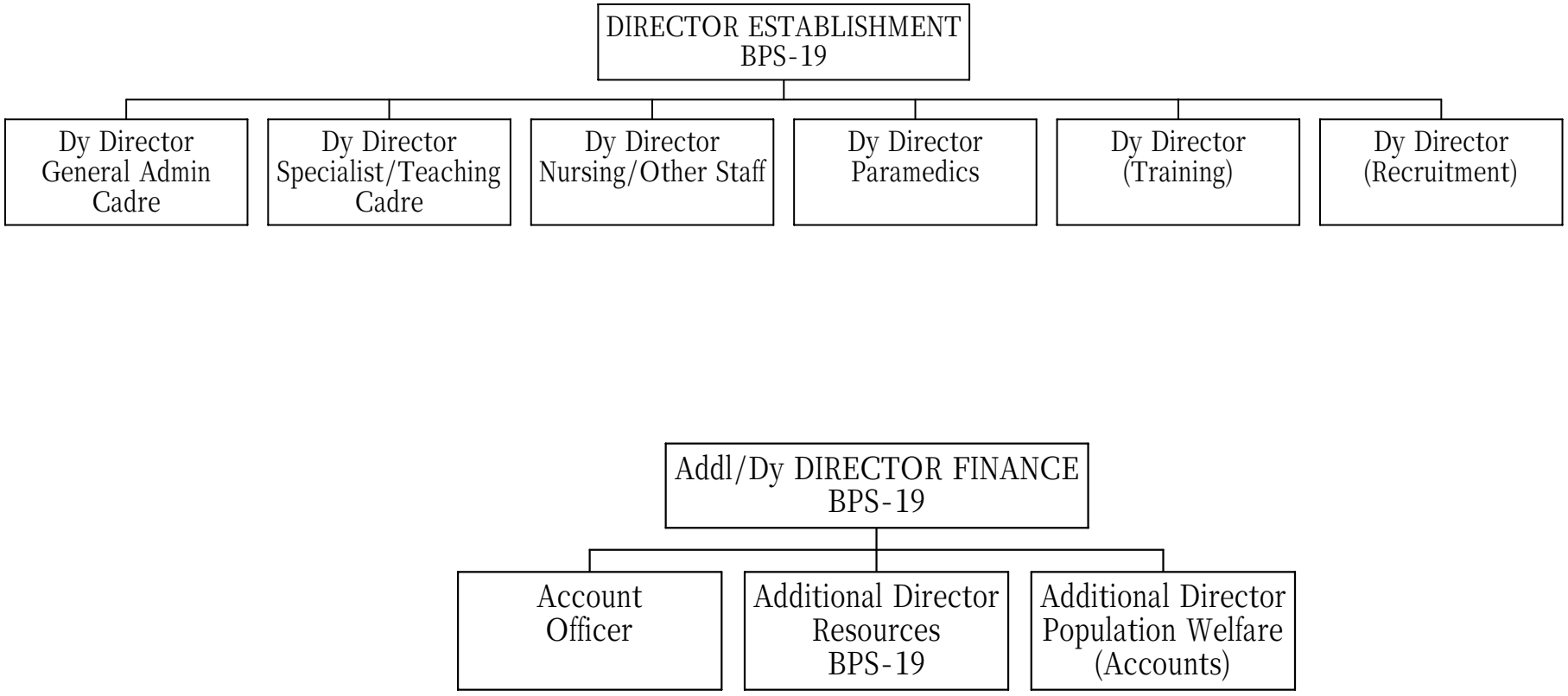
Annex Figure 7 Organization chart of directorate general of health department, Balochistan



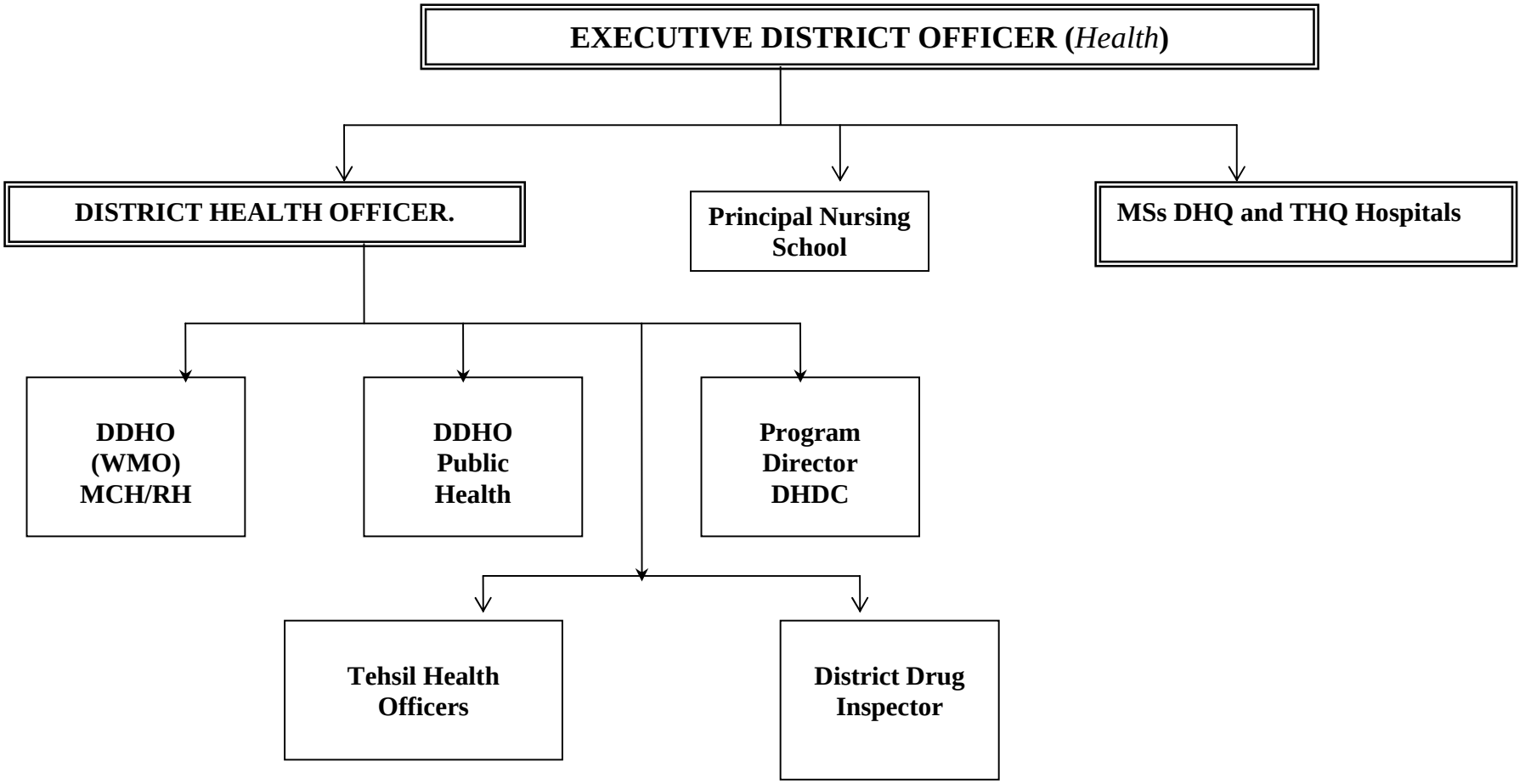
Organization chart of directorate of health department, Balochistan(Continued)



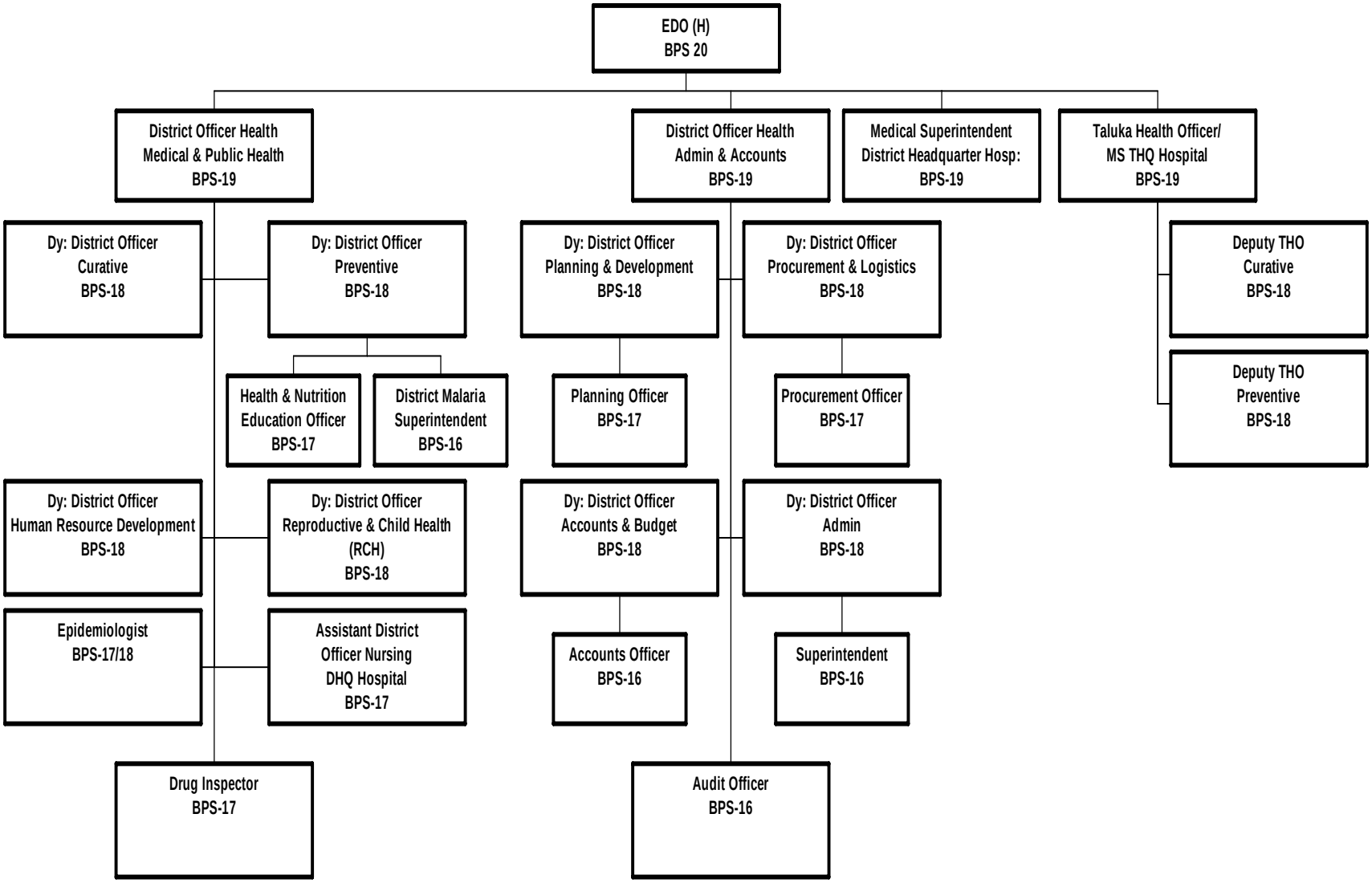
Organization chart of directorate of health department, Balochistan(Continued)



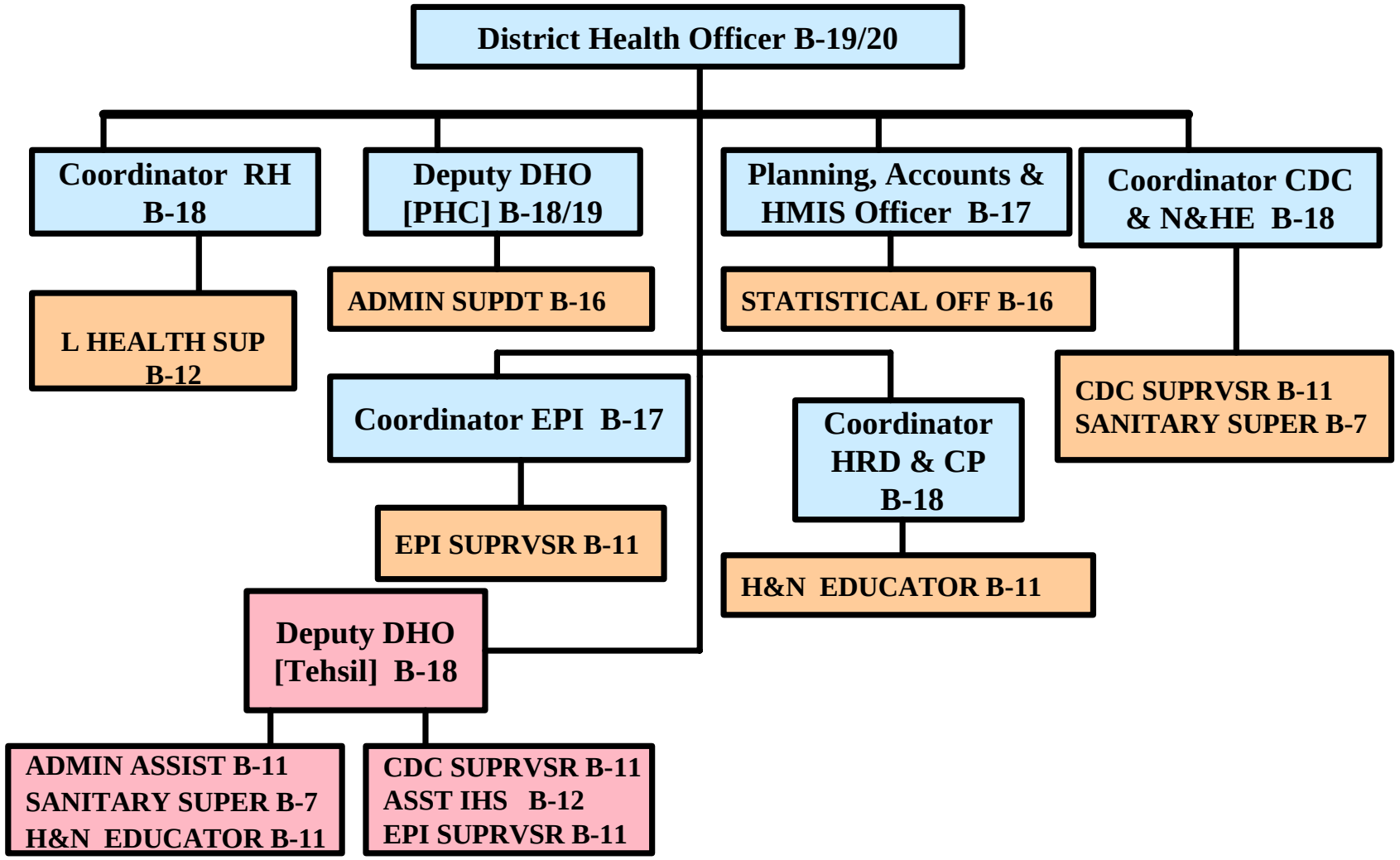
Organization chart of directorate of health department, Balochistan(Continued)



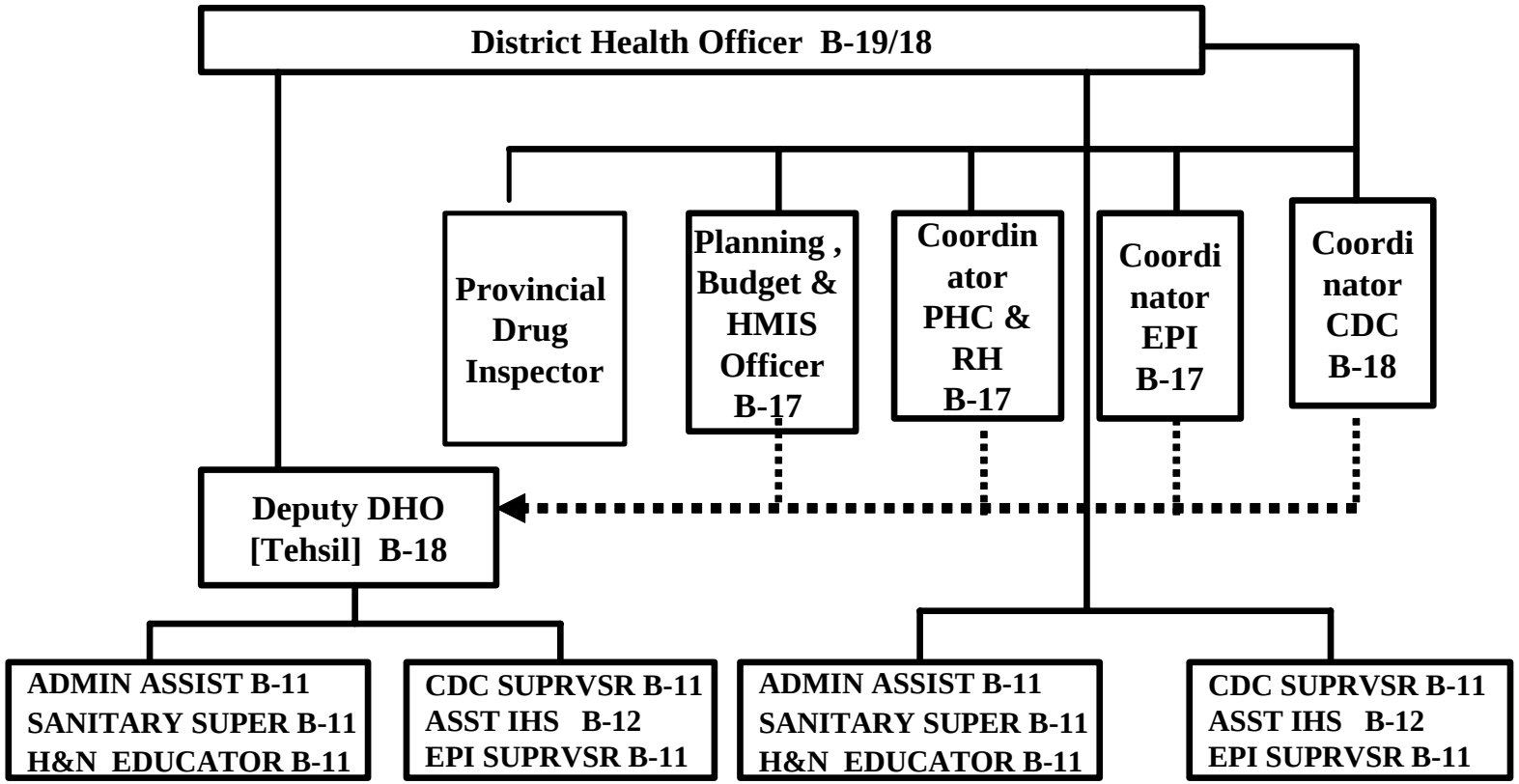
Annex Figure 8 Organization chart of district administration, Punjab



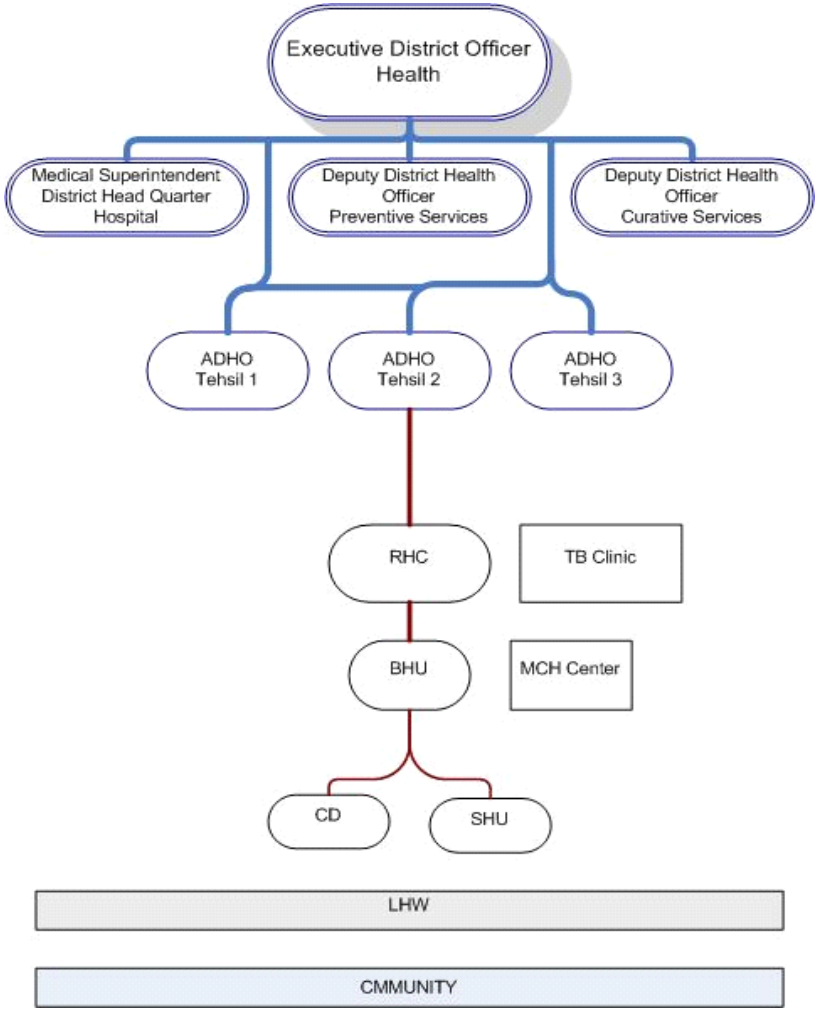
Annex Figure 9 Organization of district health office, Sindh



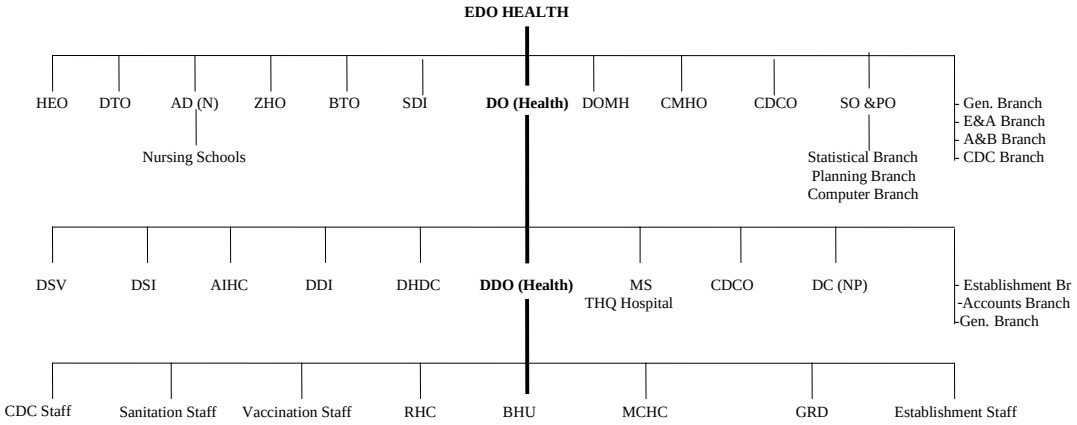
Annex Figure 10 Organization chart of a type-A district health office, NWFP



Annex Figure 11 Organization chart of a type-B district health office, NWFP



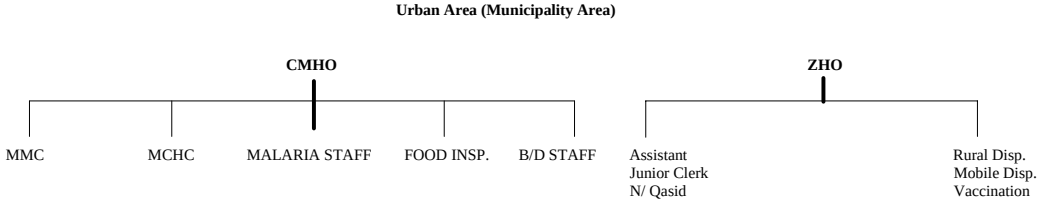
Annex Figure 12 Organization chart of district health office, Balochistan



Key:

HEO	Health Education Officer	DTO	District TB Officer	AD (N)	Additional Director (Nursing)
DO (BTS)	DO Blood Transfusion Services	DO (MH)	DO (Municipal Health)	DO (PW)	DO (Population Welfare)
SO & PO	Statistical & Planning Officer	Gen. Br.	General Branch	E&A Br.	Establishment & Admin Branch
A&B Br.	Accounts & Budget Branch	CDC Br.	Communicable Disease Control Branch		
DSV	Dist. Superintendent Vaccination	DSI	Dist. Sanitary Inspector	AIHC	Assistant Inspectoress Health Care
DDI	Dist. Drug Inspector	DHDC	Dist. Health Development Center	CDCO	Communicable Disease Control Officer
DC(NP)	Dist. Coordinator National Program for Family Planning & Primary Health Care			RHC	Rural Health Center
BHU	Basic Health Unit	MCHC	Mother & Child Health Center	GRD	Govt. Rural Dispensary
SDI	Senior Drug Inspector				

[Source: HMIS Coordinator, Rawalpindi]

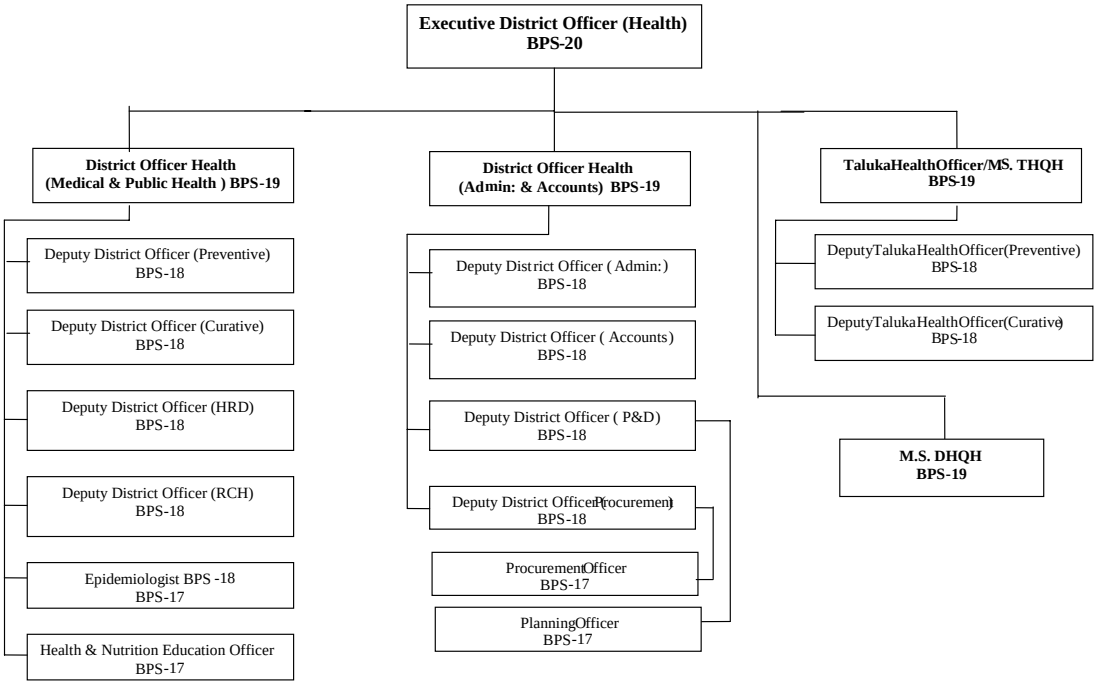


Key:

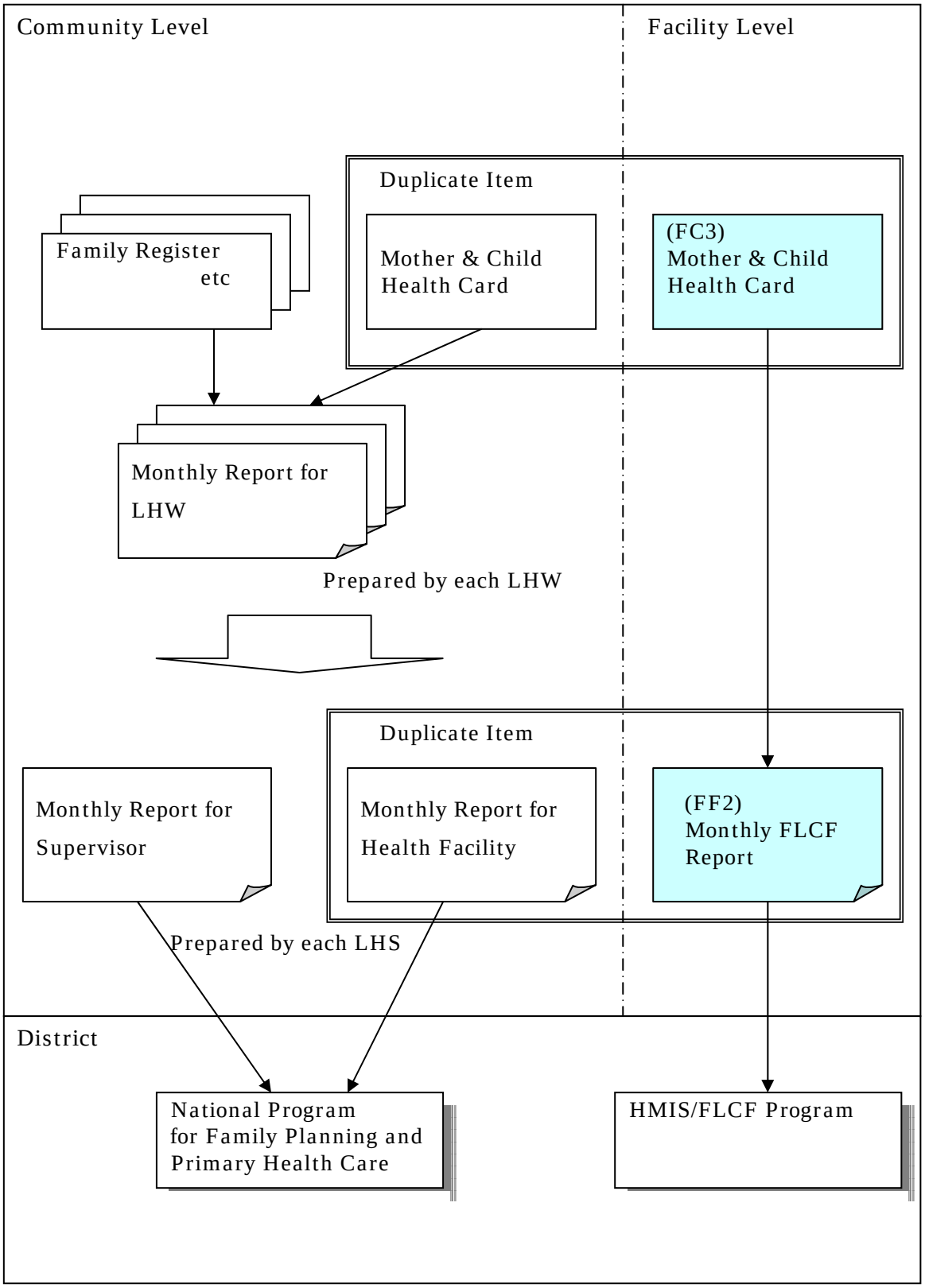
CMHO	Chief Municipal Health Officer	ZHO	Zonal Health Officer		
DDPW	Deputy Director Population Welfare	TPWO	Tehsil Population Welfare Officer	MSU	Mobile Service Unit
FTO	Field Technical Officer	FWA (M)	Family Welfare Assistant (Male)	FWA (F)	Family Welfare Assistant (Female)
MMC	Municipal Medical Center	B/D	Birth/ Death	DO (PW)	DO (Population Welfare)

[Source: HMIS Coordinator, Rawalpindi]

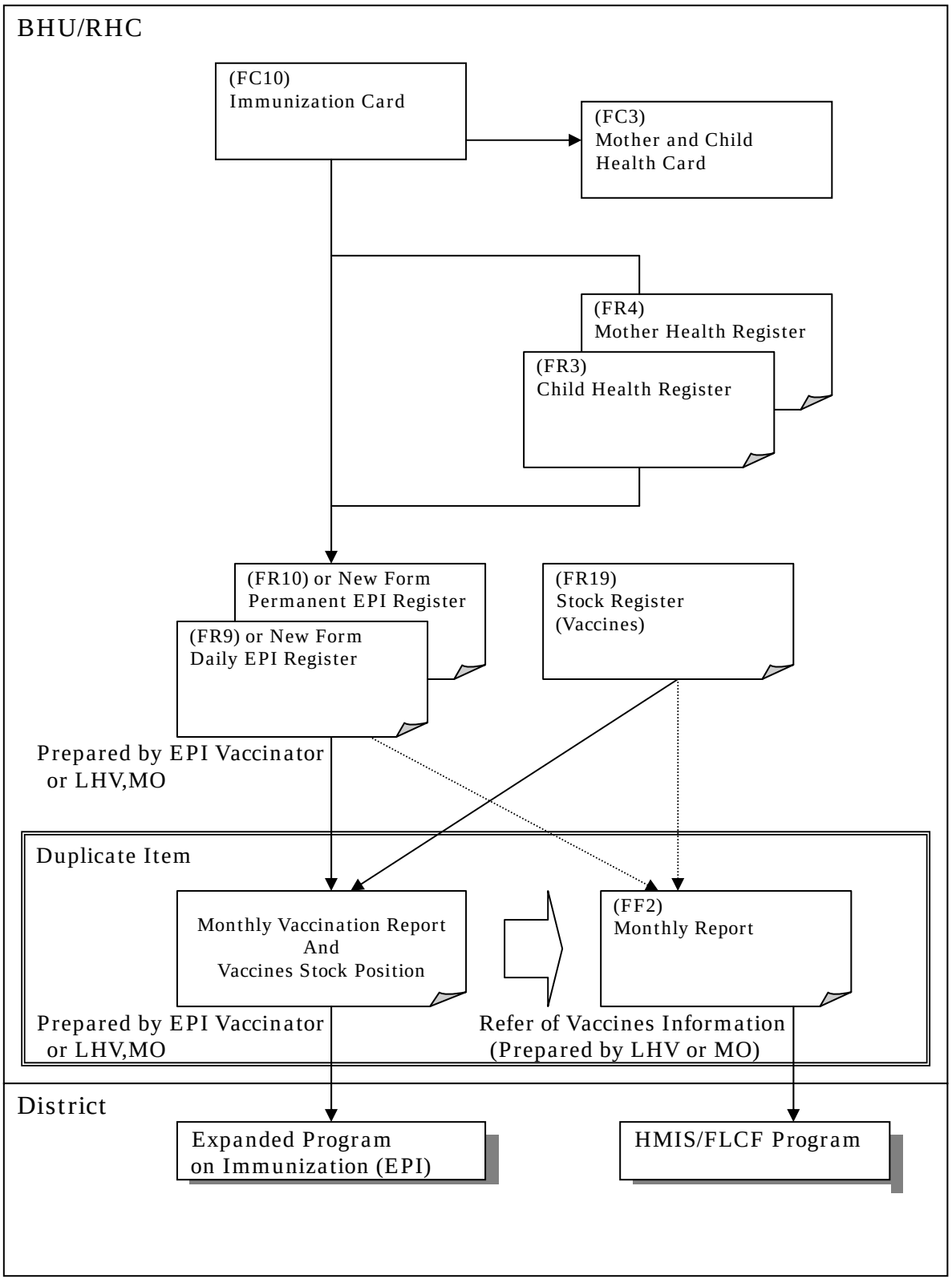
Annex Figure 13 Organizational Chart - EDOH Office, Rawalpindi



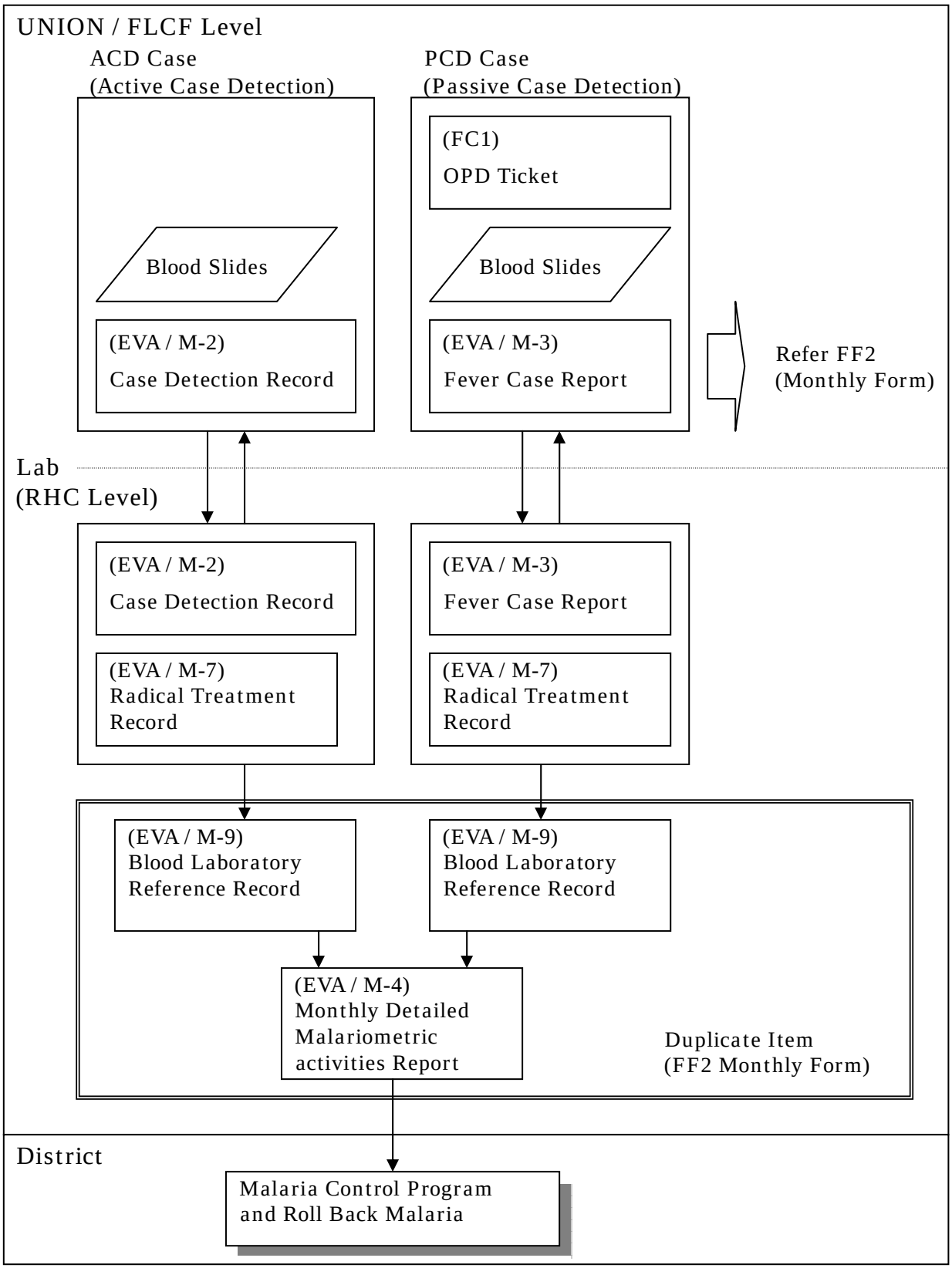
Annex Figure 14 Organizational structure of executive district office health (EDOH) in Sindh



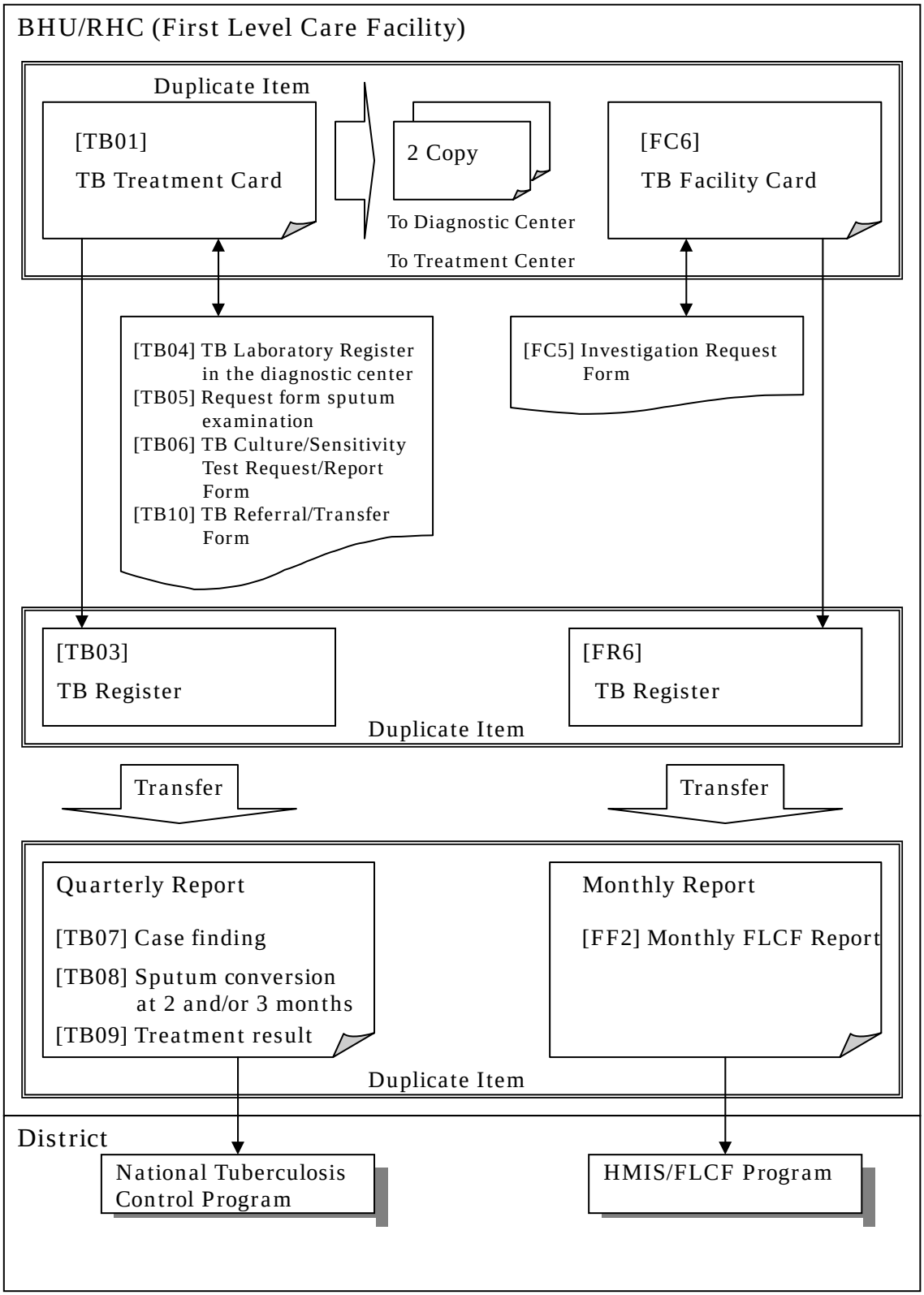
Annex Figure 15 Flow of LHW Form



Annex Figure 16 Flow of EPI Form



Annex Figure 17 Flow of Malaria Form



Annex Figure 18 Flow of Tuberculosis Form