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Sub-National Governance Programme

NEEDS ASSESSMENT AND EVIDENCE BASED BUDGETING

Primary Health Care

Mandi Bahauddin

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Primary Health Care

Mandi Bahauddin

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List of abbreviations

ANC   Ante Natal Care

ARI   Acute Respiratory Infection

BHU   Basic Health Unit

BOD   Burden of Disease

CDC   Community Disease Control Programme

CEI   Client Exit Interview

CM   Chief Minister

CMW   Community Midwife

CPR   Contraceptive Prevalence Rate

DCO   District Coordination Officer

DHA   District Health Authority

DHDC   District Health Development Centre

DHIS   District Health Information System

DHQ   District Headquarter Hospital

DoH   Department of Health

DRG   District Reform Group

EDO   Executive District Officer

EDO (H) Executive District Officer (Health)

EPHS   Essential Package of Health Services

EPI   Expanded Programme on Immunisation

FP   Family Planning

FY   Fiscal/Financial Year

GIS   Geographic Information System

HFA   Health Facility Assessment

HIV   Human Immunodeficiency Virus

List of abbreviations

HR   Human Resource

IMR   Infant Mortality Rate

LHV   Lady Health Visitor

LHW   Lady Health Worker

MCH   Maternal Child Health

MCHC   Maternal and Child Health Centre

MDGs   Millennium Development Goals

MEA   Monitoring and Evaluation Assistant

MICS   Multiple Indicator Cluster Survey

MIS   Management Information System

MMR   Maternal Mortality Rate

MNCH   Maternal, New-born and Child Health

MO   Medical Officer

MSDS   Minimum Service Delivery Standards

MTBF   Medium Term Budgetary Framework

NMNCH   National Maternal, Neonatal and Child Health

OPD   Out Patient Department

ORS   Oral Rehydration Salts

PDHS   Pakistan Demographic and Health Survey

PER   Performance Evaluation Report

PHC   Primary Healthcare

PHCC   Punjab Healthcare Commission

PHDC   Provincial Health Development Centre

PHIS   Punjab Health Information System

PITB   Punjab Information Technology Board

List of abbreviations

PLGA   Punjab Local Government Act

POL   Petrol Oil & Lubricant

PSLM   Pakistan Social and Living Standards Measurement Survey

PRSP   Punjab Rural Support Programme

RHC   Rural Health Centre

SBA   Skill Birth Attendant

SHC   Secondary Health Care

SH&NS   School Health and Nutrition Supervisor

SFHP   Second Family Health Project

SOPs   Standardized Operating Procedure

SNG   Sub National Governance

STIs   Sexually Transmitted Infection

TBAs   Traditional Birth Attendants

THQ   Tehsil Head Quarter

TPI   Technology for People Initiative

TRF   Technical Resource Facility

TT   Tetanus Toxoid

U5MR   Under five Mortality Rate

UC   Union Council

UN   United Nations

UNICEF   United Nations Children's Emergency Fund

VCT   Voluntary Counselling and Testing

WHO   World Health Organization

WMO   Women Medical Officer

Executive Summary

i. The Sub National Governance (SNG) Programme aims to strengthen government's capability to deliver health and education services by providing technical assistance to sub-national governments of 12 selected districts of Punjab and Khyber Pakhtunkhwa (KP) to enable them to take decisions based on robust evidence make services more responsive to people's need and strengthen government capability to deliver basic services.

ii. To achieve these targets the SNG Programme conducted a health sector needs assessment in district Mandi Bahauddin to identify the gaps and issues in access, coverage and quality of primary health service delivery (just focusing on BHUs) based on some select indicators for each of the above stated dimension of service delivery. The aim was to identify the real needs of the people especially women, children and marginalized groups; and suggest pragmatic and practicable solutions to bridge these gaps and improve service delivery.

iii. The needs assessment was carried out using the latest secondary data available from the published sources on Primary Healthcare (PHC) sector. Additionally, primary data collected by the Directorate General of Health Services in Punjab for the Punjab Health Information System (PHIS) and the data collected from the EDO (H) of the district was also used. The World Bank team also supported the study by carrying out a GIS analysis to assess the ease of access to PHC facilities in district Mandi Bahauddin. The current situation was assessed and the gaps were identified in PHC service delivery by comparing the present status of select indicators with the standards of service delivery laid down in the provincial Essential Package of Health Services (EPHS) and the Minimum Service Delivery Standards (MSDS).

iv. This report consists of six sections. First four sections are introductory in nature providing background and a vivid picture of current situation of primary healthcare in Punjab and district Mandi Bahauddin, the fifth section provides the findings of the study and gaps identified in service delivery at the PHC level, while the last section gives recommendations to bridge these gaps.

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Budget allocations

v. Out of the total district budget of Mandi Bahauddin, Rs. 494 million was spent in the health sector. This is almost 15% of the total expenditure in the financial year 2013-2014. The salary expenditure for the same year was Rs. 425 million and the non-salary part consisted of Rs.69.0 million. Primary health was allocated Rs. 351.84 million during the same year while the utilization of budget was 82.19%.

Coverage

vi.   Maternal Mortality Ratio is measured as the number of maternal deaths per 100,000 live births. MMR in Punjab was estimated to be 227 per 100,000 live births in 2012-13. During the same year 73% of the women received pre natal services in Punjab and 89% received the same services in district Mandi Bahauddin. As the standard for coverage of pre natal services is 100%; therefore a gap of 11% exists in coverage of the service. During year 2013, Antenatal Care (ANC-1) coverage in Punjab was 93% while in district Mandi Bahauddin 125% woman availed this facility. According to the PSLM survey, during the year 2013, postnatal care services were availed by only 28% women in Punjab and 22% in district Mandi Bahauddin against the standard of 100% coverage, leaving a gap of 78% in the district. During the same year, total infants deaths in BHUs of district Mandi Bahauddin were 992 while 44 maternal deaths were also reported.

vii. Safe childbirth and effective neonatal care are essential to prevent child mortality. According to MICS 2011, IMR in Punjab was 82/1000 live births, and 58/1000 live births in district Mandi Bahauddin, while under 5 mortality rate was 104/1000 live births in Punjab and 69/1000 live births in district Mandi Bahauddin. Additionally, 93% of the children aged 12-23 months were fully immunised in the district. Although time series data suggests that IMR is showing a downward trend in the province, a lot needs to be done to bring the IMR down to meet the MDG target for infant mortality.

viii. A child's birth weight is an important indicator for vulnerability to childhood illness. According to MICS (2011), out of total live births, 28.1% babies in Punjab and 25.8% in district Mandi Bahauddin were born with low birth weight (<2.5kg). It was found that 15% of children in Punjab and 13% in Mandi Bahauddin were severely stunted. This is a challenge for health sector planners and caregivers as this has an adverse effect on infant mortality.

ix.   In a delivery conducted by a Skilled Birth Attendant (SBA) the chance of averting maternal and neonatal mortality and morbidity at the time of childbirth is higher. During the year 2013, 74% deliveries in Punjab and 73% in district Mandi Bahauddin were conducted by SBAs against the expected population i.e. 2.9%. Therefore a gap of 27% still exists against the standard.

x.   MNCH is a priority area under the Provincial Health Roadmap. This is also an area that needs special focus of the district in order to improve coverage of MNCH related services and to reduce IMR and MMR. In order to improve coverage and outcomes of MNCH related indicators, it is recommended that MNCH related vacant positions in the district must be filled on priority basis. In case it is not possible to fill all positions, it is recommended that a cluster approach may be adopted and a doctor may be allocated to three or four BHUs. Additionally, as the data suggests that most of the deliveries are taking place at home, therefore it would be useful to train the traditional birth attendants and group them with

LHWs, where referrals are made in case of complications. The district can utilize the DHDC to train the TBA, so that they can play a better and effective role.

xi. The most important and relatively ignored component of MNCH is advocacy and awareness raising. It is recommended that the district Mandi Bahauddin may devise a comprehensive advocacy and awareness raising campaign to communicate MNCH related messages to the public. The local cable network can be used for this campaign.

xii. Immunisation coverage is a good indicator of health system performance. TT immunisation indicates the proportion of pregnant women protected against Tetanus Toxoid. In 2013, 81% women in Punjab and 95% women in district Mandi Bahauddin were immunised against the expected population while according to the MSDS the immunisation coverage should be 100%. This again indicates a gap in coverage of TT immunisation. Similarly, total EPI coverage in Punjab was 47% while in Mandi Bahauddin it was 60%. According to PSLM survey, Polio 1 coverage in Punjab and Mandi Bahauddin was 98% and 80% in 2013. These figures seem to be exaggerated as a number of cases of polio were reported in the province during the year 2013. However, Mandi Bahauddin is categorised as a low risk district for polio.[1]

xiii. The data clearly indicates gap in immunisation coverage in the district. However the extent of gap varies according the source of data that is looked at. This creates doubts on the authenticity of the data. Therefore there is a need to ensure that data is collected through an independent agency, using robust data collection methodology, at least on an annual basis, if not earlier.

xiv. Additionally, as found during the study, one of the major reasons for vaccinators' poor performance is that the funding for POL is not released on time, resultantly the vaccinators are not able to visit their beats for vaccinations. Therefore, it is recommended that the POL for vaccinators may be reflected as a separate head in the budget, and not made part of the overall health sector budget. Moreover, fleet cards are recommended to be issued to the vaccinators for POL.

xv. The vaccinators are spending a lot of days on non-routine vaccination, which is affecting their routine vaccination. There is a need to reduce their days spent in non-routine vaccination. A decision in this regard has to be made by the provincial health department.

xvi. The SNG has conducted a detailed study of existing business process of EPI. The report was presented to the Health Department Punjab and other relevant stakeholders in a meeting chaired by Secretary Health. It was agreed in the meeting by all the stakeholders that the suggested model is workable and likely to improve coverage. It is therefore recommended that work on piloting the model proposed in the SNG report may be taken forward on priority basis by the Health Department.

xvii. E-Vaccs monitoring system rolled out in the districts with the help of PITB needs to be strengthened by imparting additional trainings to the vaccinators. The

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1   http://www.endpolio.com.pk/polioin-pakistan/high-risk-areas

monthly report generated by PITB of this data must be shared with the DCOs concerned and the EDO (H). The district officers need to be trained to effectively use these reports to undertake effective planning for increasing coverage.

xviii. It is further proposed that in district Mandi Bahauddin the UCs with low immunisation coverage and with incidence of polio, and measles reported should be marked as hot-spots and special focus in terms of manpower and other resources should be given to these hotspots to improve immunisation coverage and control the incidence of disease.

xix. 12% couples in Punjab and 11% in Mandi Bahauddin consulted health facilities for Family Planning (FP), indicating a huge gap of 89% in district against the MSDS prescribed standards. Increase in Contraceptive Prevalence Rate (CPR) can be achieved through improvement in availability of contraceptives at the health facilities, and through referrals. There is a need to establish robust stock monitoring system to ensure that the right stock reaches the right healthcare facilities where it is in demand. Additionally, proper protocols do not exist for referral of FP clients. There is a need to develop these protocols. Lady Health Workers (LHWs) are discouraged not to refer clients to healthcare facilities for contraceptives due to shortage of contraceptives at these facilities. Supplies need to be improved to create the right incentive for LHWs to undertake referrals. LHWs must also refer women for long-term methods against referrals for short-term methods. Likewise, targets can be set by the district for provision and referrals for family planning services. Proper data recording will be essential to monitor that the targets are achieved. Therefore recording of family planning information can be made part of the data collected by the Monitoring and Evaluation Assistants (MEAs).

xx. The top five diseases recorded during the year 2013 were Acute Respiratory Infection (ARI), Fever due to other causes, Scabies, Peptic Ulcer Diseases and Diarrhoea/Dysentery in <5 years. ARI was the commonly occurring disease in Punjab as well as in district Mandi Bahauddin. Time series analysis of data suggests that although incidence of ARI is coming down over the years the incidence for diarrhoea/dysentery is on the increase, requiring further investigation into its causes.

xxi. The Government of the Punjab is pursuing a policy of provision of free medicine to all patients attending a public sector health facility. However, the availability of medicine in BHUs and that too in accordance with the burden of disease is an elusive goal. Stock out status measures the percent of health facilities that experienced a stock out of any tracer drug/medicine for any number of days at any time in the year. The percentage for all drugs out of stock was 25% in Punjab and 54% in district Mandi Bahauddin as per the PHIS data. This is an alarming situation and indicates a gap in coverage of health care service provision at the district level.

xxii. One of the major factors affecting the health care at BHUs includes staff absenteeism, limited time (from 8 AM to 2 PM) of service provision at BHUs and poorly trained staff Only 74% of total sanctioned positions were filled in public

sector health facilities of Punjab. Some of the essential staff positions such as medical officers, women medical officers and vaccinators were vacant as 51% sanctioned positions of doctors and 20% sanctioned positions of vaccinators were vacant in Punjab during 2014.The situation in Mandi Bahauddin is not much different. 49 positions of medical officers were sanctioned at BHU level in the district while only 15 were filled. Similarly only 65 vaccinators were present in Mandi Bahauddin against 66 sanctioned positions.

xxiii. Vertical Programmes have been under implementation in the province for quite some time now addressing priority areas such as MNCH and EPI. In district Mandi Bahauddin the following vertical Programme are under implementation: Expanded Programme for Immunisation, Epidemics Prevention and Control Programme, National Maternal and Child Health Programme, National Programme for Family Planning and Primary Health Care, Nutrition Programme, Prevention and Control of Hepatitis, and TB control Programme. The study found that most of the vertical Programmes are working in isolation having very little coordination with the district health department. This has diminished the utility of these Programmes and the synergized effect that could have been possible is missed. One of the main reasons for this is that although the various vertical Programmes have been devolved from the federal to the provincial government, they have not been appropriately devolved to the district level and the reorganization that is required to integrate them with the exiting health structures at the district level, has not taken place. Resultantly parallel structures exit at district level, with both working in silos with very little communication or exchange of operational information. Therefore, it is recommended that a provincial level assessment may be carried out and organizational changes are made to effectively integrate the vertical Programmes with the exiting district health structures and institutions.

Quality

xxiv. To assess the quality of health facility infrastructure and equipment, a primary survey was conducted by Technical Resource Facility (TRF) at 20 health facilities including 10 BHUs in district Mandi Bahauddin. The study revealed that most of the BHUs lack basic infrastructure and equipment in terms of compliance with the specified minimum standards provided in MSDS. Client Exit Interviews (CEI) were also conducted which showed that majority of the clients visiting the public sector primary healthcare facilities were generally satisfied with the services. The lack of essential equipment has to be made good over time by the district, as a huge capital investment is needed in procuring missing equipment, which is not possible immediately due to the large sums involved. Additionally, the study also found that even the existing equipment is not well maintained by the districts. Therefore the district must make necessary allocations for maintenance and repairs of existing equipment in its budget. Therefore the districts must make necessary allocations for maintenance and repair of existing equipment in its budget.

xxv.   A detailed analysis has been carried out to assess the OPD workload of total 49 BHUs of Mandi Bahauddin using PHIS data. The analysis revealed that average outpatient load per working day across all BHUs in the district was 30 while majority of the BHUs in Mandi Bahauddin (42 out of 49) experienced a "MEDIUM" outpatient load per working day relative to average across all BHUs in the district. There is a need to investigate this further and assess the reason for same, in case the workload is low due to issues of accessibility or lack of services at the BHU. The district must assess the cost of providing missing facilities at the BHUs. In case the cost is too high, the district may decide to consolidate BHUs. This would also spare the staff and other resources that could be utilized elsewhere in the district. In addition to that, it was also observed that total OPD cases have slightly increased from 138,000 in the year 2010 to 163,000 in the year 2013.

xxvi.   BHUs are the first port of call for a large majority of population of the district when it comes to medical treatment. A large number of MNCH related services are also provided at the BHU, therefore there is a need to improve the working of BHUs. In order to improve the performance of BHUs, community based monitoring is proposed. Additionally, a cluster approach is recommended where a few BHUs are tied up with an RHC and the RHC is to support the working of BHU and be responsible for its performance.

Access

xxvii.   Access to health facilities is an important aspect of the overall health care system and has direct implications for the burden of disease. For the purpose of this report, the issue of access to BHUs was looked into using GIS maps and by developing different layers of data such as BHU locations, presence of roads and availability of doctors. On the basis of this analysis those areas were also identified that do not have any access to BHUs because of distance from locality and travel time that make these facilities almost inaccessible at the time of emergency. There is a need to undertake detailed analysis on similar lines to identify all such areas. Medical camps are proposed in order to provide healthcare facilities to these inaccessible localities/villages

Governance and management issues

xxviii. It has been found in this study that It has been found in this study that evidence based planning is not being practiced in the districts. This is for various reasons - lack of capacity and credibility of the available data being few such reasons. In order to improve the quality of health sector data PITB is also involved in a number of initiatives. Punjab Health Watch and Medicine Inventory Management System are two such initiatives that are in various stages of development. Some capacity development has also been carried out by PITB in this regard, but feedback from the field suggests that a lot needs to be done to enable the health sector managers at the district level to use the initiatives to improve service delivery in their districts. One major

drawback of these systems is that they have been designed as monitoring tools and thus lack the information and reporting needed for effective planning. Additionally, the health sector planners do not have any incentive to use data for planning. The present system of performance management is not effective and resultantly the health care managers have no incentive to perform better as their posting, transfer or promotion is not linked to their performance against some well-defined key indicators. Therefore it is proposed that the appointment of officers must be on merit and for a fixed tenure, subject to achievement of the performance targets. This system will work effectively if a robust data gathering system is also in place and credible data is collected to determine the performance of health care staff against service delivery indicators. A move in this regard is already on the cards under the Health Roadmap Punjab. The Punjab Health Roadmap team has also prepared disaggregated targets for each of the districts in the province against selected indicators. Once the results are tracked over time and rewards and punishment linked with the performance of health sector mangers, they will have an incentive to use the data to improve health service delivery.

xxix.	Most of the bottlenecks in PHC service delivery are governance related issues, and improvement in governance is likely to improve the quality of service delivery. It is recommended that the District Health Authorities (DHAs) proposed as a local government tier under the Punjab Local Government Act (PLGA) (2013) must be implemented forthwith in letter and spirit. The service delivery at the district level is severely affected by over centralization at the provincial level. If DHAs are established and sufficient decentralization of authority and power is allowed along with a robust monitoring and evaluation system, the PHC service delivery is likely to improve.

1. Background and Introduction

1.1 Background

The Sub-National Governance (SNG) Programme aims to strengthen governments' capability to deliver health and education services by providing technical assistance to sub-national governments of 12 selected districts of Punjab and Khyber Pakhtunkhwa (KP) to enable them to: take decisions based on robust evidence; make services more responsive to people's needs; and strengthen government capability to deliver basic services.

To support the achievement of these objectives, the SNG Programme conducted a health needs assessment in Mandi Bahauddin district, Punjab to: identify gaps and issues in the access, coverage and quality of primary health services; highlight gaps in health sector performance indicators and identify the factors influencing these gaps (planning, budgeting and management processes); and inform relevant stakeholders about the service delivery gaps and identified needs.

1.2 Introduction

This needs assessment was carried out in-house using the latest secondary data available from published sources on primary healthcare sector. Primary data collected by the Director General Health Service Punjab for Punjab Health Information System (PHIS) was also used. Additionally, data was also collected from EDO (H) of the districts concerned for the analysis carried out in this report. Wherever available the latest and most reliable sources were used, and to further augment the study a GIS-based analysis was also conducted by the World Bank team for this report in order to examine the ease of access to the primary health facilities in district Mandi Bahauddin. The gaps in service delivery PHC were identified, based on a set of representative indicators, which address each of the three aspects of PHC, namely access, quality and coverage. This was followed by district health sector current budget review in order to find out how the finances at the district level can be reallocated in order to meet the identified needs better. On the basis of these analyses, budget proposals will be prepared for aligning the district budget to sectorial needs. These budget proposals are presented in a separate report.

Although, the PHC services are delivered through, both, the BHUs and the RHCs; however, for the purpose of this needs assessment study, the scope is limited to the BHUs in district Mandi Bahauddin.

The **needs assessment** report has been divided into six sections; the first section is introduction, which provides the background, objectives and scope of the needs assessment study. Second section discusses the overall health profile of the Punjab province and covers the key issues across the province, whereas the third section presents the profile of district Mandi Bahauddin. In the fourth section an analysis has been carried out of PHC service delivery by the BHUs using key indicators for access, coverage and quality; while, the fifth section presents the findings of the study by identifying the gaps based on agreed standards for service delivery, provided in the EPHS and the MSDS. The sixth section outlines recommendations for improving primary health care service delivery in the district by targeting the citizen needs. The report includes a number of graphs and tables to support the text and provide a clearer picture of specific indictors in the district.

1.3   Objectives

- The key objectives of this needs assessment are to:

- identify issues with access, coverage and quality of primary health services in light of the needs of people in the district, especially women, children and girls;

- highlight gaps in planning, budgeting and management processes, with a special focus on women, children and girls; and

- inform relevant stakeholders, including policy-makers health, managers and frontline service providers, about service delivery gaps and identified needs, along with recommendations to improve the provision of primary health care.

1.4   Scope of the needs assessment study

The needs assessment study was conducted for district Mandi Bahauddin (in the northern SNG cluster). This was useful in developing an understanding of health sector service delivery issues, especially for women, children and girls. The following three main aspects of the public health sector performance were considered during the needs assessment exercise:

1.4.1   Physical access to primary health care facilities (BHUs)

In order to examine access to primary health services in BHUs in this study, the following important aspects of service delivery were analysed:

I. physical accessibility of BHUs for the catchment population: In order to review this aspect, estimates of the average distance and average travel time of individuals in a catchment area from a BHU were obtained through the GIS mapping of the BHUs in

the district and the figures obtained were compared with the accepted standards of distance and travel time;

II. availability of roads: This aspect of accessibility of the primary health facilities was also addressed through the GIS based analysis; and

III. availability of a doctor at the BHU: Mere access to a BHU is of a very limited use for a patient unless a doctor is also available at the facility. This aspect was also examined with the GIS analysis.

1.4.2   Coverage

In order to evaluate coverage of the primary health services in district Mandi Bahauddin, the needs assessment exercise assessed:

I. implementation of MSDS, the EPHS and other services packages in accordance with the local needs;

II. overview of disease patterns of district Mandi Bahauddin through Primary and secondary data sources, namely the PHIS and the Health Information System Punjab Annual Report (2013), and comparison of the pattern with the scope of healthcare services offered to assess the gaps; and

III. availability of requisite staff, medicines, and diagnostic services at facility level in accordance with requirements of the MSDS and the EPHS; where, the information on the BHU doctors, other staff and medicine were obtained from the district health managers (EDOs).

1.4.3   Quality

The needs assessment study focused on service delivery and governance related aspects of quality, such as gauging the client satisfaction level and the effectiveness of management practices to support delivery of health care services at the local level in accordance with local preferences and needs. In this context, the following aspects were examined:

I. Client Satisfaction: This study uses the data on client satisfaction obtained from the Health Facility Assessment (HFA) survey 2011 conducted by TRF, as a part of which Client Exit Interviews (CEIs) were conducted at a sample of 8 surveyed Rural Health Centres (RHCs) in district Mandi Bahauddin. The HFA report described satisfaction based on the perceptions of the clients using primary healthcare facilities.

II. Supply side or management practices: The management practices encompass the public financial management systems of the districts, such as budgeting, planning and management practices and how these processes take into account the local needs – especially those of women, children and girls.

III. Utilization of resources: By comparing budget allocation and expenditure trends the resource utilization trends were reviewed (the findings of this analysis are presented in a separate report).

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2.   Punjab: health profile

2.1   Background and demography

Punjab is the most populous province of the country. Its current population is estimated to be over 100 million. It has an area of 205,345 square kilometres, consisting of 36 districts and 127 tehsils.[2] Despite an extensive network of public health care facilities of 340 hospitals, 2,606 BHUs, 337 RHCs, 282 MCHCs and 1201 dispensaries; the overall health status of its population is below the desired level.[3] This is evident from the key primary health indicators of the province, some of which have been discussed below.

2.2   Maternal health

Maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy. The **Maternal Mortality Rate (MMR)** is measured as the number of maternal deaths per 100,000 live births. The MMR not only represents the risk associated with each pregnancy, i.e. the obstetric risk, but it is also a measure of the progress towards Millennium Development Goal (MDG) 5 of improving maternal health.

The MMR in Punjab was estimated to be 227per 100,000 live births in 2012-13, which is lower than the national figure of 276.[4] Complications during pregnancy and child birth are recognized as a leading cause of death and disability among women of reproductive age.

In order to reduce morbidity risk, ante-natal care is essential during pregnancy. **Ante-natal care coverage (ANC-1)** is used as an indicator of access and utilization of health care services during pregnancy. Overall **ANC-1 coverage** in Punjab was 93% of the total expected population. Out of the women who availed ANC-1 services, 21% were reported to be anaemic. **TT-II** (tetanus and neo-natal tetanus) immunisation was provided to 64% women against the expected population in Punjab, in 2013[5].

Deliveries conducted by **SBAs** are one of the pre-requisites for lowering MMR. In Punjab, 74% deliveries were conducted by SBAs in 2013; however, the share of deliveries conducted at public health sector facilities was as low as 28% of the

2   Department of Health, Government of Punjab, *Essential Package of Health Services for Primary Health Care in Punjab,* 2013, 9

3   Bureau of Statistics, Government of Punjab, Statistical Pocket Book of The Punjab, 2013

4   Pakistan Millennium Development Goals Report, 2012-13, UNDP

5   The expected population refers to the estimated yearly target population for the relevant indicator covered in DHIS survey

expected population in 2013.[6] The number of pregnant women registered by LHWs reflects the extent to which pregnant women in the catchment area have come in contact with the public healthcare system, which can be used as a crude measure of access to maternal care. In 2013, the number of newly registered pregnant women per LHW was 20, and **FP** services were only availed by 12% of eligible couples from the public sector health facilities against the expected population.[7]

2.3   Childhood mortality

Infant Mortality Rate (IMR) is not only an important indicator of a country's socio-economic development and quality of life; but it also reflects the general health status of its population. Additionally, the objective of reducing the infant mortality rate is formalized in MDG 4, which calls for a two-third reduction in under-five child mortality by the year 2015.[8]According to the Multiple Indicator cluster Survey (MICS) 2011 report, Punjab has an IMR of around 82 per 1000 live births, while the **Under-5 Mortality Rate (U5MR)** in the province is around 104 per 1000 live births.[9] **Neonatal mortality rate**, i.e. the probability of dying within the first month of life, was found to be 55 per 1000 live births in the year 2012.[10]

In comparison with other developing countries, such as Sri Lanka and India which had an IMR of 8 and 41 per 1000 live births respectively in 2013; Pakistan had the highest recorded IMR, estimated to be 69 per 1000 live births in the same year.[11] Moreover, the IMR of Pakistani Punjab was significantly higher, at around 82 per 1000 live births, when compared with the IMR of 30 for the Indian Punjab, in 2011.[12] [13]

6   Department of Health, Government of Punjab, Health Information System Punjab *Annual Report*, 2013, 1-2

7   Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 2

8   National Institute of Population Studies, Demographic and Health Survey 2012-13, 117

9   Government of Punjab, Multiple Indicator Cluster Survey (MICS), 2011

10   National Institute of Population Studies, Pakistan Demographic and Health Survey (PDHS) 2012-13, 120

11   World Bank, http://data.worldbank.org/indicator/SP.DYN.IMRT.IN, (18th Nov, 2014)

12   Government of Punjab, Multiple Indicator Cluster Survey (MICS), 2011

13   Government of India, Ministry of Health and Family Welfare, National Health Mission, 2011

Figure 1: Comparison of IMR with other developing economies

Infant Mortality Rate Per 1,000 live births

	Punjab, Pakistan	Punjab, India	Sri Lanka
	82	30	8
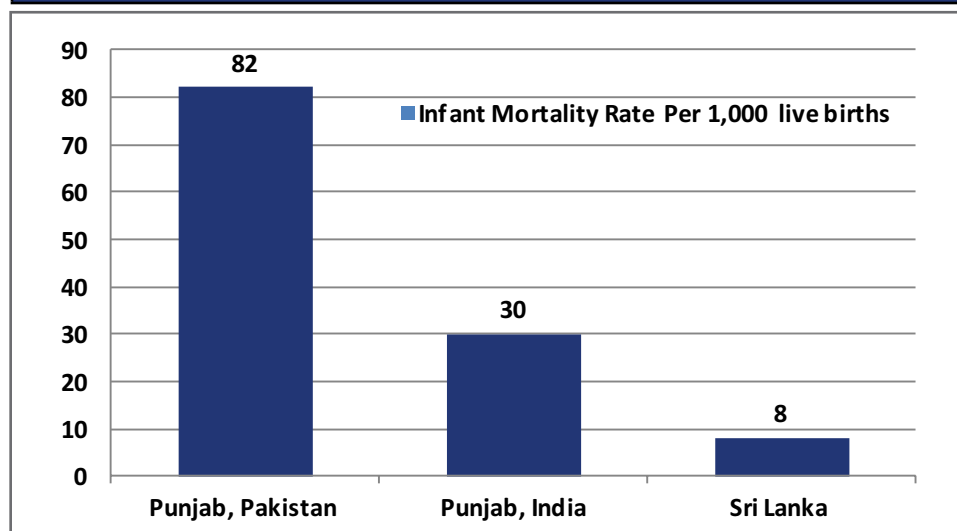
Source: Punjab MICS 2011, National Health Mission 2011, Population Council 2013 (WHO estimates)

Childhood mortality trends observed by comparing the data from Pakistan Demographics and Health Survey (PDHS) 2012-13 with data from 1990-91 and 2006-07 PDHS surveys confirm a declining trend in both IMR and the under-5 mortality rate in Punjab to the extent of 17% and 28%, respectively. However, the neo-natal mortality rate has increased by around 4% in the same period. Furthermore, the data suggests that all three types of mortality rates are higher for rural areas as compared to urban areas in Punjab.[14]

Figure 2: Trends in childhood mortality (1986-2012)

Deaths per 1,000 live births

	Neonatal mortality	Postneonatal mortality	Infant mortality	Child mortality	Under-five mortality
PDHS 1990-91 (1986 - 1990)	51	39	91	30	117
PDHS 2006-07 (2002-2006)	54	24	78	18	94
PDHS 2012-13 (2008-12)	55	19	74	17	89
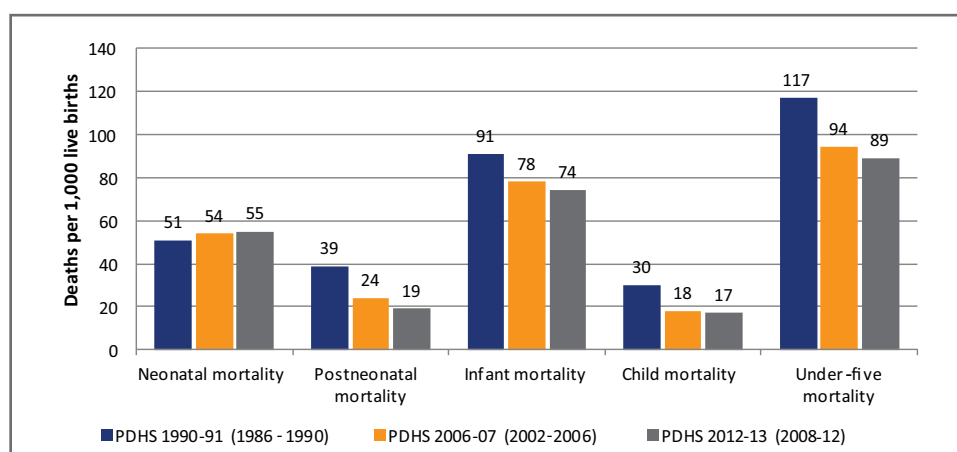
Source: Pakistan Demographics and Health Survey (PDHS), 2012-13

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14   National Institute of Population Studies, Pakistan Demographic and Health Survey (PDHS) 2012-13, 120-23

2.4   Nutritional status

Malnutrition is a major contributor to the high number of infant deaths. A child's birth weight defines the child's chances of survival, in addition to being an important indicator for the child's vulnerability to childhood illnesses.[15] According to MICS (2011), out of the total live births, 28.1% babies were born with low birth weight (<2.5kg). While over 15% of children under the age of five years were severely stunted and around 11% children were under-weight for their age in the province in 2013.

2.5   Workload of health facilities

The number of out-patients treated in a working day can be used as an indicator of the workload of a health facility. Particularly, the number of OPD visits can help differentiate between over-burdened and under-utilized health facilities. According to the Health Information System Punjab Annual Report (2013), the total OPD visits were 94.5 million in 2013. Additionally, the per capita OPD attendance can be used as an indirect indicator of public trust on the health services. The overall per capita OPD attendance was 1 in the province, which had increased from previous years. The average per day OPD attendance in BHUs and the RHCs was reported to be 47 and 151 visits per day, respectively. Furthermore, the overall age and gender wise distribution of the patients visiting the health facilities shows that the percentage of female patients was comparatively higher (55%); while the highest number of patients was reported within the age group of 15-49 years, out of which female were 29% and male 18%.[16]

2.6   Disease pattern

The top five diseases out of a total of 43 reported in the Health Information System Punjab Annual Report (2013) were: Acute (upper) Respiratory Infection (ARI), Fever due to other causes, Scabies, Peptic Ulcer Diseases and Diarrhoea/Dysentery in ages under and above 5 years. The total cases of ARI alone constituted around 15% of the reported cases.[17] Moreover, majority of the top reported diseases are communicable, with certain diseases disproportionately affecting the poor more due to their prevailing environment and socio-economic conditions.

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15   National Institute of Population Studies, Pakistan Demographic and Health Survey (PDHS) 2012-13, 124

16   Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 1

17   Ibid.

Figure 3: Top five recorded diseases in 2013 (Punjab)

Diarrhoea / Dysentery in <5 years — 2.42
Peptic Ulcer Diseases — 2.65
Scabies — 3.03
Fever due to other causes — 3.85
Acute Respiraatory Infection (ARI) — 15.46

Percentage of total recorded diseases

0   5   10   15   20
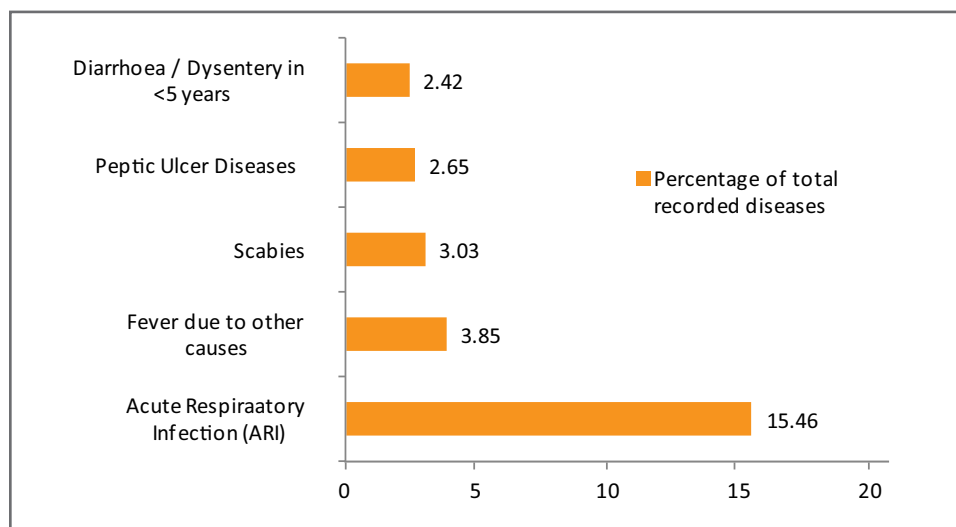
Source: Health Information System Punjab Annual Report, 2013

2.7   Medicine availability

Non-availability of essential medicines specified by the Essential Package of Health Services (EPHS) for primary health care in Punjab is a key factor due to which many patients at the BHUs do not get the basic care that they require. Stock-out status is an indicator of the percentage of health facilities that experienced a stock-out of any tracer drugs/medicines i.e. 18 essential drugs, for any number of days at any time of the year which also reflects the quality and coverage of primary care at public health facilities. On an overall basis 25% of health facilities in Punjab experienced a stock-out of tracer drugs/medicines in 2013.[18]

2.8   Immunisation

Immunisation coverage estimates provide a measure for monitoring immunisation services, to guide disease eradication and elimination efforts, and is a good indicator of public health sector performance. Expanding immunisation coverage is also crucial for the country's progress towards achieving the MDG 4 which requires reaching the target of above 90% immunisation coverage for children between the ages of 12-23 months. The immunisation coverage for children between the ages of 12-23 months in Punjab was reported to be 89% in 2013.[19]

18   Ibid.

19   Ibid.

2.9   Human resource

In Punjab, BHUs are faced with a significant shortage of doctors and other paramedic and nursing staff. On an overall basis only 74% of the sanctioned positions were filled according to MIS cell, Health Department of Punjab. The details are as below:

Table 1: Total filled positions against the sanctioned strength				
Staff positions	Sanctioned positions	Filled positions	Vacant positions	Percentage vacant
MO/WMO	2299	1137	1162	50.54%
LHV	2043	1841	202	9.89%
Dispenser	1903	1792	111	5.83%
Midwives	3527	1937	1590	45.08%
Vaccinators	3348	2702	646	19.30%
SH&NH	2006	1364	642	32.00%

Source: MIS Cell, Health Department, Government of the Punjab, 2015. EPI Cell, PHIS

2.10   Conclusion: Punjab health sector status

The identified key health indicators discussed above in some detail show that major issues related to public service delivery exist in the primary health sector in Punjab. A first glance at the overall health indicators for the province suggests that maternal and childhood mortality, immunisation, unavailability of essential medicines at the BHUs and unfilled staff positions are some of the critical areas which require improvement. These issues have now also been prioritized in the Punjab Health Reforms Roadmap, 2014.

After taking a brief look at various health sector indicators for PHC in Punjab, it would be appropriate to see how district Mandi Bahauddin fares against some of these indicators. This analysis is presented in the following sections.

3. District Mandi Bahauddin: background

3.1 History and location of the district

District Mandi Bahauddin was established in 1993. It consists of three Tehsils, MB Din, Phalia, and Malakwal. The district has boundaries with Sargodha, Gujrat, Hafizabad and Jehlum districts. Topographically, the district consists of river belt, mountainous, and fertile agricultural land. The main sources of livelihood of the people are agriculture, labour, government and private jobs, and businesses. Mandi Bahauddin is linked to other parts of the province and country, through a network of roads and railway tracks. Total Area of the district is 2613 sq. Km and the total population in the district is about 1,449,511.[20] [21]

Figure 4: Map of District Mandi Bahauddin
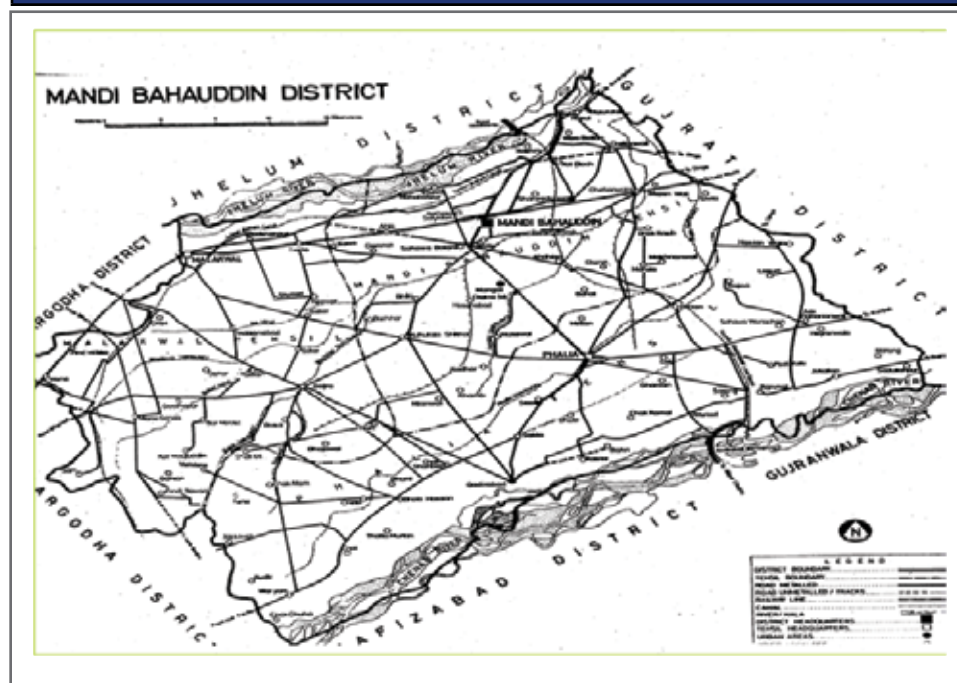
3.2 Demography

Mandi Bahauddin has an estimated population of 1.5 million, of which 51% are females and 49% are males. Majority of the district's population, around 87%lives in the rural areas. The annual estimated growth rate of the population is around 1.87%

20

21   Government of Punjab, Three Years Rolling Plan (2010-2013), District Mandi Bahauddin, 2009, 8

and the population density in the district is estimated to be 437 persons per sq. km.[22]

The following section presents information on a number of key indicators related to coverage, quality and access for district Mandi Bahauddin; so that the current state of primary health sector service delivery can be established. Furthermore, gaps can be identified by comparing the present status with the standards approved by the provincial government of Punjab for PHC service delivery.

22   ibid

4. District Mandi Bahauddin: health sector performance indicators

The conceptual model of effective PHC encompasses primary care which is preventive in nature and includes health promotion and community development within a comprehensive framework. The foundations of efficient PHC services are coverage, quality and access.[23] These three aspects of the public primary health sector can be assessed by measuring the key health indicators against the targets and standards defined in the MDGs 2015, EPHS and the MSDS (2008); which aim to standardize health services for more equitable access.

4.1   Budget allocation for PHC

The total expenditure of district Mandi Bahauddin for the year 2013-14 was Rs. 3268 million, and out of this Rs.494 million was spent on health sector in the district. This is almost 15 % of the total expenditure in the financial year. The salary expenditure for the same year was Rs. 425 million and the non-salary part consisted of Rs. 69 million. Primary health was allocated Rs 351.84 million during the same year while the utilization of budget in this sector was 82.19%. Table 2 below gives the details of estimated budget and actual expenditure for the financial year 2013-14.

Table 2: Mandi Bahauddin budget and actual expenditure (2013-14)

Rs in millions

Heads	Budget estimates	Actual expenditure
District budget	3650	3268
Health budget	564	494
Salary budget	317	425
Non-salary budget	247	69
PHC budget	352	289

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23 Department of Health, Government of Punjab, Essential Package of Health Services for Primary Health Care in Punjab, 2013, 14

4.2   District Health Development Centre (DHDC)

Under the Second Family Health Project (SFHP) Lahore, a network of District Health Development Centre (DHDC) was established in the province along with Provincial Health Development Centre (PHDC) Lahore. The aim of DHDC is to improve /support the District Health Service under the technical support of PHDC Lahore through training, development and operational research activities. However Mandi Bahauddin is one of the districts in Punjab where no DHDC has been established and it is not a PRSP managed district.

4.3   Health facilities

The healthcare service delivery in the province is provided through both public and private healthcare facilities. These two types of facilities vary in accessibility, content, affordability and equitable provision. The public sector facilities are tightly regulated even when quality may vary widely. On the other hand, where private sector provision is not optimally regulated, there is variation in quality and a clear picture is not available due to inadequate documentation, monitoring and reporting mechanisms. Public sector is by far the major provider of healthcare services in rural areas, and it is also the main provider of preventive care throughout the province.[24] In addition to a DHQ and THQ hospitals a total of 9 RHCs and 49 BHUs are currently operating in the district[25] while private sector is also contributing to healthcare service delivery with 36 facilities.[26]

4.4   Coverage

Coverage is a measure of the extent of services made available to the intended users. In case of Punjab, the MSDS and the EPHS define the whole array of services that will be made available at the BHUs and RHCs. Coverage is not limited to a particular aspect of service provision, but ranges from resource allocation to the achievement of the desired objectives.[27]

For the purpose of this analysis, the key indicators used to assess the coverage of primary health within the areas of maternal health, child health and immunisation have been discussed in the subsequent pages.

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24   Government of Punjab, Situation Analysis, Punjab Health Sector Strategy, 2012, 72

25   Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 5

26   EDO (H), District Mandi Bahauddin, 2014

27   WHO, http://www.who.int/healthsystems/hss_glossary/en/index2.html (12th Nov, 2014)

4.4.1 Maternal health

Prenatal care helps prevent complications during pregnancy and ensure healthy childbirth. In 2013, 89% of the pregnant women were given prenatal care in district Mandi Bahauddin. However, only 42% of those receiving prenatal services received this service from a government health facility, while 53% were provided this facility at a private hospital/clinic, and 5% consulted the traditional birth attendant (TBA).[i] [28] During the year 2013, 125% pregnant women in district Mandi Bahauddin were covered for antenatal care (ANC-1) services against the expected population; which is higher than the provincial figure of 93%.[29] Tetanus Toxoid (TT) immunisation was provided to 95% pregnant women and the district was ranked 5th in the province.[30] While 83% of the women were immunised against tetanus/ neonatal tetanus (TT-II)[31]

Delivery by a skilled birth attendant (SBA) is important in averting maternal and neonatal mortality and morbidity.[32] According to the Health Information System Punjab Annual Report, in 2013, 21% of the newly pregnant women were registered by the LHWs in district Mandi Bahauddin. 73% of the deliveries were conducted by the SBAs as reported by the LHWs.[33] Additionally, in 2013, 7% deliveries were conducted at government hospital/RHC/BHU while 34% were reportedly carried out at a private hospitals/clinics and remaining 57% took place at home while 2% deliveries were reported from other health facilities.[34] Furthermore, 11% of the eligible couples availed family planning services from public sector health facility against the expected population.[35]

Globally, of the 2.9 million new born deaths that occurred in 2012, close to half of them occurred within the first 24 hours after birth. Labour, birth and the immediate postnatal period are the most critical for new-born and maternal survival.[36] During the year 2013, total infants deaths at BHUs of district Mandi Bahauddin were 992 while 44 maternal deaths were reported at the same facility level.[37] According to the Pakistan Social and Living Standards Measurement (PSLM) Survey, in the year 2013, only 22% of the mothers in district Mandi Bahauddin consulted a health facility for postnatal services which is slightly below the provincial figure of 28%. Out of those who received postnatal services, 17% went to government facilities, 83% visited private facilities/clinics.[38] [ii]

28 Pakistan Bureau of Statistics, Pakistan Social And Living Standards Measurement (PSLM), 2012-13

29 Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 28

30 Pakistan Bureau of Statistics, Pakistan Social And Living Standards Measurement (PSLM), 2012-13

31 Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 40

32 National Institute of Population Studies, Pakistan Demographic and Health Survey (PDHS) 2012-13, 130

33 Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 42

34 Pakistan Bureau of Statistics, Pakistan Social And Living Standards Measurement (PSLM), 2012-13

35 Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 37

36 WHO, http://www.who.int/maternal_child_adolescent/topics/newborn/postnatal_care/en/ (12th Nov,2014)

37 Department of Health, Government of the Punjab, Punjab Health Information System (PHIS), 2013

38 Pakistan Bureau of Statistics, Pakistan Social And Living Standards Measurement (PSLM), 2012-13

Figure 5: Situation of maternal health in Mandi Bahauddin (2013)
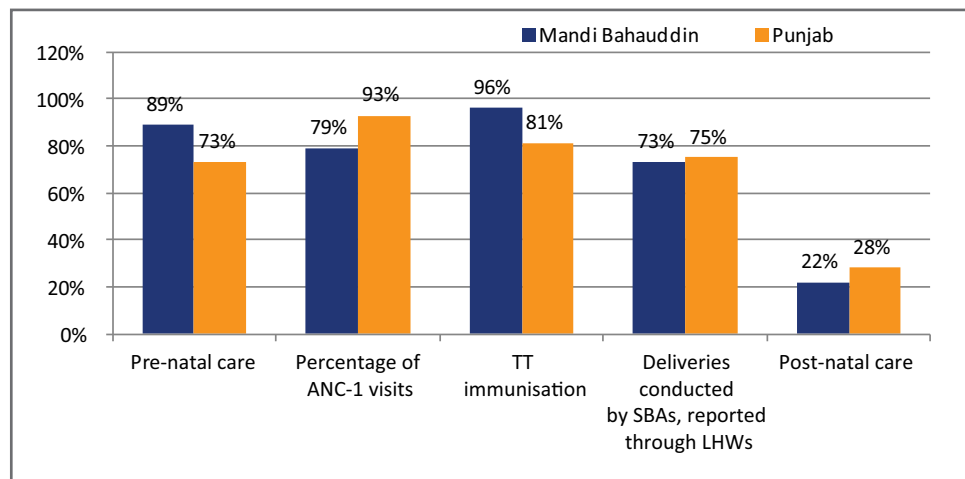
4.4.2   Child health

A child's risk of dying is highest in the neonatal period-the first 28 days of life. Safe childbirth and effective neonatal care are essential to prevent these deaths. Globally, 44% of child deaths under the age of five take place during the neonatal period.[39] According to MICS 2011, IMR in district Mandi Bahauddin is 58/1000 live births, and under 5 mortality rate is 69/1000 live births.[40] Additionally, 93% of the children aged 12-23 months in the district were fully immunised. It can further be added that 97% children in the urban areas while 93% children in the rural areas were fully immunised.[41] In addition to this, neonatal tetanus protection was provided to 82% children in the district.[42] These figures, however, appear exaggerated and different percentages are cited in different reports – generally higher figures of coverage are quoted in government reports as compared to other reports.

4.4.3 Vertical programmes[43]

In order to buffet service delivery in key areas of healthcare, the government has been implementing special Programmes. These Programmes work in areas that are neglected or that require specific attention due to policy priority. Seven vertical Programmes have been running in the district that include Epidemics Prevention and Control Programme, Extended Programme on Immunisation (EPI), National Maternal and Child Health (NMCH) Programme, National Programme For Family Planning & Primary Health Care, Nutrition Programme, Prevention and Control of Hepatitis and TB control Programme. Some of these Programmes briefly described below:

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39   WHO, http://www.who.int/mediacentre/factsheets/fs178/en/ (13th Nov, 2014)

40   Government of The Punjab, Multiple Indicator Cluster Survey (MICS), 2011

41   Federal Bureau of Statistics, Government of Pakistan. Pakistan Social And Living Standards Measurement   (PSLM), 2012-13

42   Government of The Punjab, Multiple Indicator Cluster Survey (MICS), 2011

43   Government of Punjab, Situation Analysis, Punjab Health Sector Strategy, 2012

4.4.3.1 Expanded Programme on Immunisation (EPI)

The Expanded Programme on Immunisation (EPI) is a disease prevention activity aimed at reducing illness, disability and mortality from childhood diseases preventable by immunisation. These diseases are referred to as 8 EPI target diseases and cause millions of ailments, disabilities and deaths each year.[44] Approximately 6000 EPI fixed centres in the country provide immunisation services to the people. However, these are not uniformly distributed. One in every 10 union councils (UCs) in Punjab province is without any EPI fixed centre. While at least 2 vaccinators are required in each UC according to the national EPI policy, the real number is lower (1 per UC). According to data available in the CM Health Sector Road Map documents the average EPI coverage in Mandi Bahauddin is 60%, while the provincial average is around 47%.[45] It is worth mentioning that the data for coverage of full immunisation in children aged 12-23 months ranges between 47% (Punjab Health Roadmap) to 76% by EPI Coverage Evaluation Survey. However, PSLM surveys show higher achievements. The latest round of PSLM Survey 2012-13 gives a figure of 89% for immunisation coverage in Punjab, with 90% coverage for males and 88% coverage for females. The rural urban disparity is also reflected in the coverage percentage, which is 88% for urban areas of Punjab and 89% for rural areas.

Table 3: Availability of Vaccinators					
District	No. of UC	Government Vaccinators	Local Government Vaccinators	Total Vaccinators	No. of Vaccinators per UC
Mandi Bahauddin	65	60	2	62	1.0

Source: Government of the Punjab, Situation Analysis, Punjab Health Sector Strategy, 2012

4.2.3.2 Programme for MNCH

The National Maternal, Neonatal and Child Health Programme (NMNCHP) was initiated in 2006 with an objective to improve maternal, new-born and child health of the population, particularly among its poor, marginalized and disadvantaged segments. The Programme has taken a number of measures in the province including construction and renovation of infrastructure in the health facilities; provision of key MNCH staff including specialists, doctors, paramedics and ambulance drivers; their capacity building, provision of equipment, drugs and supplies at selected health facilities to ensure delivery of MNCH services. The Programme has provided MNCH related staff at 8 DHQ hospitals, 13 THQ hospitals and 250 RHCs in the province.

44   Health Department, Government of The Punjab, http://health.punjab.gov.pk/?q=epi (13th Nov, 2014)

45   An unpublished presentation of the CM Health Sector Road Map, 2014

4.2.3.3 Programme for HIV/AIDS control

Provincial AIDS Control Programme is amongst the priority public health Programme in Punjab for effective disease prevention and control. It was established in 1986-87 with a focus on diagnosis of cases that came to hospitals, but progressively began to shift towards a community focus.

The Government of Punjab scaled up its AIDS Control Programme under the Enhanced HIV/AIDS Control Programme initiative, through a PC-I of Rs. 632.523 million after a credit arrangement with the World Bank. The Programme provides comprehensive HIV treatment and care services for adults and paediatric cases including free antiretroviral therapy, management of opportunistic infections, voluntary counselling and testing (VCT) services and management of acute/chronic care of HIV related infections to HIV positive people and their families.

4.2.3.4 Nutrition Programme

Pakistan has an alarmingly high level of malnutrition. Results of National Nutritional Survey–2011 reflect that two out of every five children are malnourished in Punjab. It is estimated that 23 percent are severely stunted and among these children, a high percentage of children aged 12 to 35 months are underweight compared to younger and older children. MICS (2011) reveals that in district Mandi Bahauddin, 13% severe stunted prevalence and 7.8% severe underweight prevalence cases were recorded.[46]

4.4.4   Disease pattern

According to the Health Information System Punjab (PHIS) Report 2013, the top five diseases in district Mandi Bahauddin during the year 2013 were Acute Respiratory Infections (ARI), Fever due to other causes, Scabies, Peptic Ulcer Diseases, Diarrhoea/ Dysentery in <5 yrs. It was observed that ARI was the most common disease in the district with incidence rate of 158/1000 population.[47] [iii] Following figure shows the incidence rate of top 5 diseases in the year 2013:

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46   Government of The Punjab, Multiple Indicator Cluster Survey (MICS), 2011

47   Department of Health, Government of Punjab, Health Information System Punjab Annual Report, 2013, 24-26

	Incidence per 1000 population
Peptic ulcer disease	18
Diarrhoea / Dysentery < 5 years	23
Scabies	24
Fever due to other causes	32
ARI	158
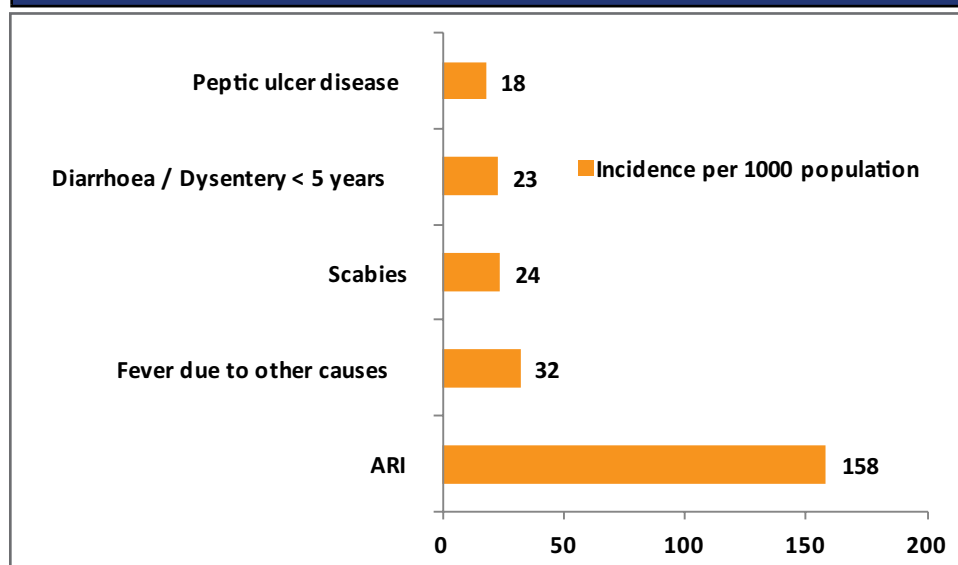
Source: Department of Health, Government of the Punjab, PHIS Annual Report 2013

Table 4 shows the year wise comparison of top diseases along with the number of cases reported from year 2010 to 2013 at the BHU level in district Mandi Bahauddin. It shows that ARI has been the most commonly occurring disease in the district with the highest number of cases followed by Scabies.

Table 4: Number of cases registered at BHUs (in thousands)

Diseases	2010	2011	2012	2013
ARI	103	99	102	85
Diarrhea/Dysentery in <5 yrs.	10	8	8	9
Diarrhea/Dysentery in >5 yrs.	11	12	13	15
Peptic Ulcer Diseases	7	7	10	7
Fever due to other causes	7	7	8	11
Scabies	20	17	16	19

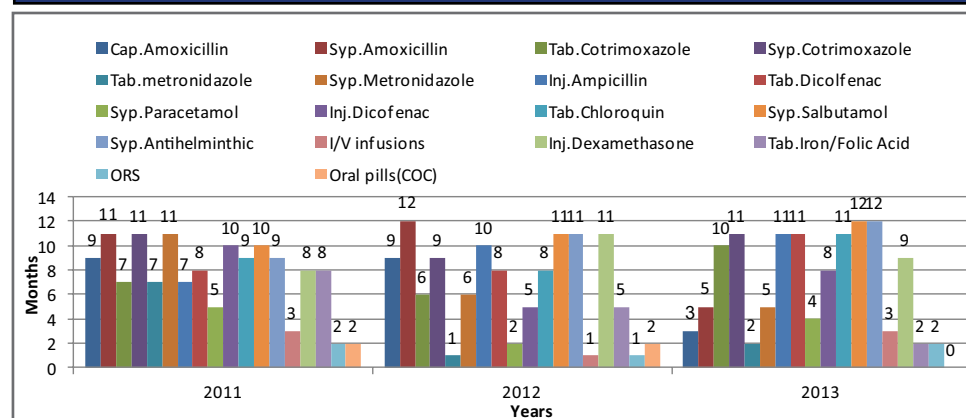Source: Health Department, Government of the Punjab, Punjab Health Information System (PHIS)

Although, over the years, the incidence of ARI and diarrhoea/dysentery in under 5 years children is coming down, the incidence of diarrhoea/dysentery in over 5 years children, and peptic ulcer diseases and fever due to other causes is going up. This needs to be further investigated to ascertain the causes of these variations.

4.4.5 Medicine availability

EPHS provides a list of medicines for BHUs and RHCs. According to this list, a BHU must have 150 essential medicines/ drugs around the year. PHIS has identified 18 tracer drugs from this list, presence of these tracer drugs indicates the presence of all 150 essential drugs at BHU at any point in time. However, the situation in district Mandi Bahauddin is not very good in terms of availability of tracer drugs at the BHUs. The stock-out position in the district was 54% in the year 2013 as compared to the provincial average of 25%. Figure 7 compares the stock-out of 18 tracer medicines in BHUs of district Mandi Bahauddin. It shows that the district faced highest stock-outs during the year 2011 & 2012, with somewhat improvement in 2013 in availability of tracer drugs. Syrup Anthelminthic, ORS, Tablet Metronidazole and Syrup Metronidazole were reported to be out of stock for 12, 2, 2, and 5 times in 2013. All these medicine are used for the treatment of diarrhoea, which was one of the top five diseases in the district during 2013. Similarly for the treatment of ARI, Diarrhoea and fever antibiotic drugs such as Capsules Amoxicillin, Syrup Amoxicillin, Injection Ampicillin, Tablet Cotrimoxazole and Syrup Cotrimoxazole are prescribed. These drugs remained out of stock for 3, 5, 11, 10, and 11 times during 2013. This situation is alarming as all the tracer drugs faced stock out during 2013 in BHUs.

Figure 7: Stock-outs of tracer drugs

Source: Government of the Punjab, Department of Health, PHIS, 2011-13

4.4.6 Human resource

One of the major factors affecting the quality of health care at the BHUs and RHCs include staff absenteeism, part-time service and poorly trained staff. Moreover, the attrition amongst the primary health service providers is another important issue, which stems from the lack of incentive based salary packages for serving in "hard" areas. The lack of incentives for care providers also leads to unfilled staff positions at the primary health care facilities in remote areas.[48] This is evident from the overall vacancies in the BHUs (Table 5) of the district.

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48 Government of Punjab, Health Sector Reform Seminar Report, 2006, 15-16

Table 5: Sanctioned and filled staff positions		
Staff Positions	**Sanctioned (No.)**	**Filled**
MO/WMO	49	15
LHW	1278	1158
LHS	52	42
Vaccinators	66	65
SH&NS	49	48
Dispenser	50	47
Midwife	100	51
LHV	50	49

Source: EDO (H) Mandi Bahauddin

4.4.7   Health facility infrastructure

The quality of health facility infrastructure is one of the essential inputs that enable health facilities to deliver their 'level-specific' services. The Health Facility Assessment (HFA) 2011, which was conducted by the Technical Resource Facility (TRF), assessed a total of 20 health facilities in district Mandi Bahauddin, including 20% randomly selected BHUs (10 BHUs) within the district. The HFA 2011 assessed the infrastructure of the BHUs for the availability of an OPD, LHV room, labour room, service provision areas and residences for the required staff. Furthermore, OPD and LHV rooms were assessed for availability of facilities for consultation, examination and hand washing. A labour room was also assessed for having facilities for delivery, a scrub area and attached toilet facility for the patient.[49] Table 6 reports the findings for the 10 BHUs surveyed in district Mandi Bahauddin:

49 Government of the Punjab, Health Facility Assessment (HFA), Mandi Bahauddin, 2011, 11

Table 6: Status of BHU infrastructure		
Infrastructure	No. of BHUs with available building component	No. of BHUs with functional building component
OPD:		
1. Consultation area	10	5
2. Examination area	0	0
3. Hand Washing	0	0
LHV's room:		
1. Consultation area	10	5
2. Examination area	0	0
3. Hand Washing	1	0
Labour Room:		
1. Delivery room	9	4
2. Scrub area	1	0
3. Patient's washroom	0	0
Residence:		
Doctor	0	0
Residence:		
LHV	8	2

Source: Government of Punjab, Health Facility Assessment (HFA), Mandi Bahauddin, 2011

Note: Figures are based on the surveyed sample of 10 BHUs in district Mandi Bahauddin

The data presented in Table 6 indicates serious shortcomings in the current infrastructure at the surveyed BHUs. Particularly, the lack of hand washing facility and examination area at the OPD and LHV's rooms, shortage of delivery room and scrubbing area in delivery room and a separate patient's washroom are all missing in majority of the surveyed BHUs.

4.4.8   Equipment

The HFA (2011) also checked that the equipment (general items, equipment for OPD and LHV room for BHUs in relation to the standard list specified in the PC-1 of the NMNCH Programme) available in the facilities was functional, in order to enable acceptable quality MNCH service provision. Table 7 presents the number of required items that were available at each of the 10 BHUs surveyed in Mandi Bahauddin:

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Table 7: Availability of equipment at BHUs			
Facility name	**General Items**	**OPD**	**LHV's room**
Required number of items as per PC-I	3	14	12
Items available per BHU			
BHU Bhiki Sharif	1	5	8
BHU Chak 2	0	2	5
BHU Morala	0	1	1
BHU Sevia	0	2	3
BHU Ghanian	0	3	3
BHU Khosa	0	3	3
BHU Pindi Kalu	0	4	1
BHU Mona Depot	0	2	2
BHU Nain Ranjha	0	4	4
BHU Rukken	0	3	7

Source: Government of the Punjab, Health Facility Assessment (HFA), Mandi Bahauddin, 2011
Note: Figures are based on the surveyed sample of 10BHUs in district Mandi Bahauddin

Table 7 above indicates that the general BHU equipment which includes an electric water cooler, water filter and incinerator, were missing from all except for 1 BHU out of the 10 BHUs surveyed for the HFA 2011. Furthermore, the figures presented above indicate that there was also a gross shortage of the required equipment for the LHV room in a number of BHUs. Also, it can be noted that the required equipment items mentioned in the standard list were not fully available at any of the surveyed BHUs.[50]

4.5   Quality

The six areas or dimensions of 'quality' require that the primary health services should be effective, efficient, accessible, patient-centric, equitable and safe. This working definition of quality takes a whole-systems perspective, which aims to reflect that the outcomes for both individual service users and whole communities have been taken into account.[51]Some of the key indicators of quality relate to the utilization and workload of health facilities; while the governance related aspects of quality include the management practices to support the delivery of health care at local level.

50   Government of the Punjab, Health Facility Assessment (HFA), Mandi Bahauddin, 2011, 12

51   WHO, http://www.who.int/management/quality/assurance/QualityCare_B.Def.pdf, (19th Nov, 2014)

4.5.1   Workload of health facilities

The number of outpatients treated at a facility per working day is a helpful indicator of the workload of a BHU, which can help differentiate between over-burdened and under-utilized facilities within a district. The community's ease of access and the quality of basic health care services is adversely affected at over-burdened facilities. According to the OPD data obtained from the Punjab Health Information System (PHIS), majority of the BHUs in Mandi Bahauddin (1 out of 49) experienced a "LOW"[1] outpatient load per working day relative to the average across all BHUs in the district, and 42 out of the 49 BHUs in the district experienced a "MEDIUM" outpatient load per working day.[52] Furthermore, only 4 BHUs in district Mandi Bahauddin experienced a "VERY HIGH" outpatient load per working day relative to all the others in the district. None of the BHUs out of the 49 BHUs in the district experienced a "VERY LOW" outpatient load per working day relative to the average in the district.

Table 8: Patient work load in BHUs	
OPD Workload	Number of BHUs
VERY LOW	0
LOW	1
MEDIUM	42
HIGH	2
VERY HIGH	4

Source: Department of Health, PHIS, 2013

Note: The BHUs have been grouped into "LOW", "VERY LOW", and "HIGH" and "VERY HIGH" based on the 1st and 2nd standard deviations from the average OPD visits per working day across all BHUs in the district.

The overall patient load per working day at the BHUs in district Mandi Bahauddin can be further examined by plotting the frequency distribution of the outpatient load per working day for the 49 BHUs in Mandi Bahauddin.

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52   The workload only includes new cases registered at BHUs in district Mandi Bahauddin.

Figure 8: BHUs OPD patient workload
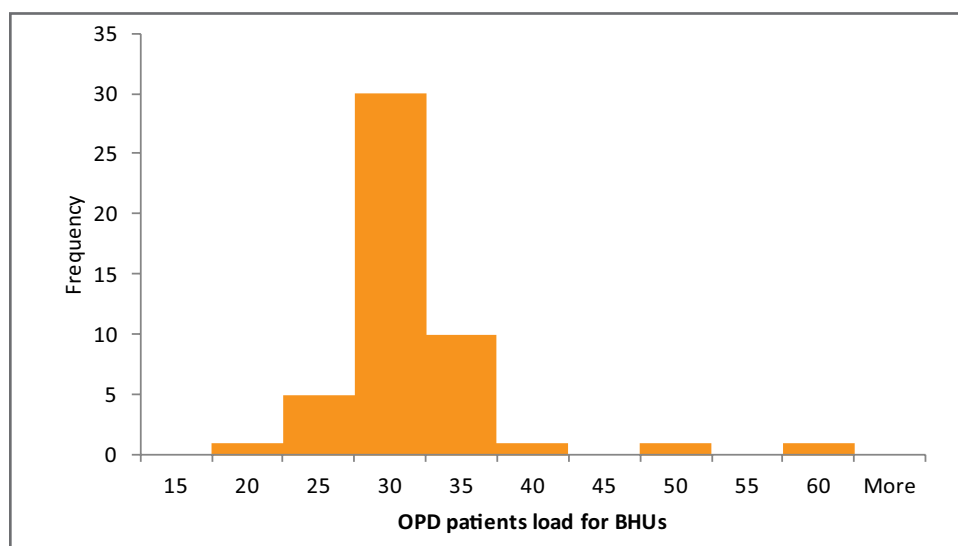
Source: Department of Health, PHIS, 2013

The average outpatient load per working day across all BHUs in the district was found to be 30. The histogram above (Figure 8) displays a slightly uneven distribution around the mean. This further demonstrates the overall medium patient load per working day at many BHUs in Mandi Bahauddin. The reasons for this imbalance in outpatient load among the BHUs could be related to many factors, including, for instance, the coverage and the quality of health care at the BHUs.

Additionally, the OPD visits can also be used as an indirect indicator of public trust and satisfaction in relation to the health services being provided at the facilities. A time series analysis of OPD data shown in Figure 9 indicates that the OPD visits have risen since 2011. A number of factors could be responsible for this rise including the coverage and quality of health services at the facilities as well as the increasing population or diseases and affordability issues for private health facilities.

Figure 9: Total OPD visits (2010-13)
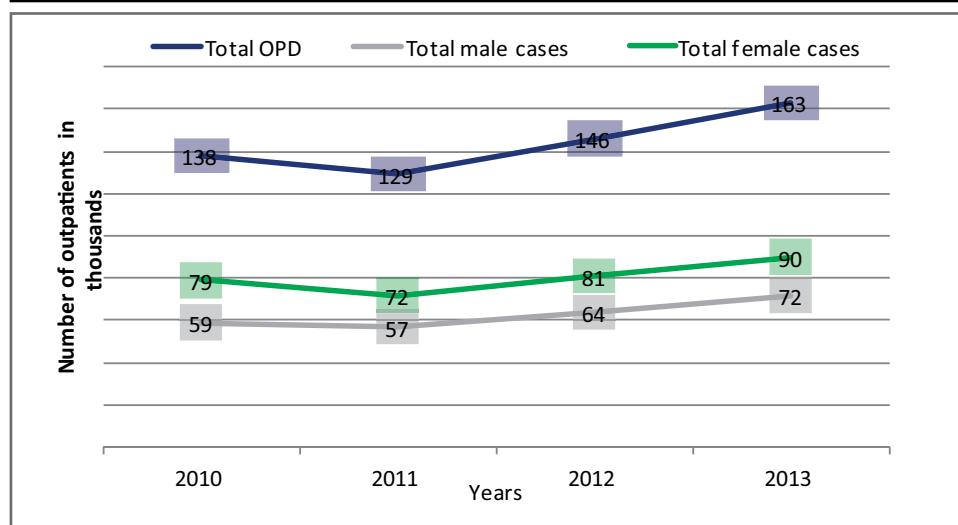
Source: Department of Health, PHIS, 2013

4.5.2   Client satisfaction and perception about quality of services

The data on client satisfaction and perceptions regarding quality of services provided at the BHU level is not available; however under the HFA 2011 a quality perception survey was carried out for RHCs. The same has been used as a proxy for client satisfaction and perception with regard to service delivery at the BHU level in Mandi Bahauddin, which is the other health care facility at the PHC level.

In order to assess the perception of the clients about the quality of the public health services, especially MNCH care, being provided at the health facilities, under HFA 2011 conducted Client Exit Interviews (CEIs) at 8 Rural Health Centres (RHCs) of district Mandi Bahauddin. A total of 55 clients were interviewed. The findings from these interviews indicate that most of the patients visiting the RHCs had to wait 10-20 minutes in order to be checked by a health service provider; as shown in Table 9 below:[53]

53   Government of the Punjab, Health Facility Assessment (HFA) - Punjab, Mandi Bahauddin, 2011, 50

Table 9: Waiting time at RHCs	
Waiting time at the RHCs	**Number of clients with an affirmative response**
less than 10 minutes	12
10 minutes to 20 minutes	22
20 minutes to 30 minutes	4
More than 30 minutes	2
Paid for services	40
Received education material	0

Source: Government of Punjab, Health Facility Assessment (HFA), Mandi Bahauddin, 2011

A large majority of respondents of CEIs reported that they had to wait 10-20 minutes before receiving health care services at the surveyed RHCs. This is very close to the 15 minutes average waiting time reported for BHUs through the CEIs conducted by the SNG, Punjab for the needs assessment study at Hafizabad and Bahawalnagar.

However, the interviewed clients expressed satisfaction in relation to the services they were receiving at the surveyed RHCs, as indicated by the figures reflecting their responses in the Table 10 below:

Table 10: Patient satisfaction from services at RHCs	
Overall satisfaction	**Number of clients with an affirmative response**
Very satisfied	3
Satisfied	37
Not satisfied	0

Source: Government of Punjab, Health Facility Assessment (HFA), Mandi Bahauddin, 2011

The findings suggest that 22 out of the 55 clients interviewed identified "staff attitude" as the main reason for visiting the RHCs, while 17 clients out of the 55 interviewed attributed their visits to the RHCs to affordability of the health services, as shown in Table 11.

Table 11: Reasons for visiting RHCs	
Reasons for visiting the RHCs	**Number of clients with an affirmative response**
Close to home	9
Good quality	8
Staff attitude	18
Affordability	17
Lack of choice	0

Source: Government of Punjab, Health Facility Assessment (HFA), Mandi Bahauddin, 2011

4.6   Access

Access to health facilities is an important aspect of health care system and has direct implications for the burden of disease.[54] Some of the important aspects of accessibility can be measured through indicators related to the physical access of BHUs to a catchment population, availability of transport and road infrastructure, the defined standards of which have been laid out in the MSDS.[55]

As a part of this study, with the technical support of the World Bank, the issue of access to health facilities was looked at using GIS maps and by deploying various layers of data, such as BHU locations, presence of roads, availability of doctors etc., to determine whether a health facility is accessible or not and providing requisite service to the catchment area population.

4.6.1   Travel time to the nearest BHU

In this component, access is defined in terms of the time it takes to travel to the nearest BHU; whereas time is estimated based on travel speed on and off roads.

The road network is derived from a crowd-sourced road layer[56] that categorizes roads into nine types, namely primary highway, major arterial, minor arterial, secondary road, local road, controlled access, limited access, non-traffic and terminal. For the purpose of analysis each category was assigned an average speed of travel using a motor vehicle. Where roads were not available, an average walking speed of 3 km/h was assumed. Based on these speeds, an average 'cost', i.e., time of travelling on each road, was estimated.

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54   WHO, http://www.who.int/healthsystems/hss_glossary/en/, (19th Nov, 2014)

55   Government of Punjab, Minimum Service Delivery Standards (MSDS) for Primary and Secondary Health Care in Punjab, 2008, 28

56   Technology for People Initiative (TPI) has an offline version of the road layer provided by Google that was last updated in 2012.

Figure 10: Travel time to nearest BHU with doctor
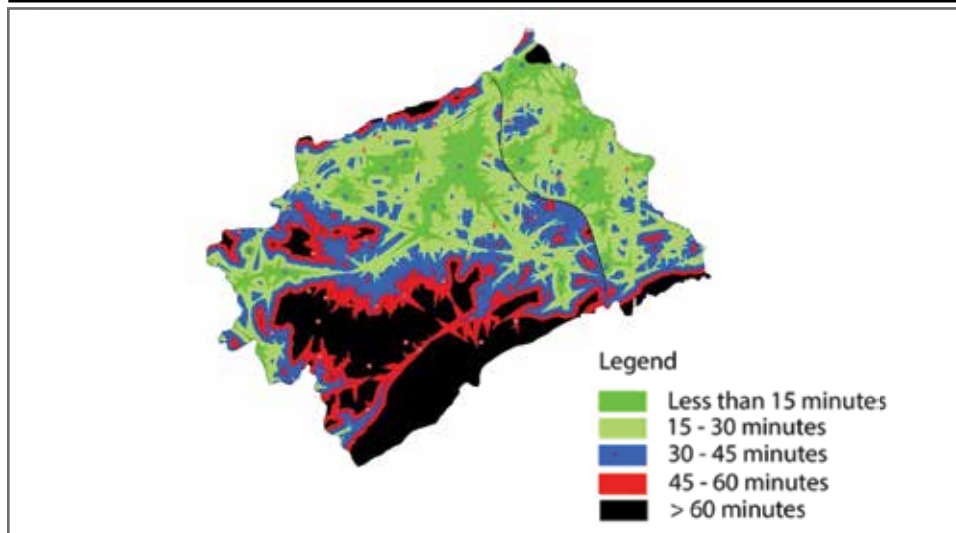
By using spatial least cost distance calculation algorithms with this cost layer, a surface was generated that represents the minimum time it takes to travel to a health facility from any location in the district (Figure 10). Even when a BHU is accessible, it will be of little use to a patient in need unless a qualified health care provider i.e. a doctor is present in the facility; therefore, the access to BHU where a doctor is available has also been worked out (Figure 10)

Figure 11: Travel time to nearest BHU – regardless of presence of a doctor
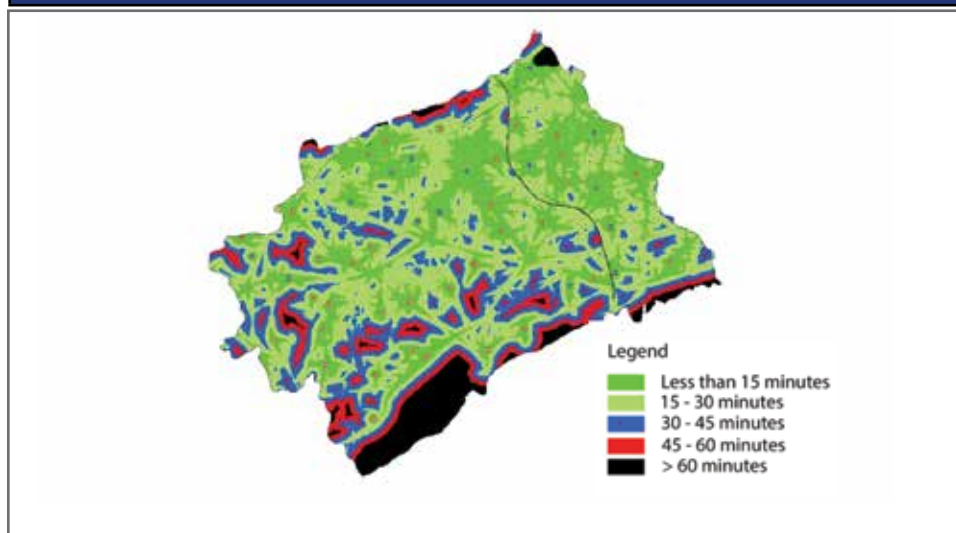
Figures 10 and 11 depict areas that are within 15, 30, 45 and 60 minutes of travel time to the nearest BHU. Regions in black are such that people living in these areas need more than 60 minutes to reach a health facility and therefore represent potentially underserved areas. Any settlements lying in these regions do not have realistic access to a public health facility.

4.6.2   Distance to the nearest BHU as the crow flies

In this component, access is defined according to how far a citizen is from the nearest health facility by straight-line distance.

This was calculated by creating circular zones of 1 km radii up to 5 km around each health facility. These zones were subsequently overlaid with the road network to identify the roads falling in each zone, as well as those roads that are beyond a 5 km radius of any health facility.

In Figures 12 & 13, settlements served by the road segments in black are those that are beyond 5 km of straight line distance of the nearest health facility, and can be considered as underserved regions.

Figure 12: Straight-line distance to the nearest BHU with doctor

4.6.3   Travel distance to the nearest BHU by Road

For the purpose of this analysis access is defined according to how far a citizen has to travel from any location along the road network to reach the nearest health facility, assuming that he travels along roads where they are available and on foot otherwise.

Using a crowd-sourced road network layer and spatial least cost distance algorithms, the minimum distance that needs to be travelled to reach a health facility along roads was calculated. Road segments were then categorized according to this minimum distance.

Figure 14 and 15 depict the travel distance by roads to the nearest BHUs. The settlements in black are those that are beyond 5 km of straight-line distance of the nearest health facility and can be served as underserved regions.

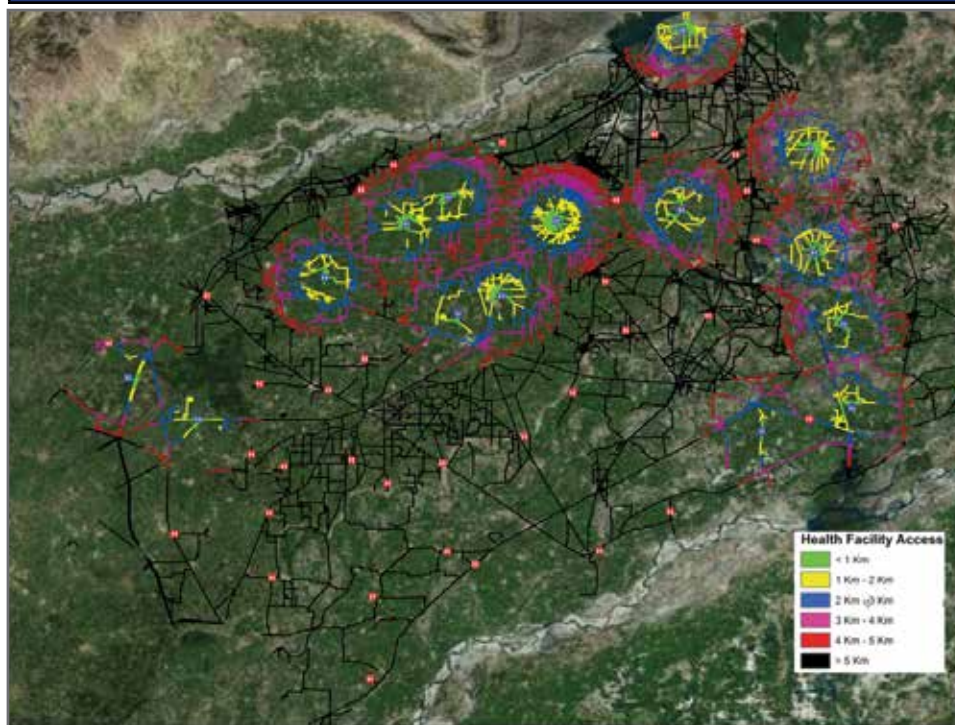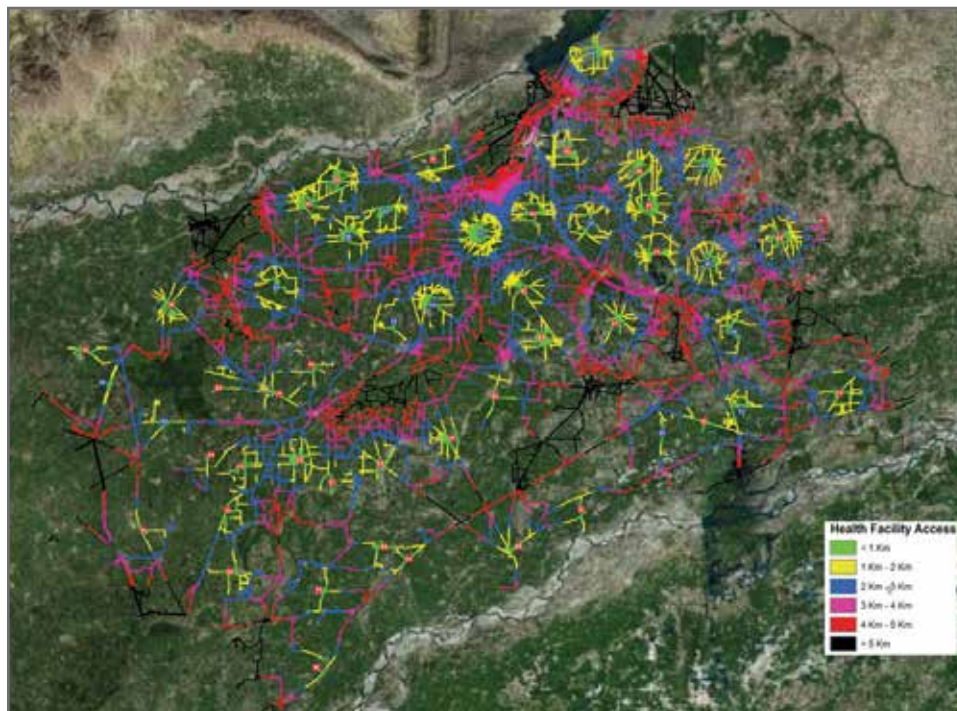**Figure 14: Travel distance by road to the nearest BHU with doctor**
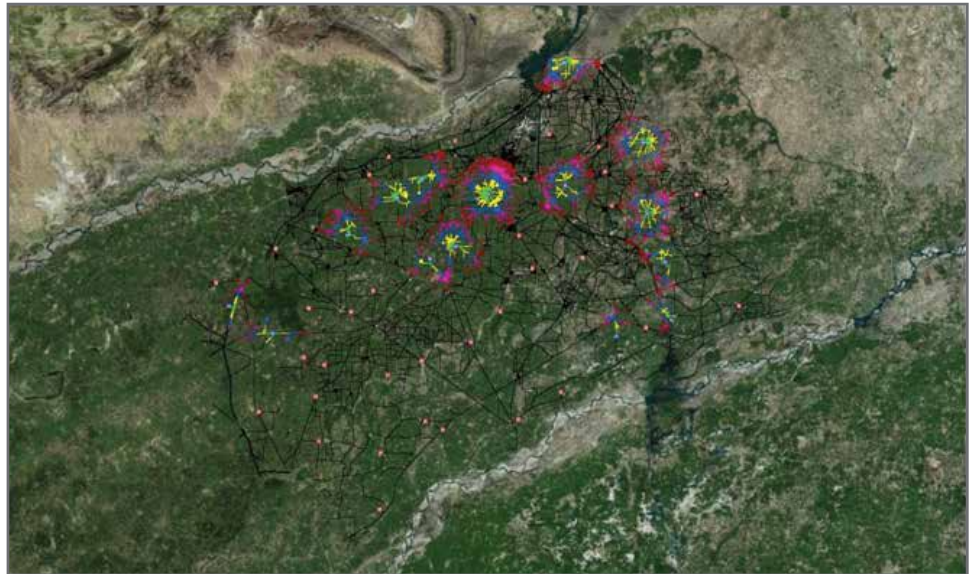
Figure 15: Travel distance by road to the nearest BHU regardless of presence of a doctor
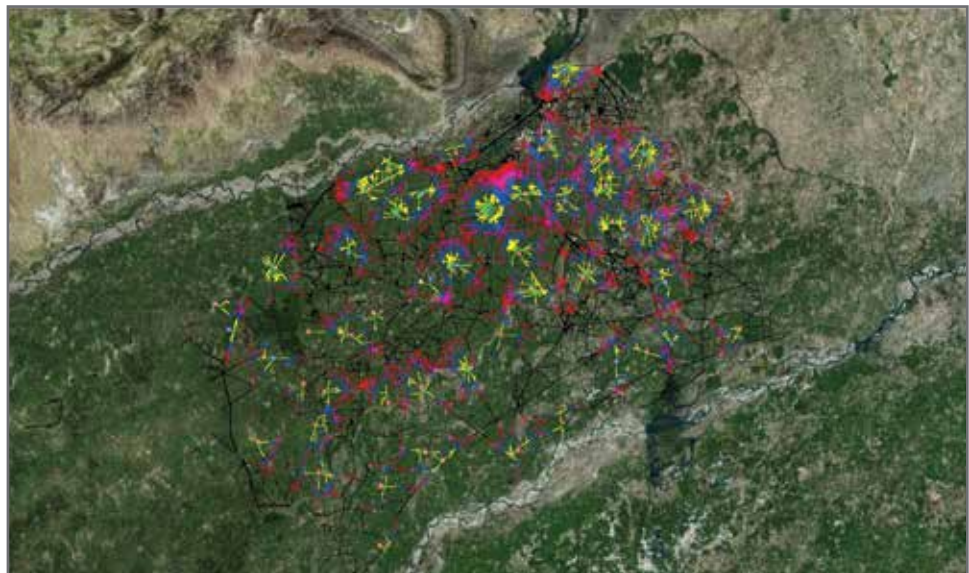
On the basis of the GIS analysis in the preceding pages, and to demonstrate the ability of this analysis a few areas/villages were also identified that do not have access to a BHU due to the fact that it is at a distance of between 4-5 kms from the locality and the average travel time to the BHU is 45 minutes and above making these facilities practically inaccessible at the time of an emergency. The same is presented below through GIS map.

Figure 16: Noor Pur & Khamb Kalan
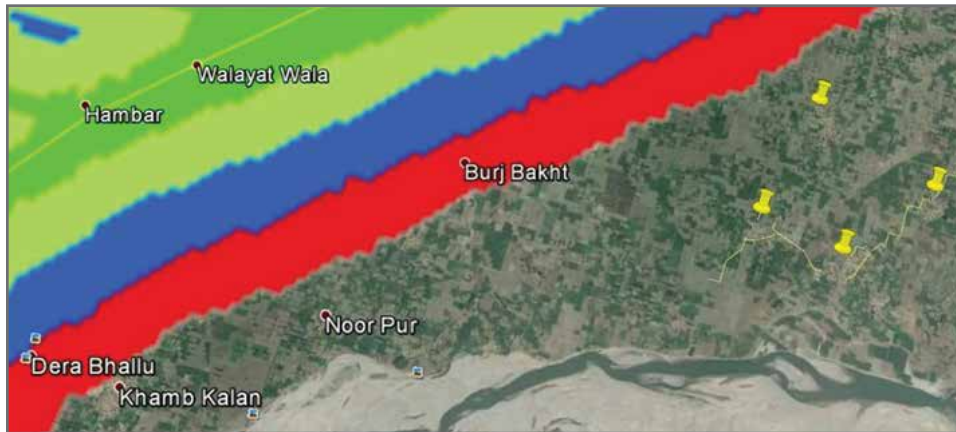
Note: Yellow pins on the map represent BHUs

5. Key findings: primary health sector service delivery gaps

5.1 Coverage

5.1.1 Immunisation

The universally accepted standard for TT immunisation is that every mother of child bearing age should receive 5 or 2 doses of TT during pregnancy. As 95% of the women were immunised against TT in district Mandi Bahauddin, so the gap of 4% still exists. Despite this gap, the district is able to meet the minimum standard set by the province in this regards i.e. a minimum of 80% mothers of child bearing age must receive 5 or 2 doses during pregnancy.

5.1.2 Pre natal care

Similarly, the standard set for pre natal care is that every pregnant woman should have four properly spaced antenatal care assessments by or under the supervision of a skilled attendant. A gap exists in the provision of prenatal services in Mandi Bahauddin, as only 89% pregnant women availed this service during 2013; against the target of 100% coverage.

5.1.3 Natal care

Natal care includes normal deliveries conducted by SBAs, recognition of complications and referral to other health facilities. According to the MSDS, all deliveries should be conducted by SBAs with adequate privacy and a separate partitioned room should be reserved exclusively for this purpose while the minimum level of acceptance is that two third of the deliveries should be conducted by SBAs at home or at institutions. As already discussed in an earlier section, 73% of the deliveries were conducted by SBAs in district Mandi Bahauddin during the year 2013, so a gap of 27% exists in the provision of natal care against the standard prescribed by MSDS.

5.1.4 Post natal care

According to the standard, for post natal care, two postpartum visits are necessary and the first visit should be within 24 hours of delivery a by skilled personnel. Whereas, the minimum level of acceptance is that at least two third of all women should receive postpartum care on prescribed criteria. In district Mandi Bahauddin, the situation of postnatal care is very distressing. Only 22% of the women were provided with this

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facility in 2013 which even does not meet the minimum level of acceptance. Moreover, out of these women, only 17% women were treated in a public sector facility.

5.1.5   Family planning

The provision of family planning services in the district also leaves a gap of 89% as only 11% of the couples availed this facility in 2013, whereas according to the standard all couples will be provided necessary information and services regarding family planning. Furthermore according to MSDS minimum level is that nearly two third of all the eligible couples will be provided awareness and information on family planning methods. The gaps in service delivery in the district are presented below in tabular form:

Table 12: Gaps in PHC service delivery (Mandi Bahauddin)					
Services	Standard care	Minimum level of acceptance	Current situation in district Mandi Bahauddin	Gap in the services	Current status in Punjab
Immunisation	100%	80%	95%	5%	81%
Pre natal care	100%	<80%.	89%	11%	73%
Natal Care	100%	More than 2/3rd deliveries by SBAs	73%	27%	74%
Post natal care	2 postpartum visits; first visit within 24 hours of delivery.	67% or 2/3rd of all women should receive postpartum care	22%	78%	28%
Family planning	100%	67% or 2/3rd of all eligible couples	11%	89%	12%

Source: MSDS, 2008, Punjab DHIS Annual Report 2013

Figure 17: Gaps in PHC service delivery (Mandi Bahauddin)

Legend:
- Standard care
- Minimum level of acceptance
- Current situation of district Mandi Bahauddin
- Gaps in sevices
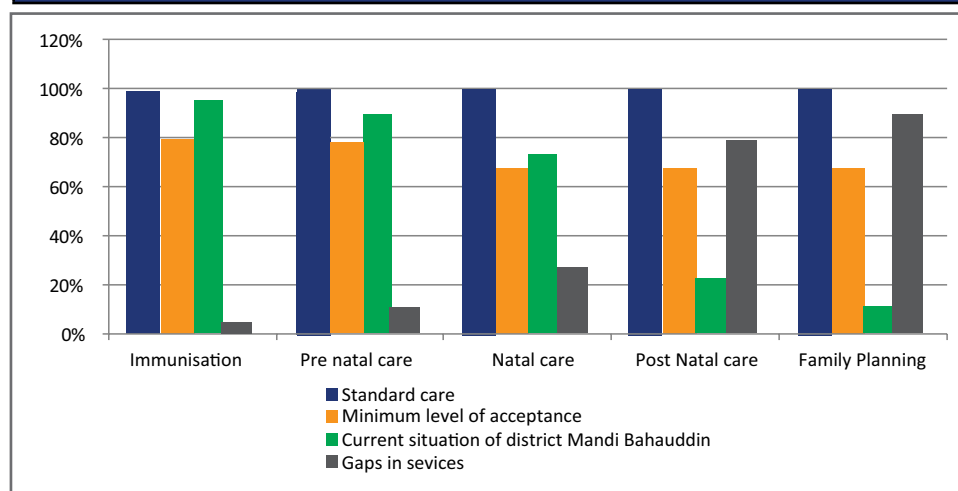
5.1.6.   Medicine availability

The stock-out position in the district was 54% in the year 2013 as compared to the provincial average of 25%. The district faced highest stock-outs during the year 2011 & 2012, with somewhat improvement in 2013 in availability of tracer drugs. Syrup Anthelminthic, ORS, tablet Metronidazole and syrup Metronidazole were reported to be out of stock for 12, 2, 2, and 5 times in 2013. All these medicine are used for the treatment of diarrhoea, which was one of the top five diseases in the district during 2013. Similarly for the treatment of ARI, Diarrhoea and fever antibiotic drugs such as capsules Amoxicillin, syrup Amoxicillin, injection Ampicillin, tablet Cotrimoxazole and syrup Cotrimoxazole are prescribed. These drugs remained out of stock for 3, 5, 11, 10, and 11 times during 2013. This situation is alarming as all the tracer drugs faced stock out during 2013 in BHUs.

5.1.7   Vertical programmes[57]

A needs assessment study conducted by the SNG for districts Hafizabad and Bahawalnagar indicates low level of coordination between regular health department and vertical Programmes at the district level. This has raised issues like duplication of resources and services. Most of the vertical Programmes with their own management, reporting and monitoring mechanism are usually working in isolation with low level of coordination with each other. The situation is not much different in district Mandi Bahauddin.

57 Sub National Governance (SNG) Programme, Needs Assessment in Primary Health Sector Bahawalnagar, 2014

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5.1.8   Expanded Programme on Immunisation

The EPI Programme under implementation in the district also has its share of problems. Sheikhupura is one of the three districts in Punjab that had one reported case of polio in 2014. A national emergency has been declared by the Federal Government to combat polio in the country and National Emergency Action Plan 2014 for Polio Eradication has been prepared.

Figure 18: Polio situation in Punjab
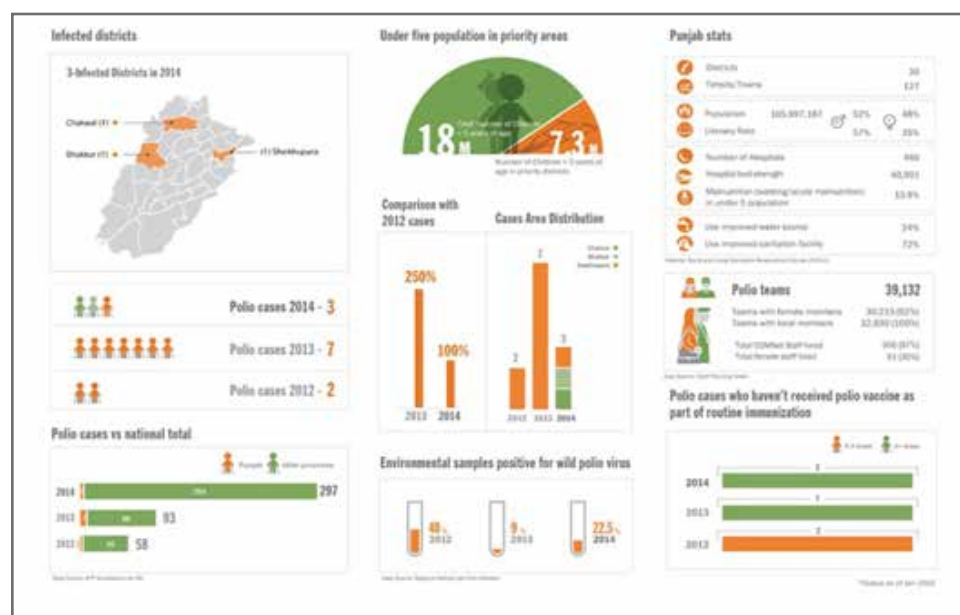
Source: EndPolio.com.pk at URL: http://www.endpolio.com.pk/polio-in-punjab

5.1.9   Human resource

The HR profile of BHUs in district Mandi Bahauddin indicates significant gaps in MNCH services, despite the fact that the sanctioned posts match the minimum human resource requirements envisaged for effective MNCH service delivery at the primary health care level, as laid out in the Essential Package of Health Services (EPHS), Punjab. However, when the filled positions of the MNCH related staff were assessed against the sanctioned posts provided in the notified yardsticks of the provincial health Department; the required staff was not available at the BHUs in district.

According to the data provided by the EDO (H) Mandi Bahauddin more than half of the positions sanctioned for MO/WMO and midwifes were vacant in the district. In addition to this, 1278 positions were sanctioned for LHWs whereas 120 were still vacant in 2013. All these vacancies are impeding the delivery of primary healthcare services in the district.

5.1.10   Infrastructure and equipment at BHUs

As indicated by the HFA 2011 survey conducted in district Mandi Bahauddin, the current infrastructure at the surveyed BHU was not adequate, in terms of compliance with the specified minimum standards for infrastructure provided in the EPHS. Main infrastructure issues at the surveyed BHUs were lack of hand washing facility at the OPD and LHV's room; labour room, scrubbing area in a delivery room and a separate patient's washroom, all of which are missing in majority of the surveyed BHUs. These are all part of the essential infrastructure at health facilities according to the EPHS.

The functional quantity of the essential equipment items (general items, equipment for OPD and LHV room) for BHUs in relation to the standard list specified in the PC-1 of the NMNCH Programme, was also found to be inadequate at majority of the BHUs surveyed by the HFA 2011. The general BHU equipment were missing in almost all the surveyed BHUs and the equipment items for the LHV's room were also missing in a number of BHUs; while, the complete list of essential items was not available at any of the surveyed BHUs.

5.2   Quality

5.2.1   Client satisfaction

Although, the CEIs conducted by the HFA 2011 and for the needs assessment study conducted by the SNG for districts Bahawalnagar and Hafizabad indicated that the clients visiting the surveyed RHCs were generally satisfied with the services being provided. Their respective responses should be taken with caution while drawing conclusions about the quality of services at government health facilities. This is due to an inherent selection bias, where only those clients were interviewed who were going to a government facility and all those who decided not to go to a government facility or to attend a private facility were not interviewed, thus barring any comparisons in terms of satisfaction/dissatisfaction levels and reasons and motivation for attending one facility against the other. In view of this limitation, no meaningful conclusions can be drawn by only considering the responses of clients who had visited a government facility. All that can be inferred is that people who attend a government health facility are generally satisfied with the quality of service offered.

5.2.2   Workload of health facilities

According to the OPD data obtained from the PHIS for 2013; majority of the BHUs in district Mandi Bahauddin experienced a "MEDIUM" outpatient load per working day compared to the average across all BHUs in the district. While, only 4 BHUs out of 49 in the district experienced a "VERY HIGH" outpatient load per working day. Only one BHU experienced "LOW" Outpatient load.

5.2.3   Governance and management issues

The study revealed that health sector is facing major managerial issues at all levels especially at PHC level in district Mandi Bahauddin. Some of the issues found are discussed below:

5.2.3.1 Limited evidence based planning[58]

Most of the stakeholders involved at the centre of policy and decision-making in Punjab reported limited use of data for planning health services. Absence of collated information and cross tabulation of data coming from different Programme sources (Population Welfare Department, DoH, Vertical Programmes etc.) was stated as one of the major issues impeding effective use of evidence for decision making. Moreover, low quality of reporting system had resulted in constrained decision making and planning at the provincial level.

In relation to the allocation of finances for health sector, it was observed that no evidence or data was used while making a budgetary plan for a facility in a district. Moreover, prevalence of diseases and incidences in the district were not considered during the process of allocating finance resources.

5.2.3.2 Lack of management skills

Lack of management skills and capacity issues were reported at the provincial and district level. It was observed that health managers and members of their teams had clinical backgrounds, but very few of them were trained in public planning or health management. Furthermore, no management guidelines had been provided to them to perform their management and leadership roles in a befitting manner.

5.2.3.3 Performance management system[59]

Traditionally, performance of the district managers and health care provider is judged on the basis of Performance Evaluation Report (PER). However, it was observed that such reports are usually stereotyped giving 'good' remarks to everyone, irrespective of actual performance. Even if negative remarks were mentioned in PER for any act of gross violation of rules, poor performance or for disobedience, these were more often expunged sooner or later. Promotions were made as per routine, on seniority basis, and were never linked with performance, according to existing civil service rules. It was reported that present system did not distinguish between good, average and bad performers. There were no incentive system in place to motivate managers and employees to perform better.

It was highlighted in the study that as the vertical Programmes received their budget directly from the province, HR of vertical Programmes like LHWs did not consider themselves bound to be answerable to those in-charge of the BHUs, working under

the control of district DoH. This situation has resulted in lack of coordination and also monitoring of outreach staff by district health staff.

Lack of an adequate monitoring system failed to achieve the optimal service delivery outputs. Lack of funds and human resources hampered effective monitoring of service delivery. Moreover, delay in provision of resources, constrained from regular monitoring visits & evaluation of workers. Although monitoring manuals have been designed for service providers, but due to restricted resources they were not being followed. As no proper mechanism of monitoring existed, so adherence to operational guidelines could not be ensured. Moreover, no grievance redress mechanism had been established at BHU level till now, as Punjab Health Care Commission (PHCC) was not taking up this task, because of limited resources.

5.2.3.4 Political Interference

The management and administration of health services in the district is the responsibility of EDO (H). He has the authority to manage and implement all the health projects in the district and is supervisor to District Officer Health (DOH), but political interference at the district level has restricted the authority to be exercised by these health mangers. This results in delayed health projects causing problems to the end users.

5.2.3.5 Medicine availability at health care facilities

Medicine availability and proper management of available medicine is an issue which needs to be addressed. Adequate budget is often not provided to the district governments to purchase medicine and necessary equipment, as defined in the EPHS, MSDS and according to the local needs of the population. In addition to this, purchase of medicines is not in accordance with the requirement of a particular health facility, keeping in view the disease pattern. This is probably because of the fact that all medicine purchases take place at the EDO level; whereas the Drawing and Disbursing Officer for the BHUs is the DO (H) and as the responsible officer for BHUs, he needs to be involved in medicine procurements.

5.2.3.6 Lack of effective human resource management

Performance and benefits that a health system can deliver depend largely upon the knowledge, skills and motivation of individuals running the system. Lack of effective HR management has undermined the service delivery in the district. People at district level are not trained in administrative and HR policies. The HR positions sanctioned by the Health Department are not filled as doctors and other staff are unwilling to serve in rural areas despite the incentives offered by the government. This causes overstaffing in urban areas and understaffing in rural areas. Moreover, chronic staff absenteeism and critical shortage of female health professionals from health facilities is also hampering the output of health sector. Moreover, poor referral system between PHC and SHC has undermined the quality of health service in the district. In addition to this,

lack of transportation facilities such as effective ambulance service has compounded this weak referral link between PHC and SHC tiers.

5.2.3.7 Procurement

PPRA Rules 2009 detail the procurement process that needs to be followed to procure supplies and medicines. However it was observed that the Rules were not properly followed primarily because of inadequate planning, monitoring and supervision.

Primary data collected by Sub National Governance (SNG) Programme from the PHIS revealed that the procurement process of medicines was not in accordance with the requirement of the community. As discussed above, the stock out situation in district Mandi Bahauddin clearly reflects this situation as most of the tracer medicines/drugs remained out of stock. Moreover, disease pattern of the district was not considered while processing demand and distributing the medicines at BHU level.

Quality of medicines was compromised due to flaws in the planning process as the focus had always been on acquiring medicines at cheaper rates. Additionally, improper handling of medicines by not maintaining cold chains (and also due to frequent power outages) at BHU level also affected the quality.

5.3   Access

With the support of the World Bank, GIS analysis was carried out to assess the access of the district population to health facilities (BHUs). On the basis of this analysis, it was found that quite a few BHUs are too far off from population/villages, and it takes over 45 minutes for patients from these villages to reach BHUs, making them virtually inaccessible in time of an emergency. A number of such villages were also identified as part of our analysis; however a comprehensive GIS analysis needs to be undertaken to identify all such villages. The GIS Cells to be established at 6 SNG districts can support this work.

6. Recommendations

Following recommendations are presented on the basis of the needs assessment and the gaps analysis carried out in the preceding sections:

i)   Immunisation

The data presented in the earlier sections indicated gap in immunisation coverage in the district. However, the extent of gap varies according the source of data that is looked at. This creates doubts on the authenticity of the data. Therefore, the first recommendation is to ensure that the data is collected through an independent agency, using robust data collection methodology, at least on an annual basis, if not earlier. This would ensure that the data collected is authentic and reflects the actual situation on ground enabling effective planning to increase immunisation coverage.

Additionally, as found during the study, one of the major reasons for vaccinators' poor performance is that the funding for POL is not released on time, resultantly the vaccinators are not able to visit their beats for vaccinations. Therefore, it is recommended that the POL for vaccinators may be reflected as a separate head in the budget, and not made part of the overall health sector budget, additionally fleet cards are recommended to be issued to the vaccinators for POL.

The vaccinators are spending a lot of days on non-routine vaccination, which is affecting their routine vaccination. There is a need to reduce their days spent in non-routine vaccination. A decision in this regard has to be made by the provincial health department.

The SNG has conducted a detailed study of the existing business process of EPI. The report was presented to Health Department and other relevant stakeholders such as select EDOs (Health), DG Health services, WHO, PITB etc. in a meeting chaired by Secretary Health Department. It was agreed in the meeting by all the stakeholders that the suggested model is workable and likely to improve coverage. It is therefore recommended that work on piloting the model proposed in the SNG report may be taken forward on priority basis by Health Department. It is also possible that district Mandi Bahauddin may start the pilot and gauge the results to see the efficacy of proposed model.

E-Vaccs monitoring system rolled out in the districts with the help of PITB needs to be strengthened by imparting additional trainings to the vaccinators. Monthly report generated by PITB of this data must be shared with the DCOs concerned and the EDO (H). The district officers need to be trained to effectively use these reports to undertake effective planning for increasing coverage. Implementation of the best practices shared with the EDOs and DOH for improving coverage of immunisation needs to be effectively monitored.

It is further proposed that in Mandi Bahauddin district the UCs with low coverage and with incidence of polio and measles should be marked as hot-spots and special focus in terms of manpower and other resources should be given to these hotspots to improve immunisation coverage and control the incidence of disease.

ii) MNCH

MNCH is a priority area under the Provincial Health Roadmap. This is also an area that needs special focus of the district in order to improve healthcare of MNCH related services and to reduce IMR and MMR. In order to improve coverage and outcomes of MNCH related indicators, it is recommended that MNCH related vacant positions in the district must be filled on priority basis. In accordance with our social norms, women find it difficult to seek treatment from male doctors; therefore the district may fill vacant positions of WMOs on priority. In case it is not possible to fill all positions, it is recommended that a cluster approach may be adopted and a WMO may be allocated to three or four BHUs. Additionally, as the data suggests that most of the deliveries are taking place at home, therefore it would be useful to train the TBAs and group them with LHWs, where referrals are made in case of complications. District can utilize the DHDC to train the TBA, so that they can play a better and effective role. As a DHDC has not been established in the district; therefore it is recommended that the services of a DHDC from an adjoining district can be used, and necessary allocation may be made in the district budget for such trainings.

The most important and relatively ignored component of MNCH is advocacy and awareness rising. It is recommended that district Mandi Bahauddin may devise a comprehensive advocacy and awareness raising campaign to communicate MNCH related messages to the public. The local cable network can be used for this campaign. These advocacy and awareness campaigns can also be used by the district for raising awareness about non-communicable diseases in the district.

iii) Family planning

The current Contraceptive Prevalence Rate (CPR) in the province is 40% and there are three million women in Punjab who want to use contraceptives but do not have access to it. It has been reported that the stock outs for contraceptives have been relatively quite high. A study carried out for USAID supported contraceptives in 2013 found out that 20% of the surveyed BHUs/RHCs had no contraceptives in stock, 40% had some contraceptives in stock and only 40% had all contraceptives in stock.[60] The situation is even more alarming when the availability of contraceptives with the LHW is looked at. The same study found that 4 out of 5 women who visit an LHW do not get contraceptives. The PHDS 2012-13 found that the wrong types of contraceptives are being procured i.e. more of short-term contraceptives against long term. Interestingly all four contraceptives methods have been made available at 100% of the

60   Stock Analysis at Service Delivery Points for USAID-Supported Contraceptives, 2013

Family Planning Centres in the province against only 40% of the healthcare facilities. Increase in CPR can be achieved through improvement in availability of contraceptives at the health facilities, and through referrals. There is a need to establish robust stock monitoring system to ensure that the right stock reaches the right healthcare facilities where it is in demand. Additionally, proper protocols do not exist for referral of FP clients. There is a need to develop these protocols. LHWs are discouraged not to refer clients to healthcare facilities for contraceptives due to shortage of contraceptives at these facilities. Supplies need to be improved to create right incentive for LHWs to undertake referrals. LHWs must also refer women for long-term methods against referrals for short-term methods. Likewise, targets can be set by the district for provision and referrals for family planning services. Proper data recording will be essential to monitor that the targets are achieved. Therefore, recording of FP information can be made a part of the data collected by the MEAs.

iv) Vertical programmes

The needs assessment and subsequent gaps analysis carried out indicated that there was very limited, if any, integration between the health department at the district level and staff of the vertical Programmes. One of the main reasons for this is that although various vertical Programmes have been devolved to the Provincial Government, they have not been appropriately devolved to the district level and their reorganization that is required to integrate them with the exiting health structures at the district level has not taken place. Resultantly, parallel structures exist at district level, working in silos and very little communication or exchange of operational information. Therefore, it is recommended that a provincial level assessment may be carried out and organizational changes are made to effectively integrate the vertical Programmes with the existing district health structures and institutions.

v) Medicine and HR availability

Availability of medicine and doctor at a healthcare facility is observed to make a big difference.[61] The patients' visits and the referrals from LHWs also doubled at these BHUs, after communities were well informed about the availability of a doctor on a particular day. In order to ensure that medicine is available at the BHUs, it is proposed that the allocation for medicine for each BHU in the district must be increased. Procurement of medicine also needs to be streamlined. Timely completion of procurement is essential for ensuring that medicine is made available. The district must develop expertise for forecasting medicine requirements and for its timely distribution in accordance with the burden of disease (BOD). A district audit can also be undertaken to assess problems that are being faced and reasons for these problems can also be identified.

As already stated availability of a doctor at a health facility makes a big difference in terms of access of that facility by the patients. Data presented in the last pages

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61   Based on the results of a pilot work in 9 BHUs at Okara district, where a doctor now attends a BHU for two days a week.

indicated shortage of BHU related staff in the district. As it is within the purview of the district to undertake recruitments therefore it is proposed that the district may fill essential vacant positions over time. Recruitment must be preceded by a drive to rationalize staff at various BHUs. Additionally, the non-salary allocation of DHDC in the district is proposed to be enhanced enabling it to train staff and overcome shortages.

vi) Equipment and infrastructure at BHUs

The study very clearly indicated shortage of essential equipment and diagnostic facilities at the BHU level to provide BHU related services and to meet the requirements of the MSDS and EPHS. Additionally, it was also found that the existing equipment is also not properly maintained, therefore, it is proposed that adequate allocation for maintenance and repair must be provided in the district budget. This was also a finding of the needs assessment study carried out for Bahawalnagar and Hafizabad. It appears that although the EPHS and MSDS have been notified but no serious attempt has been made to enforce them, and to provide funding to districts and the healthcare facilities, enabling them to meet these standards over time.

vii) Workload of BHUs

As already stated in earlier sections of the report that most of the BHUs in the district experience a low patient load when compared with the district OPD average. Out of the 49 BHUs only 4 BHUs had very high outpatient workload. There is a need to investigate this further and assess the reason for the same, in case the workload is low due to issues of accessibility or lack of services at the BHU. The district must assess the cost of providing the missing facilities at the BHU. In case the cost is too high, the district may decide to consolidate BHUs. This would also spare staff and other resources that could be utilized elsewhere in the district.

viii) Evidence based planning

It has been found in this study that evidence based planning is not being practiced in the district. This is for various reasons - lack of capacity and lack of credibility of the available data being few such reasons. In order to improve the quality of health sector data PITB is also involved in a number of initiatives. Punjab Health Watch and Medicine Inventory Management System are two such initiatives that are in various stages of development. Some capacity development has also been carried out by PITB in this regard, but feedback from the field suggests that a lot needs to be done to enable the health sector managers at the district level to use the initiatives to improve service delivery in their districts. One major drawback of these systems is that they have been designed as a monitoring tool and thus lack the information and detailed data needed for effective planning. Additionally, the health sector planners do not have any incentive to use the data for planning. The Punjab Health Roadmap team has now prepared

disaggregated targets for each of the districts in the province against selected indicators. Once the results are tracked over time and rewards and punishment linked with the performance of health sector mangers, they will have an incentive to use the data to improve health service delivery.

vix) Effective performance management system

The study found that the present system of performance management is not effective and resultantly the health care managers have no incentive to perform better as their posting, transfer or promotion is not linked to their performance against some well-defined key indicators. Therefore it is proposed that the appointment of officers must be on merit and for a fixed tenure subject to achievement of performance targets. This system will work effectively if a robust data gathering system is also in place and credible data is collected to determine the performance of health care staff against service delivery indicators. A move in this regard is already on the cards under the Health Roadmap Punjab.

x) Improve working of BHUs

BHUs are the first port of call for a large majority of population of the district when it comes to medical treatment. A large number of MNCH related services are also provided at BHU, therefore there is a need to improve the working of the BHUs. In order to improve the performance, community based monitoring of BHUs is proposed. Additionally, a cluster approach is recommended where a few BHUs are tied up with an RHC and the RHC is to support the working of BHU and be responsible for its performance.

xi) Governance issues

As already stated in the report that most of the bottlenecks in PHC service delivery are governance related issues and improvement in governance is likely to improve the quality of service delivery. It is recommended that the DHAs proposed as a local government tier under the PLGA 2013 must be implemented forthwith in letter and spirit. Service delivery at the district level is severely affected by over centralization at the provincial level. If DHAs are established and sufficient decentralization of authority and power is allowed along with a robust monitoring and evaluation system, the PHC service delivery is likely to improve.

xii) Medical camps

The study identified that there are populated areas in the district that have limited or no access to a health facility due to either its distance from the locality or due to poor road conditions. In order to provide some healthcare services to these underserved areas medical camps are proposed. Adequate allocation is recommended to be made in the district budget for holding of medical camps in underserved areas.

7. Way forward

On the finalization of the needs assessment report and the budget proposals a pre-budget consultative workshop was held at DCO Office Mandi Bahauddin on 7th March, 2015. The objective was to share the findings and budget proposals with the DRG members consisting DCO, sector EDOs, civil society members and local NGOs. The workshop participants were generally happy with the findings and recommendations, and the DCO and sector EDOs expressed their willingness to include these budget proposals in the upcoming budget for FY 2015-16. It was also agreed in the workshop that support and capacity building would be undertaken of the district government officials in evidence based budgeting i.e. needs assessment and budget analysis.

End Notes

[i & ii] Government facility includes government hospitals/RHC/BHU, home LHV, home LHW while private facility includes private hospitals/clinics and home doctor.

[iii] Incidence rate is the probability of developing a particular disease during a given period: the numerator is the number of new cases during the specific time and the denominator is the population at risk during the period.

[iv] A "MEDIUM" outpatient load per working day at a BHU indicates that the number of outpatients/working day is greater than or equal to the mean across all BHUs in the district, a "HIGH" outpatient load per working day at a BHU indicates that the number of outpatients/working day is greater than or equal to one standard deviation from the mean and a "VERY HIGH" outpatient load indicates that the number of outpatients/working day is greater than or equal to two standard deviations from the mean. Similarly, A "LOW" outpatient load per working day at a BHU indicates that the outpatient load per working day is smaller than or equal to 1 standard deviation from the mean, while a "VERY LOW" outpatient load at a BHU indicates that the outpatient load per working day is smaller than or equal to two standard deviations from the mean across all BHUs in the district.

[v] Minimum level of acceptance is a measure of expected performance and the figures quoted are taken (lower figure) from the international practices as for example Sri Lanka, DPR Korea. Their evaluation has been interlinked to Medium Term Budgetary Frame work (MTBF).