



MANAGING POSSIBLE SERIOUS BACTERIAL INFECTION IN SICK YOUNG INFANTS WHERE REFERRAL IS NOT POSSIBLE

Baseline Assessment/Formative Research 2018



Bureau of Statistics
Planning & Development Department
Government of the Punjab

unicef 
for every child

MANAGING POSSIBLE SERIOUS BACTERIAL INFECTION IN SICK YOUNG INFANTS WHERE REFERRAL IS NOT POSSIBLE

Baseline Assessment/Formative Research 2018



Bureau of Statistics
Planning & Development Department
Government of the Punjab

unicef 
for every child

Acknowledgement

The Baseline Assessment and Formative Research of Possible Serious Bacterial Infection Initiative captures the status of availability of newborn health services at the primary healthcare facilities (Basic Health Unit, Rural Health Centre) and Referral facilities (District Headquarter hospitals and Tehsil headquarter hospitals) along with family's perceptions of newborn healthcare. Data was collected over three weeks from all 36 districts of Punjab.

I would like to thank the officials of Primary and Secondary Healthcare Department especially Dr. Naeem Majeed, Additional Director IRMNCH & NP for the support and cooperation extended by them during data collection throughout Punjab, especially the facilitation provided to the research teams during their visit to health facilities and health houses of Lady Health workers. I would like to express my great appreciation to the research team of BoS for their hard work which resulted in timely completion of this assessment. The report is a benchmark of the status of health services at primary and secondary healthcare facilities and will help the Health Department in identifying gaps in service delivery. The data will help them plan their future initiatives and ensure survival of newborns.

I acknowledge the technical assistance provided by Dr. Tahir Manzoor, Health Specialist, UNICEF Punjab and Dr. Saira Khan Health Officer UNICEF Punjab in each step of assessment from development of questionnaires for data analysis to report writing. Their guidance helped assess all parameters of management of sick young infants in the primary and secondary healthcare facilities effectively

The Technical Guidance of the Health Consultant, Dr. Khalid Mahmood remained pivotal in developing the final report and is well acknowledged.

February 2019.



Director General

Bureau of Statistics, Punjab

Executive Summary

It is estimated that as many as 600,000 newborns die each year from serious infections. The three main causes of neonatal mortality are sepsis, asphyxia and complications of prematurity. Approximately 10% newborn infants develop signs of Possible Serious Bacterial Infection (PSBI) and require antibiotics.

Pakistan has a high Neonatal Mortality Rate (NMR) and in Punjab it is as high as 63 per 1000 live births. According to WHO policy, all sick young infants should be referred to hospitals for comprehensive management to save their lives. However, it has been observed that in many cases, families especially in developing countries refuse a referral to higher facilities due to various reasons. In September 2015, the WHO GUIDELINE Managing Possible Serious Bacterial Infection (PSBI) in Young Infants When Referral is Not Feasible was released. The guideline suggests management of sick young infants at primary healthcare levels when referral is refused and when hospitalization is not accessible, acceptable or affordable to families.

In Punjab Pakistan, the PSBI Initiative will be implemented in two districts in the first phase. Before implementation, a Baseline Assessment and Formative Research has been conducted by Bureau of Statistics, Punjab with the support of UNICEF to determine readiness of primary and referral health facilities for managing sick young infants (SYIs). Five sets of Questionnaires were designed and pretested in field. Data was collected over 12-15 days from all 36 districts of Punjab. Through Systematic Random Sampling 267 primary healthcare facilities (237 BHUs and 30 RHCs) out of 2412 PHFs (2122 BHUs and 290 RHCs) and 14 referral facilities (11 THQs, 3 DHQs) out of 134 referral facilities were selected. Incharge of the primary healthcare facility (PHF), 2 LHWs per primary healthcare facility and pediatrician from each referral facility were interviewed. For formative research, total 1,328 mothers were interviewed (531 from PHF, 797 from Community), 02 mothers of newborn were interviewed at the primary healthcare facility and 03 from community of each PHF, making it 5 interviews of mothers per PHF. In addition, interviews with policy makers were also conducted.

The activities performed by lady health workers during home visit were registration of pregnant women (84.8%), routine immunization (85.9%), antenatal checkups (78.6%) and postnatal care (52.5%). However, very few assessed newborns regarding danger signs (16.9%) and counselled mothers on danger signs of sick young infants (SYI) 25.7%. The three major causes for referral of newborn were fever (88.8%), diarrhoea (84.9%) and rapid breathing (73.1%). Stock out of Low Osmolarity ORS, Amoxicillin Syrup and Zinc Sulphate was also observed while, LHWs did not have referral slips of newborn. Very few LHWs were trained on community IMNCI.

Services provided at a primary healthcare facility in the last calendar month ranged from antenatal care (93.6%), delivery care (87.3%), postnatal care (87.3%), immunization (92.5%), family planning (77.2%) and treatment of sick infants (63.3%), referral of mothers (60.7%) and referral of infants (52.8%). There were no separate registers for sick young infants and in the OPD registers, all infants were documented in only one category i.e. <1 years of age. Injectable Gentamicin/Amikacin was available in 34.8% facilities, while Amoxicillin surup/tablet in 86.5% of the facilities. Only 38.6% facilities had their own ambulance services, one of which is 1,034 (an ambulance accessible through call centers).

At referral facility, record maintenance of infants <1 year was not up to the mark with only 57% registers fully maintained and in 35% cases no newborn registers were present. Very few healthcare staff were trained on IMNCI (2.7%) and last training was conducted in 2009. There were adequate supplies/ equipment, however neonatal ventilators were present only in 35.7% facilities. Injectable Gentamicin/Amikacin was present in 85.7% facilities and injectable Ampicillin in 64.3%. The data regarding the number of newborns referred from primary healthcare facilities and the number referred to higher facilities along with refusals of referrals was not documented anywhere which shows poor record maintenance.

Formative research findings showed that during antenatal visits, LHWs counselled 80.6% mothers on balanced diet, 81.2% mothers about tetanus toxoid injections in pregnancy and routine immunization, however counselling was weak during ANC in a few areas such as breastfeeding and family planning (45% and 24.8% mothers respectively). It was encouraging to see that 85.6% mothers were satisfied with the services at PHF. Most mothers planned delivery at public healthcare facility (74.8%), with 14% at private facility and 9.3% at home, however actually 4.4% delivered at home, 63.4% at the public facilities and 14.2% at the private set ups. In general, 72.2% mothers had knowledge of at least 5 dangers signs in newborns and mostly they considered diarrhoea, fever and fast breathing as danger signs. Majority of the mothers (73.7%) accepted referral on being counselled by LHW whereas refusal of referral is 12.3%. Some causes of refusal of referral include unavailability of transport (18.2%), refusal by husband and family members (18%, 15.9%), health facility too far away (15.9%) or children alone at home (11.4%). Only 10% mothers stated that gender of newborn (male baby) is a factor that influences their decision for seeking care when newborn is sick. Only 38.1% mothers went for follow up to referred health facility after initial visits.

It was observed that 12% families refused referrals of sick young infants who may die if timely treatment is not provided. To save these newborns, PSBI initiative should be implemented at primary healthcare facilities that are BHUs and RHCs. Capacity building of staff, provision of supplies and equipment, updating of recording, reporting tools and strengthening of referral linkages are some important steps to be taken in the implementation of PSBI Initiative.

Table of Contents

Acknowledgement.....	iii
Executive Summary	iv
Table of Contents.....	vi
Acronyms.....	ix
Key Indicators	x
Introduction	1
1.1 Specific Objectives of the Study	5
Overview of Punjab Health System	7
2.1 Health Services Infrastructure:	9
2.2 Primary Healthcare	10
2.2.1 Essential Components of Primary Healthcare	10
2.2.2 Primary Level Healthcare Facilities.....	10
2.2.3 Basic Health Unit (BHU).....	10
2.2.4 Rural Health Centre (RHC).....	10
2.3 Secondary Level Healthcare Facilities	11
2.3.1 Tehsil Headquarters Hospital (THQ).....	11
2.3.2 District Headquarters Hospital (DHQ).....	11
2.4 Tertiary Level Healthcare Facilities	13
2.4.1 Teaching Hospitals.....	13
2.5 Outreach and Community-Based Services	13
2.5.1 Role of Lady Health Workers (LHWs) in Preventive and Primary Healthcare	13
2.5.2 Community IMNCI Interventions and LHW	14
2.5.3 Role of Community Midwives (CMWs):	14
Sample Design.....	15
3.1 Sampling.....	17
3.1.1 Sampling Frame	17
3.1.2 Sample Size Calculation.....	17
3.1.3 Health Facility Selection	17
3.2 Development of Computer Assisted Personal Interviewing (CAPI).....	18
3.3 Trainings.....	18
3.3.1 Training of Trainers (ToT) and Pre-Testing	18
3.3.2 Field Trainings	18
3.4 Data collection Work Plan	18
3.5 Limitations of this Study	20
Findings: Baseline Assessment	21
4.1 Management of Sick Young Infant by LHW.....	23
4.1.1 Trainings	23
4.1.2 LHW's Knowledge Assessment	23
4.1.3 Routine Health Activities.....	24
4.1.4 Mothers Healthcare Practitioners (HCPs) Choice to Manage SYI:.....	25
4.1.5 Status of Availability of Equipment & Supplies.....	25

4.1.6	Referral of SYI.....	27
4.1.7	Monitoring/ Supervision	28
4.1.8	Record Maintenance	29
4.2	Management of SYI at Primary Healthcare Facility	29
4.2.1	Services provided at PHF	29
4.2.2	Healthcare Providers at PHF	30
4.2.3	Maintenance of SYI Registers	30
4.2.4	Availability of Supplies and Equipment.....	31
4.2.5	Transportation of Newborn	31
4.2.6	Availability of Medicines	31
4.2.7	EENC Counselling.....	32
4.2.8	Reasons of Referral to Higher Facility	32
4.3	Management of SYI at Referral Facility.....	33
4.3.1	Services Provided at Referral Facility	33
4.3.2	Counselling of Mothers at Referral Facilities.....	34
4.3.3	Maintenance of SYIs register.....	34
4.3.4	Trained Staff.....	35
4.3.5	Availability of Equipment and Supplies	35
4.3.6	Availability of Medicine and Inspection of Stocks.....	38
4.3.7	Referrals.....	39
4.4	Interviews of Policy Makers.....	39
4.4.1	Causes of High Neonatal Mortality Rate (NMR) in Punjab.....	39
4.4.2	Infrastructure	40
4.4.3	Trainings of Healthcare Providers	40
4.4.4	Technical Committees	40
4.4.5	Supplies and Commodities	40
4.4.6	Feedback from Communities/ Complaint Management System	40
4.4.7	Referral linkages.....	41
4.4.8	Clinical Mentoring and Supervision	41
4.4.9	Monitoring and Evaluation	41
4.4.10	Recording & Reporting Mechanism	41
4.4.11	Public Awareness	42
4.4.12	Implementation of PSBI.....	42
4.4.13	Quality of Care	42
4.4.14	How to Achieve SDGs Targets?	42
	Findings: Formative Research	45
5.1	Interview with Mothers	45
5.1.1	LHW Antenatal Visits.....	46
5.1.2	Counselling During ANC.....	47
5.1.3	Services Provided by LHW during Postnatal Care Visits	48
5.1.4	Preparedness for Delivery	48

5.1.5	Mother's Knowledge on Newborn Danger Signs.....	48
5.1.6	Mother's Knowledge about Mother's Danger Signs	48
5.1.7	Referrals of Sick Young Infants	49
5.1.8	Reasons of Referral	49
5.1.9	Place of Referral by LHW	50
5.1.10	Acceptance / Refusal of Referral	51
5.1.11	Satisfaction on Management of SYI at PHF.....	52
5.1.12	Influence of Gender on Referral Acceptance	52
5.1.13	Mode of Transportation to Reach at Referred Facility	52
5.1.14	Follow ups of Newborns at Referral Facility	52
	Conclusion and Recommendations.....	53
6.1	Recommendations	56
6.1.1	Improve Communication Skills of Community Health workers	56
6.1.2	Community and Public Awareness.....	56
6.1.3	LHWs Training on Community IMNCI	56
6.1.4	Primary and Referral Facility IMNCI Trainings	56
6.1.5	Improving Recording Reporting Mechanism	56
6.1.6	Strengthen Referral Linkages.....	56
6.1.7	Promoting Quality of Care for Pregnant Women	57
6.1.8	Improve Supply Chain Mechanism.....	57
6.1.9	Availability of Trained Staff.....	57
6.1.10	Clinical Mentoring and Supervision	57
6.1.11	Availability of Essential Antibiotics at Primary Healthcare Facility	57
6.1.12	Availability of Ambulances for Transferring Newborns	57
6.1.13	Community Feedback Mechanism.....	57
6.1.14	Governance and Accountability.....	57
6.1.15	Availability of Trained Staff	58
6.1.16	Clinical Mentoring and Supervision.....	58
	Photo Gallery	59
	List of Indicators.....	65
	Questionnaires.....	75
	Questionnaire for Lady Health Workers	79
	Questionnaire for Incharge of Primary Healthcare Facility	87
	Questionnaire for Sick Young Infant Care at Referral Healthcare Facility Level (DHQ or THQ)	94
	Interview Guide for Policy Makers.....	100
	Questionnaire for Women Who Have Recently Delivered	102
	Tables.....	111

Acronyms

BHU	Basic Health Unit
C-IMNCI	Community Integrated Case Management of Newborn and Childhood Illness
CMAM	Community-Based Management of Acute Malnutrition
DHQ	District Headquarters Hospital
EDO-H	Executive District Officer Health
ENC	Essential Newborn Care
EPI	Expanded Programme on Immunization
FP	Family Planning
HCPs	Healthcare Practitioners
IRMNCH&NP	Integrated Reproductive Maternal Newborn Child Health and Nutrition Program
IMNCI	Integrated Management of Newborn Child Illness
LHS	Lady Health Supervisor
LHW	Lady Health Worker
MCH	Maternal Child Health
MNCH	Maternal, Newborn, and Child Health
MOIC	Medical Officer Incharge
WMO	Woman Medical Officer
PC-1	Planning Commission – Proforma 1
PHF	Primary Healthcare Facility
PHO	Provincial Health Office
PMU	Program Management Unit
PSPU	Policy and Strategic Planning Unit
RHC	Rural Health Center
SYI	Sick Young Infant
TB	Tuberculosis
THQ	Tehsil Headquarters Hospital

Key Indicators

Important indicators, availability of supplies/medicines/transportation, tra

Sr.#	Indicator	Definition	(%)
MO	Mothers who have recently delivered (< 60 days)		
1.1	Pregnant women visited by LHW for ANC check ups	<p>The percentage of pregnant women visited by LHW</p> <p>a. First trimester b. Second trimester c. Third trimester d. All trimesters</p>	<p>87.1 94.1 94.9 81.2</p>
1.2	ANC provided by LHW (four contents)	The percentage of pregnant women receiving care in four essential contents (Counselling on breast feeding, TT Injection, Counselling regarding the ANC at Health Facility and Counselling on adhering to Family Planning (FP) after birth) by a Lady Health Worker (LHW)	10.9
1.3	Preparedness of mothers for delivery	The percentage of mothers who made preparations for delivery after the last ANC visit	93.5
1.4	Public health facility deliveries	Percentage of women with a recent delivery (live birth) in a health facility (BHU/RHC/DHQ/THQ/Tertiary Hospital).	63.4
1.5	Postnatal health checks of new born by LHW	<p>Percentage of services provided by LHW in postnatal health checks of new born</p> <p>a. Examined immediately b. Given cord care c. Measured temperature</p>	<p>77.6 74.3 69.2</p>
1.6	Counselling	<p>The percentage of mothers counselled on</p> <p>a. Early initiation of breastfeeding during PNC b. Exclusive breastfeeding during PNC c. Breast feeding during ANC d. Family planning during ANC e. ANC check-up at health facility f. Diet during ANC</p>	<p>63.6 78.8 45.2 24.8 63.3 80.6</p>
1.7	Newborn weighed at birth	Percentage of newborn who were weighed at birth	53.8

Sr.#	Indicator	Definition	(%)
1.8	Women's knowledge about mother's danger signs	Percentage of women who had knowledge about at least three danger signs in mothers after delivery.	43.0
1.9	Mother's knowledge about new-born's danger signs (at least five)	The percentage of mothers who had knowledge about new born danger signs in first month of birth/ life (at least five signs).	72.2
1.10	Mothers reporting SYI Referrals by LHW from community (during last three months)	Percentage of mothers who reported that their sick young infant (SYI) was identified/referred by LHW to Health facility during last three months.	23.7
1.11	Mother reporting referral of SYI by LHW to PHF	Out of the 23.4% mothers reporting identification and referral of SYI by LHW, the percentage of mothers who were referred to PHF (BHU / RHC).	65.8
1.12	Refusals of referrals	Percentage of sick young infants (SYI) whose mothers refused referrals.	12.3
1.13	Mode of transportation to reach at referral facility	Percentage of referral mothers who used: a) Public Ambulance b) Private Ambulance c) Personal Arrangement	11.7 2.7 85.6
1.14	SYI follow ups at referral facility	Percentage of SYI visiting referral facility for follow ups within one week of referral	38.1
1.15	Causes of refusal of referral	Percentage of at least three causes of refusal of referral	18.2
1.16	Gender impact on referral	Percentage of mothers who think that decision to accept referral is influenced by the gender of new born	10.3
LHW	Lady Health Workers		
2.1	LHWs trained on identification and referral of newborns with danger signs	Percentage of LHWs trained on Identification and referral of newborn with danger signs.	24.8
2.2	Knowledge of LHW about SYI referral (at least five signs)	Percentage of LHWs who have knowledge of at least five SYI danger signs for referrals.	52.7

Sr.#	Indicator	Definition	(%)
2.3	Services provided by LHWs during home visits (8 key activities) in last calendar month	Percentage of LHWs who performed the Essential activities (Registration of Pregnant Women, ANC of Pregnant Women, Immunization, Ensuring Delivery by Skilled Birth Attendant, PNC, Nutritional Screening, Identification of SYI and Family Planning) during last Calendar Month	5.3
2.4	Availability of IEC material for ENC Counselling	Percentage of LHWs who have IEC material regarding ENC counselling.	58.3
2.5	Seeking health care of SYI from GP/Doctor	Percentage of LHWs who believe that families seek healthcare of SYI from General Practitioner (GP)/Doctor once sick newborn identified by LHW.	79.0
2.6	LHW's Perception about family's awareness on services for SYI at PHF	Percentage of LHWs who think that communities are aware of available facilities for SYI at Primary Healthcare Facilities	96.2
2.7	LHW referrals of SYI to Health Facility	Percentage of LHWs referring SYI to Health Facility	97.0
2.8	LHW's Knowledge on Management of SYI	Percentage of LHWs who have knowledge about the management of SYI with Possible Serious Infections	90.2
2.9	Use of Triplicate Referral Slips	Percentage of LHWs who used triplicate referral Slips for referral to health facility.	48.2
2.10	Counselling on Newborn danger signs	Percentage of LHWs who counselled mothers/ pregnant women on newborn danger signs.	25.7
TR	Trainings		
3.1	IMNCI trained staff of referral hospital (THQ/DHQ)	Percentage of IMNCI Trained Staff of referral hospital	2.7
3.2	IMNCI trained doctors of referral hospital (THQ/DHQ)	Percentage of IMNCI Trained Doctors of referral hospital	2.5
3.3	IMNCI trained LHV's of referral hospital (THQ/DHQ)	Percentage of IMNCI Trained LHV's of referral hospital	0.0
3.4	IMNCI trained paediatricians of referral hospital (THQ/DHQ)	Percentage of IMNCI Trained Paediatricians of referral hospital	9.0

Sr.#	Indicator	Definition	(%)
3.5	IMNCI trained nurses of referral hospital (THQ/DHQ)	Percentage of IMNCI Trained Nurses of referral hospital	2.3
3.6	IMNCI trained medical officers at PHF (BHU/RHC)	Percentage of Medical Officers trained with IMNCI at PHF.	10.9
3.7	IMNCI Trained LHWs	Percentage of LHWs trained on IMNCI.	25.0
3.8	ENC Trained LHWs	Percentage of LHWs trained on ENC.	23.1
PHF	Primary Healthcare Facility		
4.1	Availability of newborn weighing scale	Percentage of PHF having newborn weighing scale.	92.9
4.2	Availability of MUAC for children	Percentage of PHF having MUAC tape for children.	68.8
4.3	Availability of sanitizer	Percentage of PHF having sanitizer for infection control.	39.4
4.4	Ambulance service for sick new born	Percentage of PHF with access to ambulance service for transport of SYI	38.6
4.5	Low Osmolarity ORS	Percentage of PHF with low osmolarity ORS	83.9
4.6	Zinc Sulphate	Percentage of PHF with Zinc sulphate	69.3
4.7	Amoxicillin syrup	Percentage of PHF with amoxicillin syrup	86.5
4.8	Injection Gentamicin	Percentage of PHF with injection gentamicin	34.8
4.9	Chlorhexidine Gel	Percentage of PHF with chlorhexidine gel	34.8
4.10	Referral due to difficulty breathing	Percentage of SYI referred from PHF to referral health facility due to difficulty breathing	86.2
4.11	Treatment of SYI at PHF during last calendar month	Percentage of PHF where SYI was treated in the last calendar month	63.3
4.12	Referral of SYI during last calendar month	Percentage of PHF where SYI were referred to higher facility during last calendar month	52.8

Sr.#	Indicator	Definition	(%)
THQ/ DHQ	Referral Health Facility (THQ/ DHQ)		
5.1	Treatment of SYI at secondary facility	Percentage of referral health facilities which provided treatment of SYI in the last calendar month	92.9
5.2	Referral of newborn/ child	Percentage of referral facilities which sent newborn/ child to tertiary health care facilities for further management in the last calendar month	57.1
5.3	Counselling of mother on newborn danger signs at referral health facility	Percentage of referral facilities where mothers were counselled on newborn danger signs in the last calendar month	85.7
5.4	Maintenance of SYI registers	Percentage of the referral facilities having well maintained registers of SYI	57.1
5.5	Amoxicillin Syrup	Percentage of Referral health facility having amoxicillin syrup	92.9
5.6	Injection Gentamicin	Percentage of referral health facility with injection gentamicin	85.7
5.7	Chlorhexidine Gel	Percentage of Referral health facility with chlorhexidine gel	28.6
5.8	Low Osmolarity ORS	Percentage of Referral health facility with low osmolarity ORS	92.9
5.9	Zinc Sulphate	Percentage of Referral health facility with Zinc sulphate	92.9
5.10	Neonatal ICU	Percentage of Referral health facility with neonatal ICU	50.0
5.11	Neonatal Ventilator	Percentage of Referral health facility with neonatal ventilator	35.7
5.12	Incubator	Percentage of Referral health facility with incubator	92.9
5.13	Ambulance Service	Percentage of referral health facility with access to ambulance service for transport of SYI	85.7

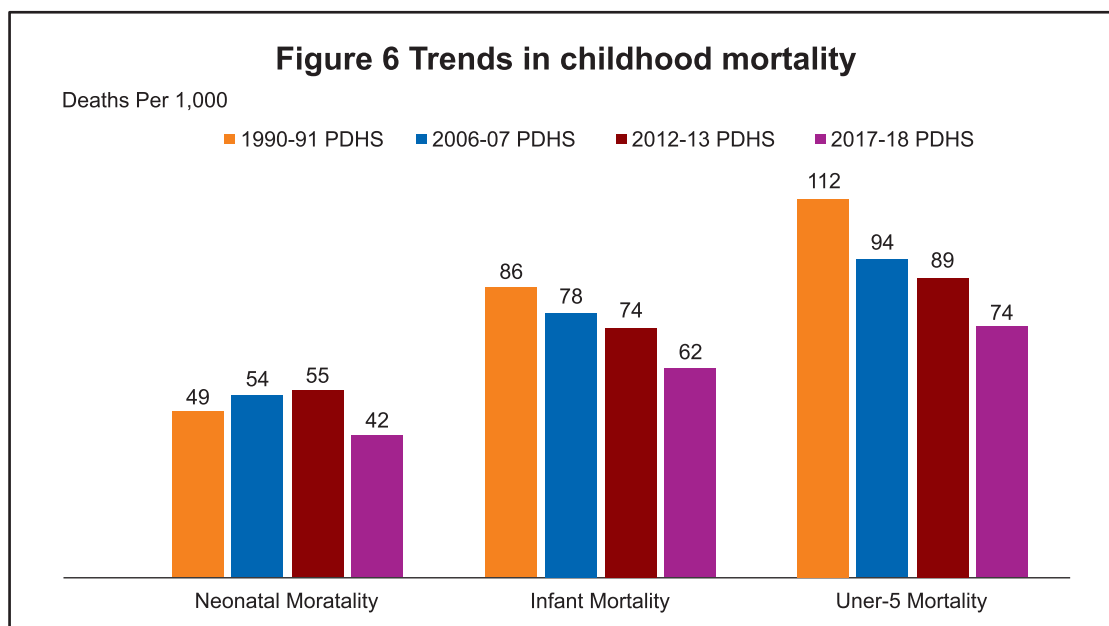


Chapter 1

Introduction

Introduction

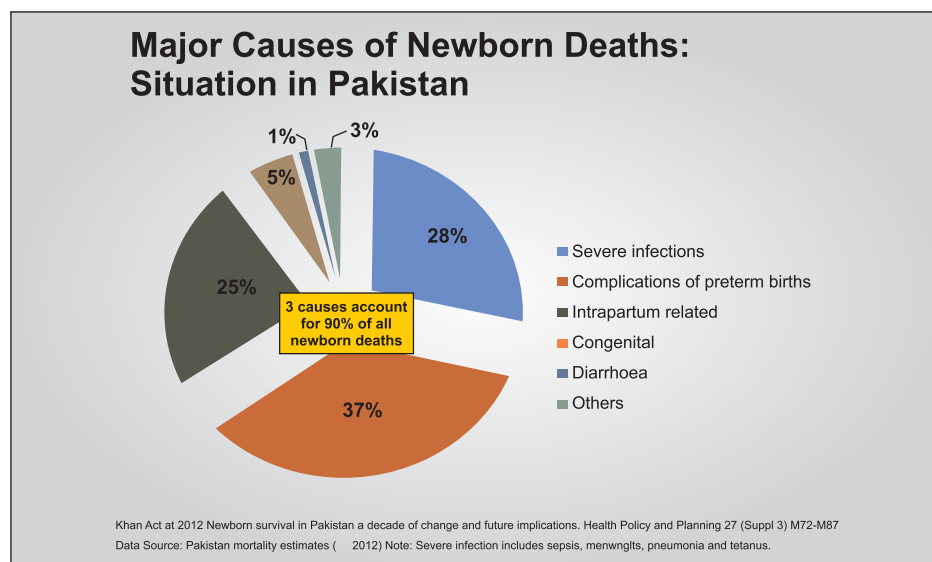
Globally progress in reduction in maternal and child mortality has been achieved, but newborn mortality decline has been slow. The trends in the reduction of childhood mortalities are shown below. Neonatal Mortality Rate remained stagnant over the years, however PDHS 2017-18 shows that the recent NMR is 42 deaths per 1000 live births that has declined from 55 deaths per 1000 live births in 2012-13.



Pakistan's ranking regarding Neonatal Mortality Rate remains highest in the world, i.e., one in every 22 newborns die within a month of their birth, according to UNICEF's report titled "Every Child Alive" published in February 2018. On the contrary the corresponding figure for Afghanistan is one in 25 and one in 1111 in Japan.

Despite increase in deliveries by skilled birth attendants and improved immunization coverage, Pakistan is not on track to attain the SDG targets related to neonatal mortality. In order to achieve SDG targets, Pakistan needs to accelerate the annual rate of reduction in neonatal mortality from 1.9% to 8.9%.

The three main causes of Neonatal Mortality in Pakistan are infections, complications of preterm births and intrapartum related as shown in the pie chart below



UNICEF is supporting countries for the implementation of Every Newborn Action Plan (ENAP) that focuses on reduction of preventable newborn mortality especially due to prematurity, asphyxia and sepsis. Prompt identification and treatment of Possible Serious Bacterial Infection (PSBI) in sick young infants is essential for reducing newborn mortality and morbidity. Approximately 10% of newborns suffer from Possible Serious Bacterial Infections. In South Asia and Africa, studies show up to two thirds or more of families with a child suffering from PSBI do not accept referral for hospitals with indoor set ups for managing sick children.

According to WHO policy all sick newborns should be managed in hospitals, which are fully equipped with skilled health practitioners. The WHO guidelines Management of Newborns with PSBI (like pneumonia) in Sick Young Infants, Where Referral is not Possible, was published in September 2015 and it suggests giving injectable antibiotics at primary healthcare facilities when referral is denied due to issues of availability, accessibility and affordability of health services. This can help save lives of babies who will otherwise die due to inadequate treatment.

In implementing the PSBI Initiative there should be identification of newborn danger signs by mothers and community health workers, timely referral to primary healthcare facility and assessment of SYI. Newborns with serious clinical disease or critical illness should be referred to higher facilities for further management. If a referral is refused, there should be provision of antibiotic injection Gentamicin and syrup amoxicillin according to WHO guidelines along with regular follow ups. The main aim is saving those newborns who refuse referral and do not get treatment.

Table 1.1: When Families Cannot Accept or Cannot Access Referral, Further Assessment and Classification Followed by:		
Classification of Sick Young Infant	Recommended Management	Simplified Antibiotic Regimen
Age 0-6 days(rapid breathing as the only sign of illness)	Refer, If referral not possible, antibiotic regimen by a trained health worker	Oral Amoxicillin 50 mg/kg per dose given twice daily for seven days.
Age 7-59 days with fast breathing as the only sign of illness		Oral Amoxicillin 50 mg/kg per dose given twice daily for seven days
Age 0-59 days with CLINICAL SEVERE INFECTION	Refer if referral not possible Outpatient Treatment Reassessment at each visit for injection. Follow up on day 4 and day 8 Outpatient Treatment	Gentamicin injection 5-7.5mg/kg once daily (2 or 7 days) and twice daily amoxicillin 50 mg/kg per dose for 7 days
Age 0-59 days with CRITICAL ILLNESS	Referral to hospital	Pre - referral treatment with gentamicin 5-7.5mg/kg per dose, intramuscularly

PSBI Initiative has been implemented globally in many countries like Malawi, Nigeria and Bangladesh. In Pakistan, it has been implemented successfully in two districts of Sindh Province (Thatta and Sajjawal).

UNICEF and IRMNCH&NP, Primary and Secondary Healthcare Department with the support of Bill and Malinda Gates Foundation (BMGF) agreed to implement PSBI initiative in Punjab. During first Child Survival Technical Working Group Meeting held on 6th March 2018, the PSBI initiative was shared by UNICEF representatives with all stakeholders. It was agreed that PSBI is an evidence-based intervention and should be implemented in Punjab. It was also decided that before implementing this initiative, a baseline assessment should be conducted all over the Punjab to assess primary and referral health facility readiness (equipment, functionality, HR availability and its skills) in providing quality management of newborn infections along with key family practices and perceptions related to newborn infections. It was also mutually agreed that the PSBI initiative should be implemented in two districts in the initial phase. It was suggested that Injection Gentamicin/ Amikacin along with syrup Amoxicillin will be used as a part of PSBI treatment regimen however in initial phase in 2 districts the WHO recommended regimen will be used and injection Gentamicin and syrup Amoxicillin will be given at primary healthcare level by a medical officer or lady health visitors.

Bureau of Statistics (BoS), Punjab was selected to conduct this assessment. UNICEF representatives held meeting with BoS and shared the concept. Country Head UNICEF Pakistan had a meeting with Director General, BoS and his team in which BoS shared the study design and implementation plan. The study design was also shared with all stakeholders in the Child Survival Technical Working Group Meeting.

1.1 Specific Objectives of the Study

- To assess the readiness of Primary Healthcare Facility (BHU/RHC) for managing PSBI where referral is not possible focusing on the following areas:
 - Availability of equipment (Weighing Scale, Thermometer, ARI timer)
 - Availability of human resource, capacity and skills
 - Availability of medicines/supplies (Low Osmolarity ORS, Syrup Amoxicillin, Injection Gentamicin, Zinc Sulphate, Iron, folic acid)
 - Transportation for referral.
 - To assess the availability of logistics, supplies and human resource at referral facilities THQ/DHQ
- To assess the status of health services for 0-59 days' young, sick infants in the community, primary and referral health facilities. This includes services provided by Lady Health Workers, Staff at Basic Health Units and Pediatricians at referral health facilities.
- To assess key family practices and perceptions of families about the care of sick young newborns and causes of refusal of referral.
- To assess the readiness of referral health facility (THQ/ DHQ) regarding management of SYI. This includes availability of equipment, supplies and human resource.
- To assess the knowledge of LHWs and Medical Officers (MOs) on Early Essential Newborn Care (EENC).



Chapter 2

Overview of Punjab Health System

Overview of Punjab Health System

Punjab is the most populous province of the Pakistan with 110 million people out which almost 63 percent resides in the rural area. In 2011, devolution a paradigm shift in approach of social sector planning from top down to local-customize demand driven policies. This devolution resultantly, yielded substantively disjointed health system for all provinces with weak health division at the national level. Now with its limited role, national level policies like Pakistan Vision 2025 provides broad-spectrum guidelines for the provinces for their socioeconomic development.

Punjab government is striving for affordable and equitable health services across the Punjab with prime focus on community health through its policies. Currently Punjab is experiencing a number of tailored policies, encompassing almost all dimensions for improving the health conditions of the people of the province. The Punjab Growth Strategy 2018 focus on strengthening the system for health services for the communities. The Health Sector Strategy, Punjab, further supplemented by The Health Sector Plan 2018: Building a healthier Punjab, provide detail objectives, guidelines, goals, and implementation modalities to make Punjab healthier. The general features of these polices are strengthening the Maternal, Newborn and Child Health (MNCH), Family Planning (FP), community involvement through Community Support Groups (CSG) nutrition services, integrated community-based Management Information Systems (MIS) for policy making. These policies also discussed the role of CMWs, LHWs, identify the problems in discharging their duties and suggested the compensation in terms of cash and kind. In addition to these The Essential Package of Health Services for Primary Healthcare in Punjab (EPHS) plans all Primary Healthcare services and describe the role of health service providers to deliver the services.

In achieving the goals and objective stated in these policies, the role of Lady Health workers and Community Health workers is very critical.

2.1 Health Services Infrastructure:

The Departments of Health, Government of Punjab is entrusted with the fundamental responsibility of healthcare for the population of Punjab. Health department delivers upholding, preventive, curative and rehabilitative healthcare services from Primary level health facilities to Tertiary level health facilities. Health sector of Punjab has an extensive network of public and privately managed health infrastructure throughout the province. The Government is by far the major provider of hospital services in rural areas, and it is also the main provider of preventive care throughout the province. The public sector health delivery system is composed of different tiers, shown below in figure.

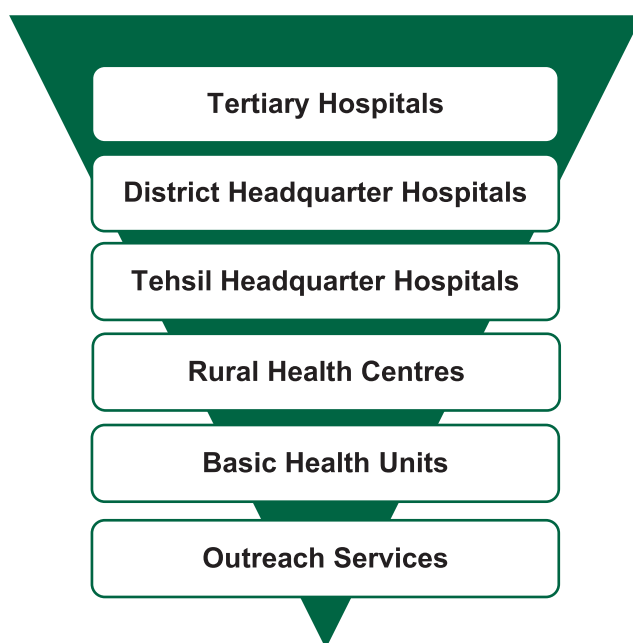


Figure 2. : Health Services Infrastructure

2.2 Primary Healthcare

“Essential healthcare based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.”

2.2.1 Essential Components of Primary Healthcare

There are eight essential components of Primary Healthcare (PRIMARY HEALTHCARE) approach. These are given below:

- Education concerning prevailing health problems and the methods of preventing and controlling them.
- Promotion of safe food supply and proper nutrition.
- An adequate supply of safe water and basic sanitation.
- Maternal and child healthcare, including Family Planning.
- Immunization against major infectious diseases.
- Prevention and control of locally endemic diseases.
- Appropriate treatment of common diseases and injuries.
- Provision of essential drugs.

This package of Primary Healthcare is delivered through all levels of health facilities and community outreach workers across the province. Detailed working of health facilities is discussed below:

2.2.2 Primary Level Healthcare Facilities

There are two types of primary level healthcare facilities with almost a uniform service delivery pattern. These are Basic Health units (BHUs) and Rural Healthcare centers (RHCs).

2.2.3 Basic Health Unit (BHU)

The BHU is located at a Union Council and serves a catchment population of up to 25,000. Services provided at BHU are preventive, curative and referral. Outreach/community-based services are part of package provided by the BHU. BHU provides all primary healthcare services along with integrated services that include basic medical and surgical care, EPI, CDC, Malaria and TB control. MCH services are also part of the services package being provided at BHU. BHU provides first level referral to patients referred by LHWs. BHU refers patients to higher level facilities as and when necessary. The BHU also provides clinical, logistical and managerial support to Outreach workers like LHWs, Vaccinators, CDC Supervisors, and CMWs. It also serves as a focal point, where community and the public sector health functionaries may come together to resolve issues concerning health.

2.2.4 Rural Health Centre (RHC)

The RHCs have 10-20 in-patient beds and each serve a catchment population of up to 100,000 people. The RHC provides preventive, curative, diagnostics and referral services along with inpatient services. The RHC also gives clinical, logistical and managerial support to the BHUs, LHWs, MCH Centers, and Dispensaries that fall within its geographical limits. RHC also provides medico-legal, basic surgical, dental and referral services. The cases are referred to THQ, DHQ and Tertiary hospitals. RHCs also provide maternal services like antenatal check-ups, delivery, postnatal check-ups and family planning services along with immunization services and outpatient management of simple illnesses for the children.

2.3 Secondary Level Healthcare Facilities

The role of a district hospital in primary healthcare has been expanded beyond being dominantly curative and rehabilitative to include promotional, preventive and educational roles as part of a primary healthcare approach. Secondary level facilities are referral facilities for the primary ones and provide more extensive health services.

2.3.1 Tehsil Headquarters Hospital (THQ)

Tehsil Headquarters Hospitals serve as first referral level secondary health facility for patients referred from RHCs for the services not available at RHCs at tehsil. A THQ is an intermediate level of healthcare facility that is concerned with the provision of specific technical, therapeutic or diagnostic services. Specialist consultation procedures and hospital admissions also fall into this category of care. These services are episodic and usually focused on a health problem.

At present majority of THQ hospitals have 40 to 60 beds with a few having more than 100 beds. The THQ hospital provides preventive, curative, diagnostic, in patients, referral services and also specialist care. THQ hospitals are supposed to provide Basic and Comprehensive Emergency Obstetric and Newborn Care (EmONC). THQ hospital provides referral care to the patients, including those referred by the Rural Health Centers, Basic Health Units, Lady Health Workers and other primary care facilities.

2.3.2 District Headquarters Hospital (DHQ)

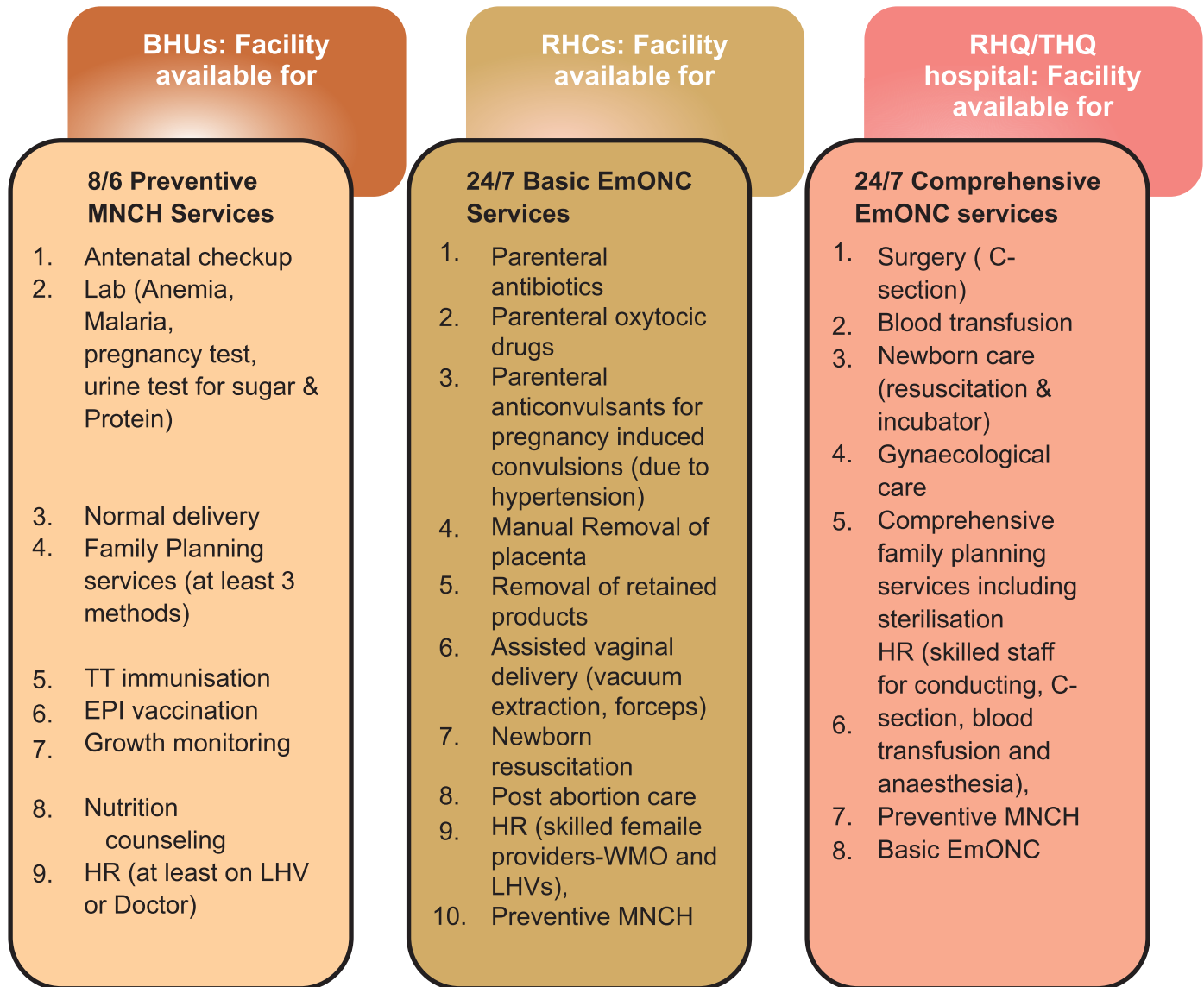
District Headquarters Hospitals (DHQs) are the second referral level of the secondary healthcare facility which are located at District headquarters cities of the districts. A DHQ is also an intermediate level of healthcare facility and serves a population of 1 to 3 million, depending upon the category of the hospital i.e. Category C, B, A and A+. The smallest DHQs in Punjab are DHQ Chiniot and Mandi Bahauddin having only 60-70 beds and the biggest one is DHQ Sheikhupura with almost 600 beds. DHQ hospitals also provide preventive, curative, advance diagnostics, inpatient services, advance specialist and referral services. All DHQ hospitals are supposed to provide basic and comprehensive EmONC services.

DHQH provides referral care to the patients, including those referred by the Basic Health Units, Rural Health Centers, Tehsil Headquarter hospitals along with Lady Health Workers and other primary care facilities.

MNCH Services

The packages of MNCH services assessed include preventive MNCH services at BHUs, basic EmONC services at RHCs and comprehensive EmONC services at DHQ, THQ hospitals². The range of MNCH services are given.

Range of Services That Signal Fully Functional MNCH Services



2.4 Tertiary Level Healthcare Facilities

Tertiary care is specialized consultative healthcare, usually for inpatients and on referral from a primary or secondary health professional.

2.4.1 Teaching Hospitals

Teaching Hospitals are the mega hospitals attached with a Medical college/University. The main focus of teaching hospital is an advance level of healthcare services, medical education and training of undergraduate and postgraduate medical students and professionals. These hospitals also serve as the highest level of referral tier. Patients belonging to following main specialties are provided healthcare of advanced level in teaching hospitals:

- Head and Neck
- Oncology
- Perinatology (high-risk pregnancies)
- Neonatology (high-risk newborn care)
- PET Scans
- Organ transplantation
- Plastic Surgery
- Maxillofacial Surgery
- Psychiatry and Neuropsychiatry
- ICCU, CCU and ICU
- Endocrinology and Growth and Puberty Disorders
- Neurology and Neurosurgery etc.

Teaching hospitals usually have two types. Major hospitals having a full complement of services including pediatrics, general medicine, various branches of surgery, neurology, nephrology, oncology, and psychiatry etc.

Other single specialty major hospitals are dedicated to specific sub-specialty care (Punjab Institute of Mental Health, Children Hospitals, and Cardiology Hospitals etc.). Patients will often be referred from smaller hospitals to a teaching hospital for major operations, consultations and for sophisticated intensive care facilities.

2.5 Outreach and Community-Based Services

Outreach and community-based services focus on immunization, maternal, newborn & child health, nutrition, family planning, sanitation (hand washing and open defecation free community practices), and communicable diseases and malaria control.

2.5.1 Role of Lady Health Workers (LHWs) in Preventive and Primary Healthcare

Lady Health Workers aim to improve the maternal, newborn and child health through home healthcare at the doorstep of the community. The outreach health services like family planning, immunization, ANC, PNC, ENC and nutrition screening, etc. are extended to rural populations and urban slum communities through about 45,000 Lady Health Workers (LHWs) and 1,850 Lady

Health Supervisors (LHSs) across Punjab with 62% covered area. The urban coverage is about 30%, whereas rural coverage is nearly 70%. These community health workers go door to door and performs screening of mothers, newborns and children, provides health education along with a referral from community to health facilities. An LHW looks after about 1500 population or 250 families on an average.

2.5.2 Community IMNCI Interventions and LHW

Community Integrated Management of Neonatal and Childhood Illness (IMNCI) strategy is an essential part of LHWs' services as per recommendations of the Integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD). The following drugs are supplied to LHWs for this purpose:

- Amoxicillin for Simple Pneumonia and ARI (refer cases of severe Pneumonia to their respective Health Facility)
- Low Osmolality ORS for diarrhoea without dehydration (refer the child with some or severe dehydration)
- Zinc Sulfate syrup/dispersible tablets for the management of Diarrhoea

2.5.3 Role of Community Midwives (CMWs):

CMWs are community based Skilled Birth Attendants (SBAs) meant to contribute towards improvement in maternal, newborn and child mortality. Community Midwives (CMWs) are a new cadre of Skilled Birth Attendants who are rural women, selected and trained from within the same community to serve 5,000 population cluster in rural areas and one for 10,000 in urban slums. These CMWs undergo an extensive and long 24 months' training in Midwifery Schools across Punjab, especially on antenatal, intra-partum, postnatal and newborn care and family planning competencies.

CMWs are permitted to charge Rs.1000/delivery from the client. Lateral linkages of CMWs are developed with the Midwife, LHV, Nurse of BHUs & RHCs and they are supposed to attend the monthly meeting of LHWs at the concerned health facility to prepare and submit their monthly progress report on the prescribed format. CMWs' clinical supervision is conducted through CMW Tutors from the concerned Midwifery School who record their observations to identify training needs and provide input to the Health authorities to plan for tailored courses accordingly



Chapter 3

Sample Design

Sample Design

Keeping in view the scope of this study, five separate questionnaires were designed for data collection to cater both supply and demand aspects of the study. The questionnaire and sampling technique were shared with the members of Child Survival Technical Working Group and was finalized after incorporating the inputs of all technical experts. The two data collection techniques included:

- Face to Face interviews with LHWs, Incharge of PHF, Pediatrician and Medical Superintendent of referral facility, mothers of 0-59 days old newborn and Policy Makers.
- Direct observation of stock regarding medicine supplies, record keeping and the environment and condition under which the healthcare services were provided.

3.1 Sampling

The universe of this assessment consists of all active health facilities in the Punjab, including Basic Health Units (BHUs), Rural Health Centers (RHCs), Tehsil Headquarters' Hospitals (THQs) and District Headquarters Hospitals.

3.1.1 Sampling Frame

Sampling frame received from Primary and Secondary Healthcare Department of the Punjab Government has been used for sample selection. The number of Primary Health Facilities (PHFs) and Referral Health Facilities (RHF) in the Punjab are as under:

3.1.2 Sample Size Calculation

Table 3.1: Number of Primary Healthcare Facilities (PHFs) and Referral Facilities		
	Sample	Universe
Total PHFs	267	2412
RHCs	30	290
BHUs	237	2122
THQ/DHQ	14	134

Sample size has been estimated at Province level by using the following formula:

$$\text{Sample size } n = \frac{z_{1-\frac{\alpha}{2}}^2 P(1-P)}{d^2}$$

Where

P = 0.5 (Anticipated Prevalence)

Level of Confidence = 95%

Margin of Error (d): 8%

3.1.3 Health Facility Selection

For this assessment, a “Systematic Random Sampling” was adopted to select the sample Health Facilities.

3.2 Development of Computer Assisted Personal Interviewing (CAPI)

This assessment was Computer Assisted Personal Interviewing (CAPI) based and 69 android tablets were used during field work for data collection. The CAPI application was developed based on Cs Pro.

3.3 Trainings

3.3.1 Training of Trainers (ToT) and Pre-Testing

Two days training of trainers was conducted in which ten trainers were trained. The training was conducted by BoS Technical Team, UNICEF Health Team and Health Consultant. A manual was developed to assist the field trainings. This was followed by pre-testing in two primary healthcare facilities and one referral facility. Feedback from pre-testing was used to improve the questionnaires and CAPI system.

3.3.2 Field Trainings

Two trainings were conducted (one in Multan and the other in Rawalpindi). In this two-days training 150 enumerators were trained on questionnaires and interview conducting skills.

They were also given an orientation on CAPI. In addition, there were practically shown some of the commodities and supplies that were to be checked at the facilities.

Approval of Survey Tools

All survey tools were approved by the Survey Technical Committee notified by the Government of Punjab. This committee reviewed all questionnaires and gave technical inputs to refine them.

A Subcommittee was formed to finalize PSBI indicators, questionnaire and for oversight and monitoring of the assessment comprising of following members:

Representative from IRMNCH & NP

Representative from PSPU

Representative from BOS

Representative from UNICEF

Representative from WHO

Representative from Academia

Informed Consent

During designing of the questionnaires, informed consent was made part of each questionnaire. All individuals being interviewed were explained the purpose of the assessment along with a general introduction about the survey team and questions that will be asked. Once they formally agreed to participate in the assessment, the enumerators proceeded with detailed assessment. The questionnaires with consent are annexed.

3.4 Data Collection Work Plan

There were 23 teams for field work comprising of three members each. The division-wise breakdown is given below:

Table 3.2: Division Wise Breakup of Teams	
Division Name	No. of Teams
Bahawalpur	2
DG Khan	2
Faisalabad	3
Gujranwala	4

Lahore	3
Multan	3
Rawalpindi	2
Sahiwal	2
Sargodha	2
Total	23

Each team collected data in 12 to 15 days on CAPI. Eight interviews were conducted per day by each team.

a. At Primary Health Facility:

At each sampled PHF, three interviews were conducted, one interview from the Incharge of each PHF and two interviews from randomly selected LHWs. Two mothers who delivered in last 59 days from each PHF (at random) were also interviewed.

b. At Catchment Area:

On the same day, three interviews were conducted from the Community (catchment area of PHF) using Snow Ball Sampling (Chain Referral Sampling) from three mothers who delivered in last 59 days.

c. Referral Health Facility:

One interview was conducted with the Pediatrician or Medical Superintendent (MS) of each sampled Referral Health Facility (THQs / DHQs).

d. Policy Makers:

Six interviews were conducted with Policy Makers of Primary And Secondary Healthcare Department.

e. Data Quality:

Data quality was ensured through the following dimensions:

- Data received on daily basis (at the end of the day) through internet which reduces human error and increase the precision of data.
- Completion of clusters with structural integrity was ensured from each team.
- To validate the data, three tier data collection system was established, i.e.
 - Headquarter Office
 - Supervisor
 - Interviewer
- Monitoring mechanism was made strong through two types of monitoring i.e. supportive monitoring and surprise monitoring. Each team visited more than once by the field monitors.
- Quality tables were generated for the consistency of data. Feedback was given to the relevant stakeholder on the inconsistencies identified in field for data accuracy.
- Data cleaning operation was organized at central location Lahore under the supervision of qualified data manager.
- The goal of secondary data processing was to produce analysis data files and to create data tables.

3.5 Limitations of this Study

This study only deals with health facility-based data collection on selected indicators unlike a household survey. These indicators primarily focus on Healthcare infrastructure, Healthcare workforce, service delivery, availability of required technologies and medicine and monitoring and evaluation systems. For the purpose of formative research, mothers of young infants (0-59 days) were interviewed with a limited scope in contrary to the scope of household surveys. Further, in depth interviews with health managers and policy makers were used to triangulate endorsements.

On the other hand, the information on several indicators could not be captured as it did not exist in the routine processes of healthcare facilities. For example, an exclusive register for keeping the record of SYIs was either not available or not being maintained. As a result, a clear-cut information as to how many SYIs were brought to a health facility for treatment could not be gathered and assessment had to rely on projected and estimated figures.



Chapter 4

Findings: Baseline Assessment

Findings: Baseline Assessment

The Baseline Assessment findings will give a general overview of the status of services for sick young infant in primary and secondary healthcare setups. This information will be pivotal for the planning and implementation of this initiative and its subsequent scale up. The baseline assessment comprised of the Interviews with four cadres:

1. Lady Health Worker (LHW)
2. Incharge (MO/WMO/LHV) of Primary Healthcare Facility (BHU/RHC)
3. Pediatrician of Referral Healthcare Facility (THQ/DHQ)
4. Policy Makers

4.1 Management of Sick Young Infant by LHW

The total interviewed Community Health Workers (LHWs) were 533 with an overall response rate of 99.8%. The estimated mean number of registered households and registered population with each LHW was 237 and 1528. The Under-5 years children and Under-1-year children with each LHW were 183 and 42 respectively. On average 22 currently pregnant women were registered with each LHW. In this section, readiness for management of SYI by LHWs was assessed.

The results / findings of assessment are as follows:

4.1.1 Trainings

Integrated Maternal, Newborn Childhood Illness (IMNCI) and Early Essential Newborn Care (EENC) trainings cover important aspects of management of newborns/ management of sick young infants and their care.

IMNCI Training

Twenty five percent (25%) LHWs are trained on community component of IMNCI. In the IMNCI trainings, LHWs were trained in the following areas: registration of pregnant women, promotion of antenatal care (ANC), skilled birth attendance and postnatal care (PNC), recognition of danger signs, follow up of SYI, family planning and EPI. Out of 133 (25%) IMNCI trained LHWs, on probing about the topics covered in IMNCI trainings 117 (88%) stated that the topic covered was the registration of pregnant women and 106 (79.7%) promotion of the ANC, 100 (75.2%) family planning, 93 (69.9%) PNC, 88 (66.2%) Expanded Program of Immunization (EPI), 75 (56.4%) recognition of danger signs and 70 (52.6%) promotion of delivery by Skilled Birth Attendants.

EENC Training

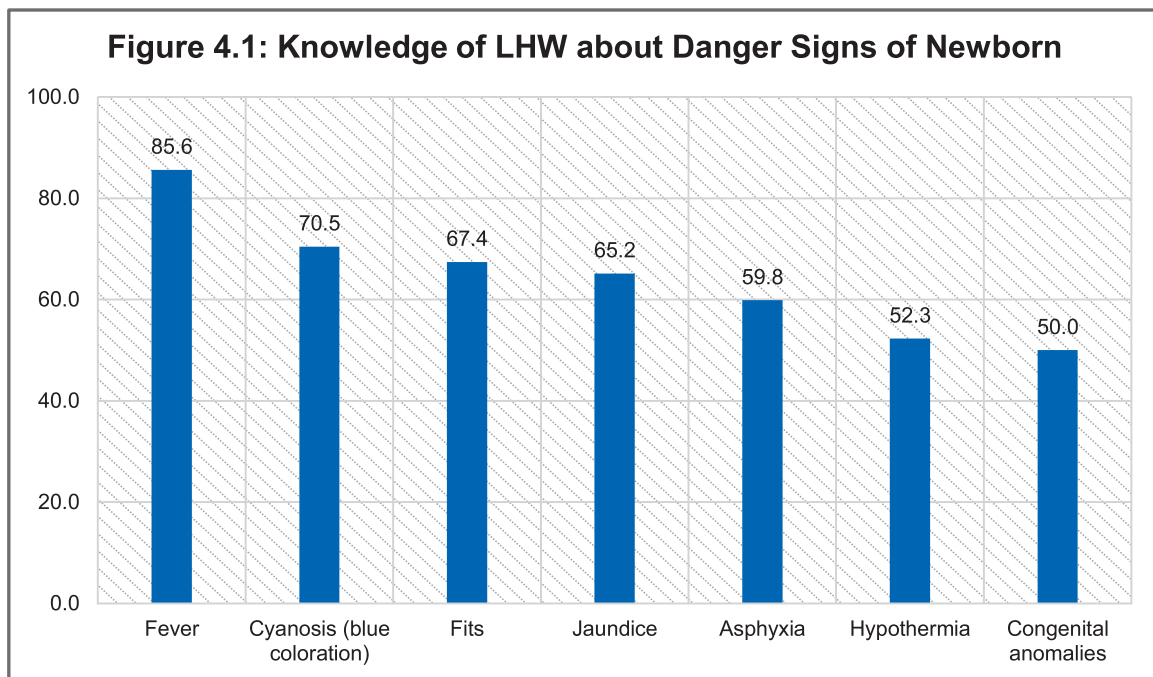
The major components of EENC are: Early initiation of breastfeeding (within one hour), Exclusive breastfeeding, skin to skin care & delayed bathing after six hours and delayed cord clamping. Only 123 (23.1%) staff was trained on it.

4.1.2 LHW's Knowledge Assessment

LHWs mainly focus on the health of mothers and newborns, so they should be well versed about various ailments in them

Knowledge about Danger Signs of Newborn

Assessing the newborns is one of the major activities of LHW during home visits. Total 132 (24.8%) LHWs are trained on Identification and Referral of Newborns with Danger Signs. The knowledge of these LHWs of newborn danger signs is shown below:



It was seen that out of 132 LHWs, 85.6% considered fever a danger sign, 70.5% cyanosis, 67.4% fits, 65.2% jaundice and 59.8 % asphyxia.

Knowledge about PSBI Management Protocols

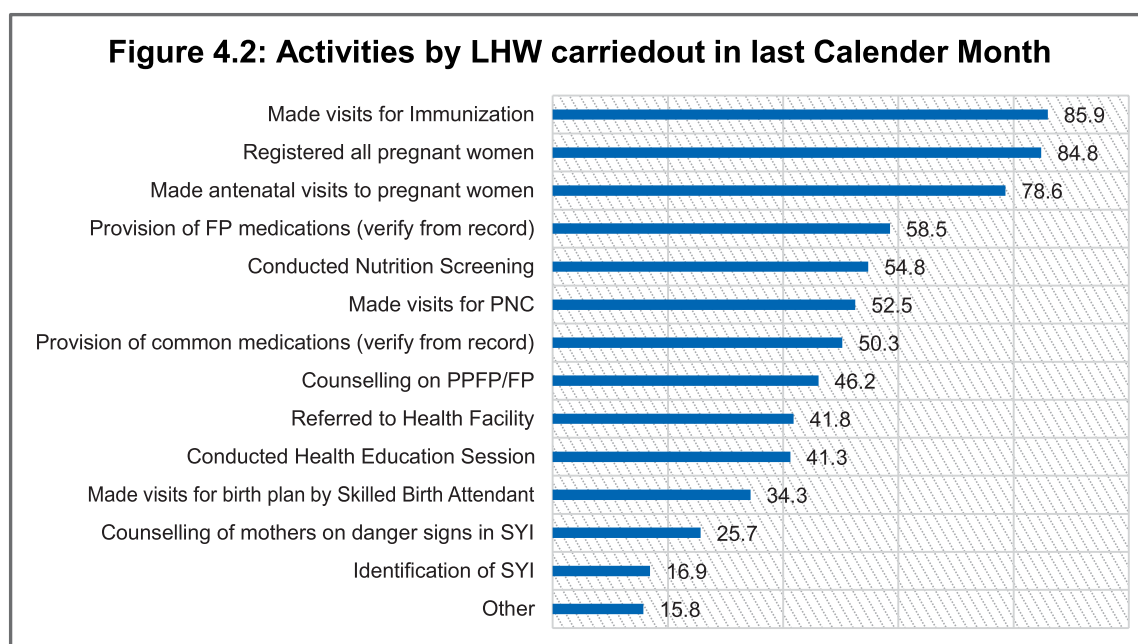
On assessing the knowledge of LHWs on recommended management of SYI with suspected PSBIs, 461 (86.5%) considered referral to health facility the best choice, whereas 177 (33.2%) mentioned giving oral antibiotics was part of management.

Knowledge about EENC

Out of the 123 (23.1%) LHWs trained on EENC, 97.6% knew about early initiation of breastfeeding, 87.8% about exclusive breastfeeding and 51.2% about skin to skin care & delayed bathing.

4.1.3 Routine Health Activities

LHWs perform a wide range of activities for promotion of maternal & newborn health in the community. The graph (Figure 4.2) shows the key activities performed in the last calendar month.



The major emphasis of LHWs was on immunization 85.9% (458), registering pregnant women 84.8% (452) and ANC checkups 78.6% (419). Around 50% (312) LHWs provided family planning commodities and 54.8% (292) conducted nutritional screening. These two very vital areas were not much focused by many LHWs. After assessing newborns, 41.8% (223) LHWs referred sick young infants to primary healthcare facilities in the last calendar month.

Only 25.7% (137) LHWs counselled mothers on newborn danger signs. Very few LHWs assessed newborn danger signs 16.9% (90). This data clearly shows that LHWs services for pregnant women were good, however newborn services are weak. Trainings and refresher courses are needed to enhance their skills for identifying newborn danger signs and timely referral.

4.1.4 Mothers Healthcare Practitioners (HCPs) Choice to Manage SYI:

This section provides information regarding family's preferred HCPs for management of SYI

Table 4.1 : Family Choices for Treatment of PSBI in SYI					
Percentage of family's choices for treatment					
	Local Remedy	Doctor / GP ¹	Went to Hakeem	Seek Help from LHW	Other
Punjab	12.2	79.0	1.9	88.2	7.9
BHU	11.6	79.5	1.9	87.5	8.0
RHC	16.7	75.0	1.7	93.3	6.7
¹ Indicator 2.5: Preference of GP/Doctor for SYI care					

When a newborn is sick, 470 (88.2%) mothers said they consulted LHWs during their home visits or at their health house. Most of the families go to doctors (79%) that may be a medical officer at PHF, general practitioner at a private healthcare facility or pediatricians at the referral healthcare facility. Some used local remedy, whereas others went to traditional health practitioners or religious healers. This is the population that needs guidance and should be counseled by LHWs regarding timely medical treatment from doctors to avoid complications that can cause irreversible damage or death.

4.1.5 Status of Availability of Equipment & Supplies

LHWs are provided some basic supplies and equipment by the Department of Health for assessing health of people and managing simple ailments in the communities.

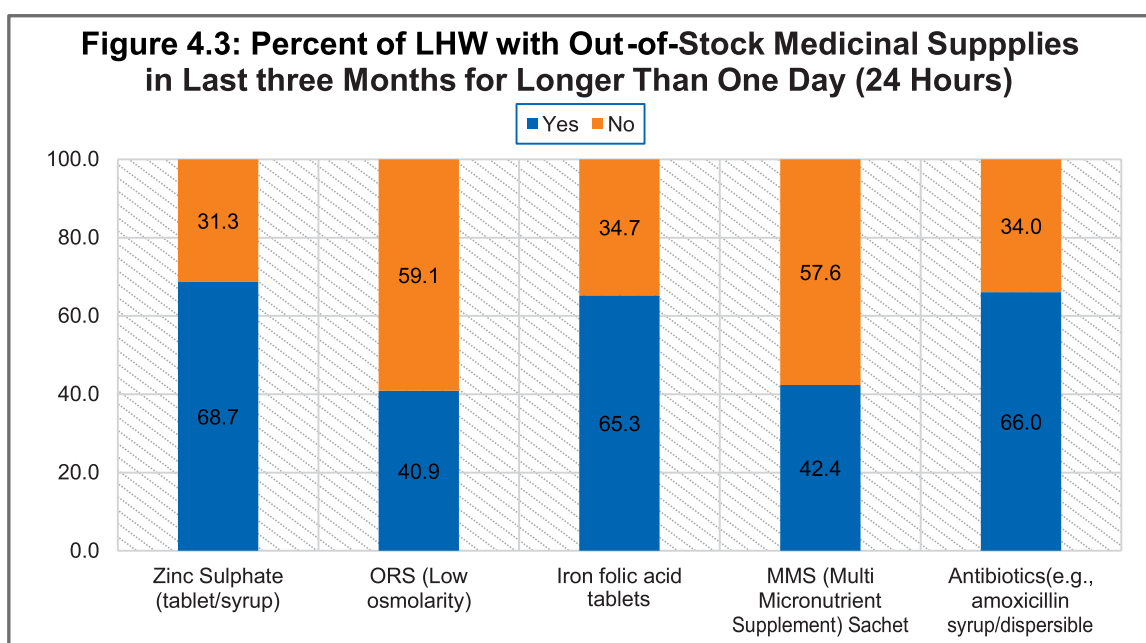
The table shows the status of availability of supplies & equipment:

Table 4.2 . Availability of Equipment and Supplies				
Percentage of Availability of Equipment and Supplies (Observed)				
Supply & Equipment	Status	Punjab	Identification	
			BHU	RHC
ARI Timer	Available	12.6	11.8	18.3
	Available but non - functional	2.3	2.1	3.3
	Not Available	85.2	86.0	78.3
Thermometer	Available	88.7	89.2	85.0
	Available but non - functional	5.1	5.1	5.0
	Not Available	6.2	5.7	10.0

Weighting Scale (Newborns)	Available	84.1	83.1	91.7
	Available but non - functional	8.8	9.3	5.0
	Not Available	7.1	7.6	3.3
MUAC Tape (Mothers)	Available	88.6	88.6	88.3
	Not Available	11.4	11.4	11.7
MUAC Tape (Babies)	Available	89.9	89.4	93.3
	Not Available	10.1	10.6	6.7
Soap	Available	54.0	55.0	46.7
	Not Available	46.0	45.0	53.3
Green Book	Available	19.9	19.7	21.7
	Not Available	80.1	80.3	78.3
Sehat ki Dastak (Maternal Counseling Book)	Available	75.6	75.7	75.0
	Not Available	24.4	24.3	25.0
Referral Slip	Available	70.0	71.5	58.3
	Not Available	30.0	28.5	41.7

New born weighing scale was present with 448 (84%) LHWs, thermometer with 473 (88.7%) and MUAC tape for children with 479 (89.9%) LHWs. ARI timer was accessible to only 67 (12.6%) LHWs as it has only been provided in five southern districts of Punjab. Three-Seventy-Three (70%) LHWs had triplicate referral slips. However, these are family planning referral slips; which are infrequently used for referral of SYI. To ensure good management and referral for SYI, all LHWs should provided all necessary supplies & equipment. In addition, separate new born triplicate referral slips should be in place.

Assessment of stock out status of medicines for more than 24 hours in last three calendar months, showed that 218 (40.9%) LHWs had stock out of Low Osmolarity ORS, 352 (66%) Amoxicillin syrup, 366 (68.7%) Zinc Sulphate and 226 (42.4%) Multi Micronutrient Supplement (MMS) Sachet. This indicates that supply chain management needs to be strengthened.



4.1.6 Referral of SYI

It was observed that out of 517 (97%) LHWs who referred SYIs from community to PHF, 432 (83.6%) LHWs referred SYIs in the last three months. It is estimated that the average number of cases of PSBI referred to PHF from the community were 40 SYI per month. The mean size, population of the Under One (U-1) year from the catchment area of each PHF is 83 which makes the referral 48% of the Under One (U-1) population.

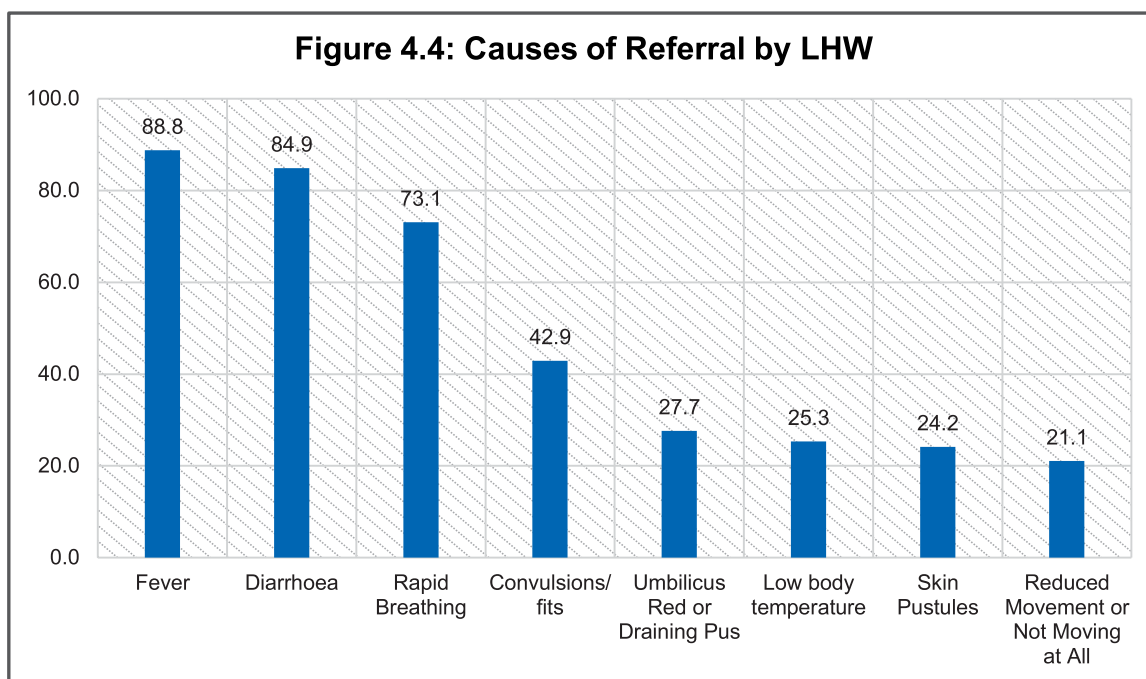
LHW's Knowledge of Reasons for Referral of Newborn

It is necessary for LHWs to assess mothers and newborns and refer the cases to the BHUs or RHCs. In assessing LHWs knowledge on reasons for referral it was seen that 469 (88%) considered fever as a cause of referral, 461 (86.5%) diarrhoea and 421 (79%) rapid breathing. Knowledge about other causes of referral such as cyanosis, hypothermia and drainage of pus from umbilicus was limited which have harmful consequences in the newborn. This knowledge of newborn danger signs can be imparted via community based IMNCI trainings.

Table 4.3. Knowledge of Reasons for Referral of Newborn											
Percentage of knowledge of reasons for referral of newborn											
	Diarrhoea	Convulsions	Rapid Breathing	Fever	Low Body Temperature	Reduced Movement	Red Umbilicus with Pus	Skin Pustules	Cyanosis	Vaccinations	Other
Punjab	86.5	45.8	79.0	88.0	25.9	17.3	25.0	16.5	44.3	50.1	22.9
BHU	86.9	44.8	78.9	89.2	26.0	18.0	24.5	16.3	45.5	51.0	22.8
RHC	83.3	53.3	80.0	78.3	25.0	11.7	28.3	18.3	35.0	43.3	23.3

Causes of Referral by LHW

The three main causes of referral of SYI in last three calendar months were fever, diarrhoea and rapid breathing being 88.8%, 84.9% and 73.1% respectively. There were very few referrals due to pus from umbilicus (27.7%) and low body temperature (25.3%). This can be due to few cases exiting in the community or may be due to lack of knowledge of LHWs.



Referral of SYI & Usage of Triplicate Slips by LHW

When LHWs were inquired whether they referred SYIs to healthcare facilities, the response of 97% LHWs was “Yes”. Data shows that 83.6% LHWs referred SYI in last three calendar months.

Table 4.4: Referral of Sick young Infants to PHF by LHW					
Percentage of referral of SYI and usage of triplicate slips.					
	SYI referred to the health facility	Last referred SYI			Usage of Triplicate Slip
		Less than 1 Month	1 to 3 Months	3 Months and above	
Punjab	97.0	51.6	31.9	16.4	48.2
BHU	97.3	52.0	31.5	16.5	48.9
RHC	95.0	49.1	35.1	15.8	42.1
¹ Indicator 2.9: Use of Triplicate Referral Slips					

Management of Refusal of Referral

In case families refused referrals of SYI, 97.1% (502) LHWs preferred to counsel the family regarding seeking care at the primary healthcare facility and 16.8% (87) LHWs considered giving the available treatment along with counselling followed by the reassessment of the newborn in 24-48 hours.

4.1.7 Monitoring/ Supervision

Monitoring and supervision are essential to ensure quality of healthcare. Lady Health Supervisor (LHS) is Incharge of LHWs. She conducts regular supervisory visits at the health house and during community visits to monitor ongoing activities. It was seen that 95.5% (509) LHWs had supervisory visits from LHS which proves that there is a very efficient monitoring mechanism in place.

4.1.8 Record Maintenance

Feedback of field monitors and enumerators showed that the record keeping in the form of monthly reports by LHWs was well managed as compared to the records at PHF and referral facilities.

This data is shared regularly with the LHS who compiles data from all LHWs and prepares a comprehensive report that is shared with the Health Department. The monthly report covers important aspects of newborn and mother's health (including SDGs Targets) such as number of neonatal deaths, the number of low birth weight newborns, registered pregnant women, the number of maternal deaths and the number of children referred to the PHF.

4.2 Management of SYI at Primary Healthcare Facility

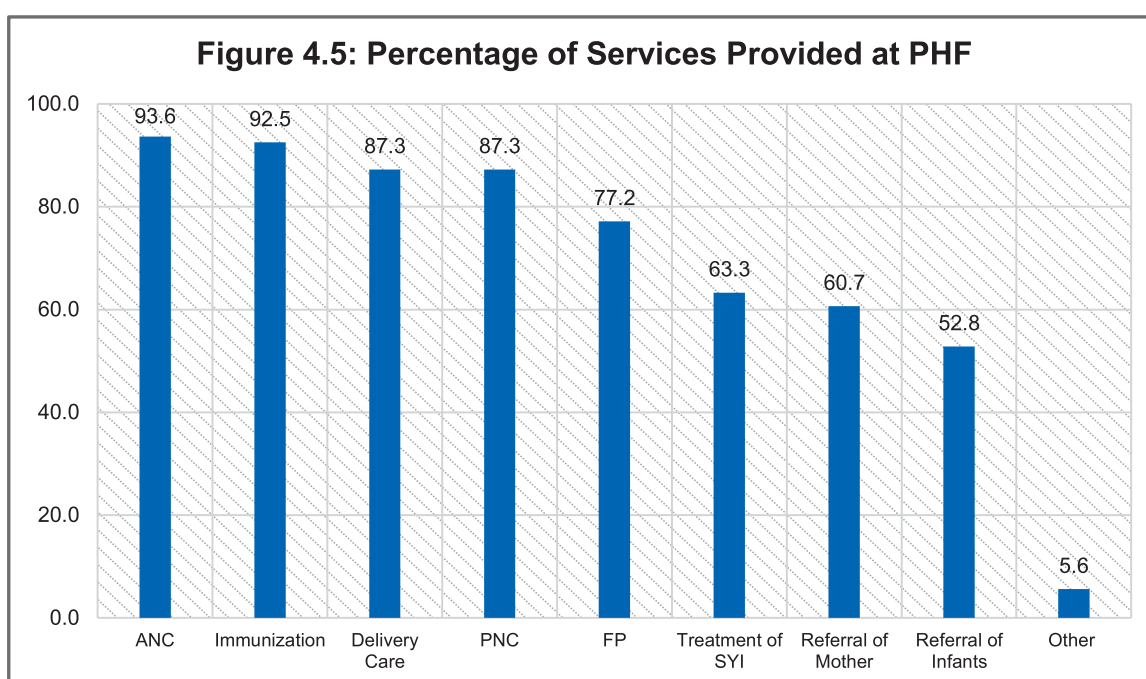
While interviewing Incharge of Primary Healthcare Facility who is Medical Officer, 254 out of 267 Incharge of PHF were interviewed with 95% response rate. The mean catchment population of each PHF (BHU/RHC) is 33,649. Average number of LHWs attached with each PHF is 15.

The average number of registered U-5 children is 4,150. The average number of less than 1-year children and 0-59 days visiting the primary healthcare facility is 78 and 173 per month respectively. Out of 173 (0-59 days) young infants 161 are 0-28 days newborns. The neonatal deaths in the catchment population of each facility is reported as 12 per month and the number of maternal deaths due to pregnancy or pregnancy related causes is 4 per month.

4.2.1 Services Provided at PHF

To promote the health of newborns, it is vital to start interventions from the time a woman becomes pregnant up to the time of delivery and in the immediate postpartum period. In addition, care of newborns in the first hour of birth is also very critical.

Data showed that in last one month, 93.6% primary healthcare facilities provided antenatal care, 92.5% immunization services, 87.3% delivery care i.e. delivery by skilled birth attendants, 87% postnatal care and 77.2% family planning services. However, relatively lesser facilities treated SYIs and referred them, 63.3% and 52.8% respectively. This means that the PHF is relatively more equipped in terms of human resource and supplies/commodities to manage pregnant women than sick newborns



4.2.2 Healthcare Providers at PHF

In this assessment the availability of human resource and its training on managing SYIs was also checked. The data regarding availability of healthcare provider at the PHF were collected from 226 BHUs; out of which 223 BHUs (i.e.98.6%) had medical officers (MOs) Incharge. Similarly, there were 105 doctors present at 28 RHCs showing that there were on average 04 doctors per RHC.

It was observed that the Government's policy of giving 5 extra marks to postgraduate students for rural area service resulted in filling of posts of MOs/WMOs at BHUs and RHCs. Moreover, postgraduate trainees had good clinical skills. In facilities with pediatrician as Incharge, most sick young infants were managed there with very few referrals.

IMNCI trainings were last conducted in 2009, and very few healthcare providers were trained on it i.e. 36 (11% doctors), 17 (17%) nurses, 265 (47%) LHVs and 44 (14%) midwives. According to data 47% LHVs were trained on IMNCI which did not seem realistic. Hence on probing it was observed that many LHVs had confused IMNCI training with IRMNCH training (Integrated Reproductive Newborn Child Health Programs 10 days training that was conducted in the recent past).

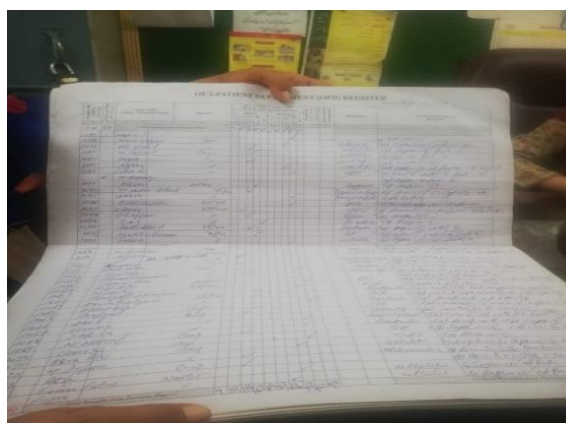
Referral Health facility data showed that no LHV was trained on IMNCI. Hence, keeping this figure in mind, the number of LHVs trained at primary healthcare facilities could be minimal. This indicates that if PSBI initiative is to be implemented, healthcare staff needs to be trained on IMNCI to enhance their skills. The table below shows number of HCPs at the health facility and total number trained on IMNCI.

Table 4.5: Available & Trained Clinical Staff on IMNCI								
Number of available and trained clinical staff on IMNCI								
	Doctor		Nurse		Lady Health Visitor (LHV)		Midwife	
	Available in OPD	IMNCI Trained	Available in OPD	IMNCI Trained	Available in OPD	IMNCI Trained	Available in OPD	IMNCI Trained
Punjab	328	36	98	17	563	265	314	44

4.2.3 Maintenance of SYI Registers

Record Maintenance is very essential for data collection and analysis as well as for follow up when needed. In all PHFs, patient data is being maintained in registers. However, in very few PHFs, android tablets are being used for data collection, which is then shared on a centralized dash board of the Department of health.

It was observed throughout pretesting and subsequently in primary health facilities that, there is no separate register for sick young infants. There is a single outpatient register in which all patients are documented. Furthermore, all newborns are included in one category that is <1 year and age groups are not mentioned in months, i.e. 0-28 days, 0-59 days etc. Hence, from the registers of primary healthcare facilities, it is difficult to calculate the number of neonates or sick young infants visiting the facility. The data shows the number of neonates and number of SYI visiting some facilities however. this information was not collected directly from registers but was extracted by indirect means.



PHF Out Patient Register

4.2.4 Availability of Supplies and Equipment

Basic Equipment

The Department of Primary and Secondary healthcare has done revamping of primary healthcare facilities in which the basic infrastructure has been improved along with the provision of essential equipment. Most primary healthcare facilities had thermometer 96.5%, newborn weighing scale 92.9%, and resuscitation trolley 88.6%. MUAC tapes (adult and newborn) were present in 67% and 68.8% facilities respectively.

Infection Control

For infection prevention, we need adequate means of personal protection and proper disposal of wastes. Soap was present in 96.9% facilities, personal protection equipment (gloves, shoe cover, apron, and mask) in 77.6% facilities and sanitizer in 39.4% facilities.

There was a very efficient mechanism for disposal of wastes and separate bins with lids for disposal of infectious wastes, noninfectious wastes and syringes was available in 94.5% facilities.

It was reported that 74.4% facilities had safe delivery kits. However, on further probing it was seen that enumerators misinterpreted all delivery related sterilized equipment shown to them as safe delivery kits, whereas safe delivery kit is present in a sealed package which was present in very few facilities.



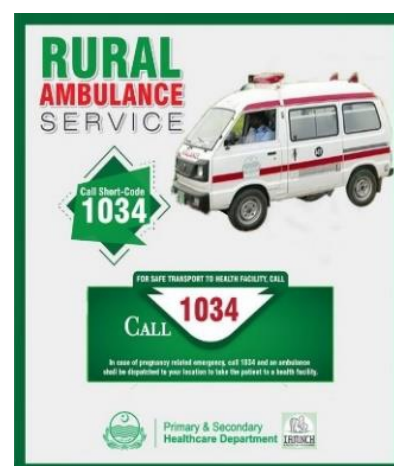
Dust bins for disposal of wastes



Safe Delivery Kit

4.2.5 Transportation of Newborn

For timely transportation of sick newborns to a higher level of care only 38.6% BHUs/RHCs had ambulance service. This is mainly **1034** ambulance service that is accessible through call centers. This ambulance service was originally introduced to shift pregnant women; however, some facilities are using it for sick newborns as well. Many health facilities had concerns regarding the ambulance not reaching in time that resulted in a delay of provision of needed care. The Department of Health should devise a policy that **1034** ambulance services should be used for transporting both mothers and newborns.



4.2.6 Availability of Medicines

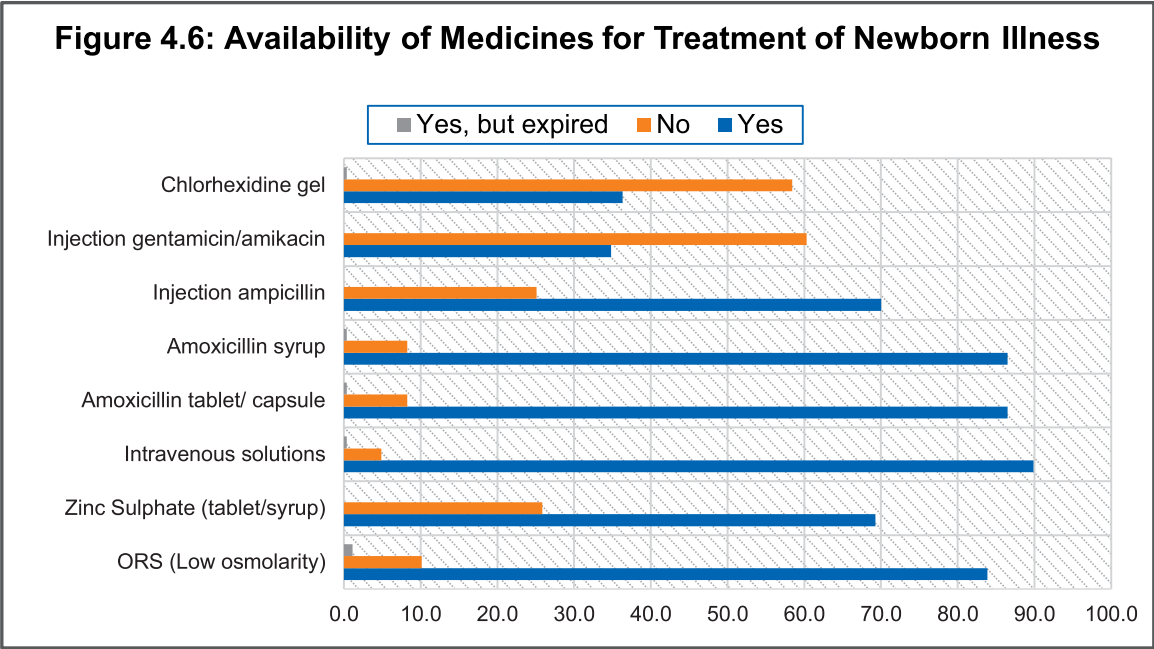
The availability of Low Osmolarity ORS, Zinc Sulphate and Intravenous solution were 83.9%, 69.3%, and 89.9% respectively. In one percent facilities there was expired ORS. Antibiotics are essential for managing infection. Amoxicillin syrup / tablet was present in 86.5% facilities whereas injection Ampicillin and injection Gentamicin were available in 70% and 34.8% facilities (both RHCs & BHUs) respectively.



Chlorhexidine gel which is important for cord care and prevents neonatal umbilical infection was only seen in 34.8% facilities.

Shortage of medicines is a major hurdle in health service delivery. For implementing PSBI initiate, it is essential that availability of injection Gentamicin, Amoxicillin Syrup, Low Osmolarity ORS along with Chlorohexidine gel should be ensured. The status of availability of medicines is shown in the bar diagram (Figure 4.6).

Another remarkable observation regarding availability of medicines was that the majority of the facilities did not show any stock out of medicines. Last supplies in some facilities were delivered in March, 2018. Shortage of Low Osmolarity ORS and Zinc Sulphate was seen at some facilities, however, to avoid documentation of stock outs the dispensers keep some medicines at hold but stop giving to patients. Theoretically medicine is available, there was no stock out, but practically patients have no access to it.



4.2.7 EENC Counselling

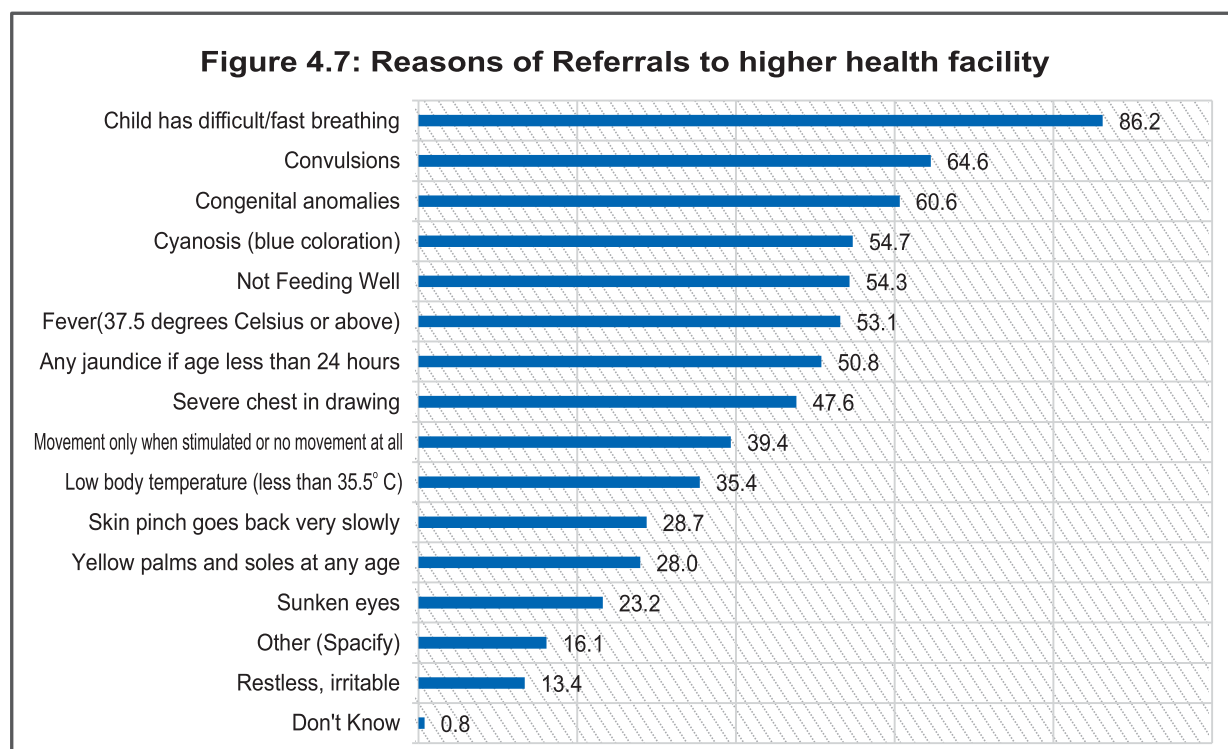
Early Essential Newborn Care comprises of a set of activities to be undertaken immediately after the birth of the newborn to avoid any complications and ensure survival. Medical officers and LHVs at primary healthcare facilities counsel mothers on early initiation of breastfeeding, exclusive breastfeeding, prevention of hypothermia and the use of Chlorhexidine for cord care as a part of EENC. At PHF 83.5% medical officer/LHV counseled on use of Chlorhexidine for cord care, 73.5% on exclusive breastfeeding, 71.5% percent on prevention of hypothermia and 70.4% on early initiation of breastfeeding.

It is interesting to see that though many medical officers/LHVs counselled mothers on the significance of usage of Chlorhexidine for cord care, it was available in only 34.8% percent facilities. Moreover, all mothers should be counselled on breastfeeding which is being missed in 30% cases.

4.2.8 Reasons of Referral to Higher Facility

The healthcare staff at the PHF provide initial management of newborn and refer all complicated cases to higher facilities. A significant number of newborns with serious health illnesses are referred from PHF to higher facilities which is THQ and DHQ hospitals for further management as primary healthcare facilities has limited capacity of managing them in terms of trained staff and availability of supplies/medicines.

The bar diagram below shows the major causes of referral from PHF.



On asking Incharge of PHF about the reasons for referral, 86.2% mentioned difficulty or fast breathing as the main reason, whereas convulsions, congenital anomalies, cyanosis, feeding problems and fever were mentioned by 64.6%, 60.6%, 54.7%, 54.3% and 53.1% respectively.

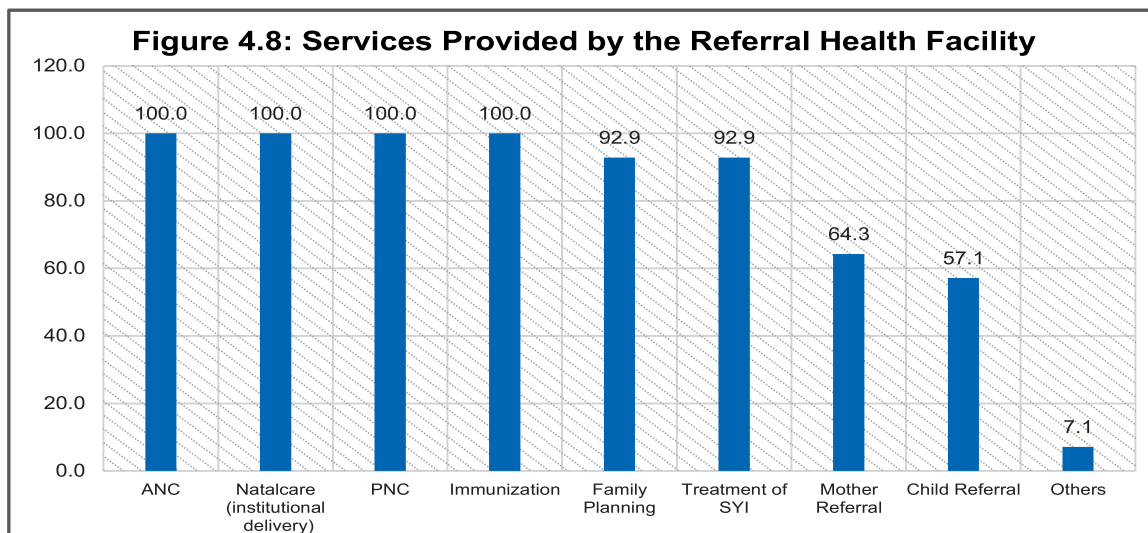
When Incharge of primary healthcare facility refers a seriously ill newborn, there is never any refusal, as the doctors counsel them satisfactorily and the LHWs accompany them. However, it was observed that in general, communities are aware of the fact that PHF do not have the proficiency to manage critical cases, hence they themselves go directly to higher facilities or they even seek treatment from doctors in private setups.

4.3 Management of SYI at Referral Facility

Sick Young Infants are assessed at the primary healthcare facility, and in case of complication they are referred to higher facilities for further management. It is essential that the referral facilities have the capacity (skilled human resource, equipment, supplies and medicines) to manage SYIs. The readiness of referral facilities was also checked in this assessment.

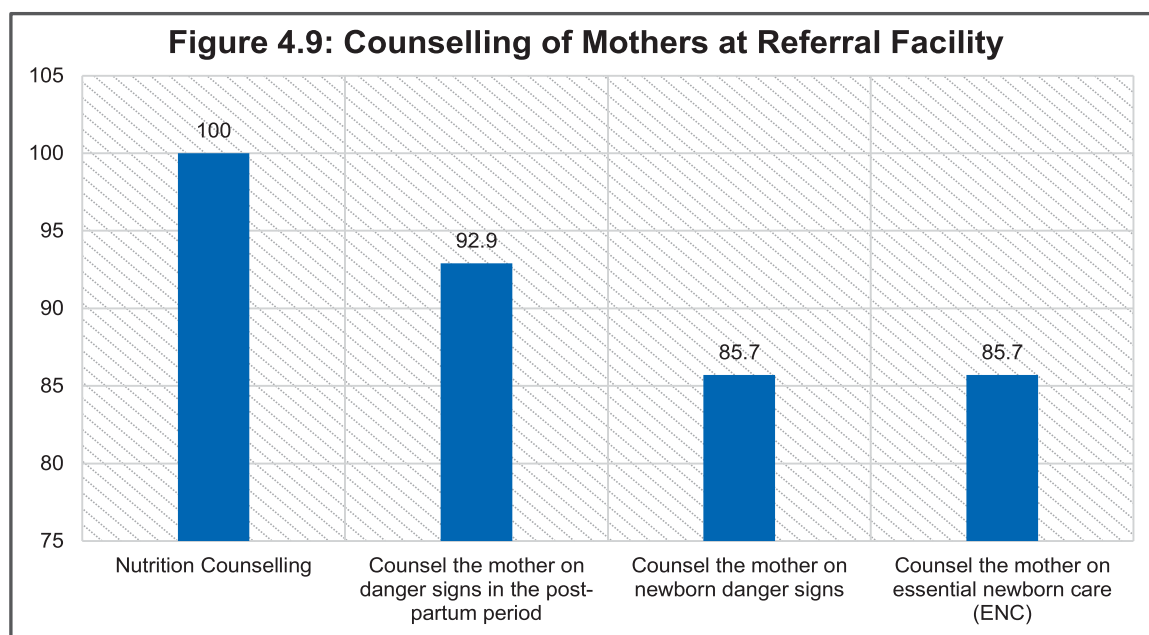
4.3.1 Services Provided at Referral Facility

When referral facilities were assessed regarding the services provided in last month it was observed that all facilities were providing services of antenatal care, institutional delivery, postnatal care and immunization. Family planning services and treatment of SYI was provided in 92.9% facilities. The bar diagram below shows percentage of services at referral health facilities.



4.3.2 Counselling of Mothers at Referral Facilities

The core areas on which mothers were counseled at referral facilities were early essential newborn care, identification of danger signs in mothers and danger signs in newborn and nutritional/balanced diet. Counselling on nutrition was 100% at referral facilities whereas EENC counselling was 85.7%. EENC counselling has 4 major components that help promote newborn health, protect from hypothermia, improve nutrition, boost immunity and protect from infections and sepsis. Hypothermia and sepsis are two major killers of newborns. The topics covered in counselling along with the percentages in the last calendar month are shown in the following Figure 4.9.



4.3.3 Maintenance of SYIs register

On checking the SYI registers it was observed that registers were present and maintained in 57.1% facilities, however, in 35.7% facilities registers were not available. The registers in the pediatric unit are recording newborn ages in months. However there seems to be poor maintenance of registers which needs due attention. Proper maintenance of records is essential, as this data is very useful for disease surveillance and this information can help to identify disease trends and monitor the performance. Information regarding number of newborns admitted, their diseases and outcomes (death, recovered or referred/complications) can help plan future interventions. Analysis of this data can identify gaps and areas to be focused.

4.3.4 Trained Staff

Referral health facilities have specialized healthcare practitioners like gynecologists, pediatricians, anesthetist in addition to routine staff. The healthcare practitioners participate in various trainings to enhance their skills. The table below shows the designation of HCPs at the referred facility along with number of staffs who received various trainings.

Table 4.6 : Trained Clinical Staff								
	Available staff	Staff trained on IMNCI	Staff trained of ENC	Staff trained of HBB	Staff trained of EmONC	Staff trained of EPHS	Staff trained of MSDS	Staff trained of PPFP / FP
Punjab (Number)	451	12	89	144	60	43	73	121
Pediatrician	4.9%	16.7%	6.7%	7.6%	15.0%	9.3%	8.2%	1.7%
Gynecologist	7.8%	16.7%	14.6%	9.7%	18.3%	18.6%	16.4%	15.7%
Doctor	35.3%	33.3%	15.7%	12.5%	18.3%	18.6%	17.8%	9.1%
Nurse	37.7%	33.3%	34.8%	53.5%	25.0%	23.3%	30.1%	52.9%
Lady Health Visitor (LHV)	7.1%	0.0%	14.6%	9.0%	10.0%	14.0%	13.7%	12.4%
Midwife	7.3%	0.0%	13.5%	7.6%	13.3%	16.3%	13.7%	8.3%

IMNCI – integrated maternal newborn child illness training

ENC – Essential newborn care training

HBB= Helping baby breathe training

EPHS- Essential package of health services training

MSDS- Minimal Service Delivery Standard

FP/PPFP- Family planning and postpartum family planning training

EmONC- Emergency maternal obstetric and newborn care

Only 12 out of 451 clinical staff (2.7%) of the referral facilities was trained on IMNCI. The table above shows that out of this 2.7% staff trained on IMNCI, 16.7% were pediatricians, 16.7% gynecologists and 33% medical officers. No LHVs was trained on IMNCI. The staff at the referral facilities had also received training on Helping Babies Breathe (HBB), Essential Newborn Care (ENC) training on Emergency Obstetric and Newborn Care (EmONC). All these trainings focus on care of newborn after birth. It was observed that maximum staff was trained on HBB, followed by Family Planning and EENC. More nurses were trained than doctors.

Trainings are essential to update the knowledge and skills of all HCPS. All staff should be trained and there should be regular refreshers. There should be a special focus on quality of trainings, which is up to the mark at the referral healthcare levels and mostly becomes compromised in trickle down trainings. Once trainings are conducted the HCPs should be monitored to assess if they have developed adequate skills. In case there are deficiencies in healthcare staff skills, more frequent trainings should be conducted.

4.3.5 Availability of Equipment and Supplies

The referral health facilities, especially DHQ have intensive care units (ICU) for managing SYI. However, these are not present in all THQ Hospitals. Data showed that 7 out of 14 facilities (50%) had ICUs. The essential equipment in an ICU are incubator, baby warmer, phototherapy machine, neonatal ventilator, pulse oximeter, cardiac monitors, nebulizers and resuscitation trolleys. During the assessment of

equipment, it was observed that all were functional. Basic newborn support equipment like baby warmer, suction machine and oxygen cylinder were present in all facilities. Resuscitation trolley consists of ambo bag with mask, bulb sucker, catheter, oxygen cylinder and manual sucker. If one of the items of resuscitation trolley was found missing, it was recorded as not present, as these items are needed immediately when a newborn has asphyxia. Absence of resuscitation trolley items in 7% referral facilities is a serious concern.

Neonatal ventilators were available in only 5 out of 14 facilities (35.7%). As already mentioned, ICUs were present in 50% facilities and ventilators is an integral part of ICU, hence approximately 15% of the facilities that had a neonatal ICU, did not have a ventilator. The absence of ventilators in ICU limits its capacity to manage any complications in the newborn. Ambulance service for shifting SYI was present in 85.7% facilities. All referral facilities should have access to ambulance services in case newborns have to be shifted to tertiary hospitals. The table below is showing the status of availability of supplies and equipment.

Table 4.6: Availability of equipment and Supplies

Percentage of availability of equipment and supplies at referral health facilities in Punjab		
	Available	Not available
Incubator	92.9	7.1
Baby warmer	100.0	0.0
Phototherapy machine	85.7	14.3
Neonatal ventilator	35.7	64.3
Suction machine	100.0	0.0
Oxygen cylinder	100.0	0.0
Pulse oximeter	85.7	14.3
Cardiac monitors	85.7	14.3
Nebulizers	92.9	7.1
Resuscitation trolley (Ambu bag with mask, bulb sucker, catheter, oxygen cylinder, manual sucker)	92.9	7.1
MUAC Tape (Mother)	57.1	42.9
MUAC Tape (Baby)	57.1	42.9
ARI Timer	21.4	78.6
Thermometer	100.0	0.0
Weighing Scale	100.0	0.0
Safe Delivery Kit (SDK)	71.4	28.6
	Yes	No
Do you have a Neonatal ICU	50.0	50.0
Do you have ambulance for referral of sick young infants to higher level of care	85.7	14.3



Phototherapy in ICU



Neonatal Ventilator



SYI in ICU



Incubator

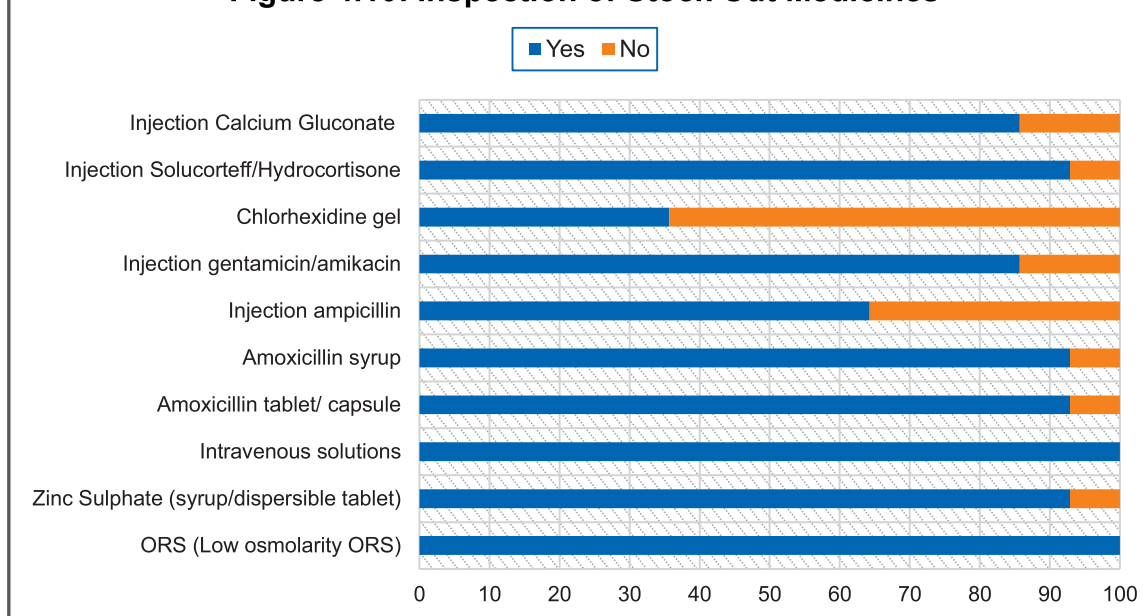
4.3.6 Availability of Medicine and Inspection of Stocks

Referral health facilities had a better supply of medications as compared to primary facilities, but supplies of all basic medicines should be 100% if patients are to be treated efficiently. Intravenous solutions were present in 100% of the health facilities, and 13 referral facilities (92.9%) had Low Osmolarity ORS, Zinc Sulphate, Amoxicillin tablets and Amoxicillin syrup. Essential antibiotics for treating SYI, injectable Ampicillin and Gentamicin, were present in 9 referral facilities (64.7%) and 12 referral facilities (85.7%). Chlorhexidine gel for cord care was seen in only 28.6% facilities. The Department of Health has been trying to ensure availability of all medicines at primary and secondary healthcare levels but still gaps exist. This information shows that there is still room for improvement.

Table 4.8: Availability for Medications for Treatment of Newborn Conditions

Percentage of availability for medications for treatment of newborn conditions		
	Yes	No
ORS (Low Osmolarity ORS)	92.9	7.1
Zinc Sulphate (syrup/dispersible tablet)	92.9	7.1
Intravenous solutions	100.0	0.0
Amoxicillin tablet/ capsule	92.9	7.1
Amoxicillin syrup	92.9	7.1
Injection ampicillin	64.3	35.7
Injection Gentamicin/Amikacin	85.7	14.3
Chlorhexidine gel	28.6	71.4
Injection Soluorteff /Hydrocortisone	85.7	14.3
Injection Calcium Gluconate	78.6	21.4

Figure 4.10: Inspection of Stock Out Medicines



At the referral health facilities, it was asked whether the stock of various medicines was checked in the last month. The response was that in 100% facilities the stock of Low Osmolarity ORS and Intravenous Solutions were checked, 92.9% checked for the stock of Zinc Sulphate (syrup/dispersible tablet) whereas 85.7% checked the stock of injection Gentamicin, 64.3% injection Ampicillin and only 35.7% for Chlorhexidine gel. Checking the record of medicines is essential to ensure availability of medicines for patients and for timely procurement of medicines in case there is shortage.

4.3.7 Referrals

The questionnaire had questions regarding number of SYI referred from the primary healthcare level and number of SYI referred to higher facilities. This information could not be captured properly as records of referral are not being maintained adequately. Some Tehsil Headquarters Hospitals had a shortage of pediatricians and SYI coming to the emergency department were directly sent to higher facilities without being entered into the registers. Families are very sensitive about their newborn's health and once referred from the primary facility they mostly rush to private set ups where they receive immediate healthcare rather than going to DHQ, THQ hospitals which are crowded with long waiting times. As already mentioned the usage of triplicate referral slips is minimal. Hence, there is no formal mechanism of referral and it becomes difficult to trace the newborns coming to the facility from its records.

Previous data on services provided at facilities showed that 92.7% facilities were providing treatment to SYI and 57.1% were referring the newborn to higher facilities. So, newborns are coming from primary facilities to this set up and being referred further as well. But on examining the registers this information cannot be verified at any place. This information has been given by the pediatrician at the referral facility.

In the current scenario, this information can be collected from LHWs, who follow up families regarding the health status of newborns once they are referred. This information, however, is not being documented, but can be gathered through LHWs recall.

In short, we can say that at referral facilities the record maintenance needs to be improved. Strong referral linkages need to be established.

4.4 Interviews of Policy Makers

Panel from Bureau of Statistics Punjab, Representative from UNICEF and a Health Specialist conducted in depth interviews with various officials from the Primary & Secondary Healthcare Department. A questionnaire was designed which had questions regarding existing systems in place for managing sick newborns, reasons for prevailing high NMR in Punjab and what steps need to be taken to achieve SDGs targets. There was a total of six interviews conducted with Policy Makers in this regard. This exercise provided an understanding of the challenging areas and major constraints in implementation of newborn guidelines and policies.

This section will show the views of these health policy makers on newborn issues and interventions in the province. The various topics covered with the responses are given below.

4.4.1 Causes of High Neonatal Mortality Rate (NMR) in Punjab

Some of the responses for causes of high NMR in the province are as follows:

- Asphyxia, Sepsis and Complications of Prematurity are the three major causes. Lack of access to healthcare services in rural areas and urban slums, poverty, lack of awareness, poor nutrition and unhealthy lifestyles are some of the contributing factors.
- Health system gaps exist contributing to a high NMR. The Government had been focusing on improving services at the tertiary healthcare facilities with minimal attention given at primary level. Limited health services provision at the primary healthcare facilities leads to high flow of patients at tertiary facilities which eventually compromises quality of care and health outcomes
- Delivery by unskilled persons lead to complications in mothers and newborns such as high rates of infection/sepsis leading to death. Though there has been an increase in delivery by skilled birth attendants but there is little focus on quality of care.

- There is more focus on curative interventions with limited attention on preventive aspects of healthcare. There is lack of access to healthcare services in rural areas and urban slums especially in the LHW uncovered areas

Uncovered area of LHWs need to be addressed. It is also important to assess the performance of existing LHWs before proposing models to cover uncovered areas”.

4.4.2 Infrastructure

On questioning health experts regarding the status of the health infrastructure, all had the same view that under revamping of all primary healthcare facilities more than 700 Basic Health Units have been strengthened in Punjab. This has resulted in improvement in the infrastructure (building, water supply, sanitation, cleanliness etc.) along with better provision of equipment and supplies. Some of these BHUs have been designated as 24/7, BHUs for basic Emergency Obstetric Care (EmONC) round the clock. However, gaps still exist and there is room for improvement.

The absence of neonatal nurseries at the THQ hospitals and RHC hospitals is a major hurdle in management of sick infants.

4.4.3 Trainings of Healthcare Providers

It was observed during in-depth interviews that most health experts had no idea when IMNCI trainings were conducted last in the province. Summary of responses to trainings are as follows:

Very few doctors and nurses are trained on IMNCI. There have been no trainings since 2009. The IRMNCH &NP conducts trainings of community health workers in routine however to enhance their skills there should be regular refreshers. Trainings of the facilitators are mostly up to the mark but quality of trainings is compromised once they are trickled down. Trainings should not be theoretical but skilled based. There should be a mechanism of monitoring performance in the post training period. There should be a pool of trainers at district level who can conduct regular trainings. There should be pre-service and in-service trainings. IMNCI trainings of all healthcare providers especially pediatricians, medical officers and lady health visitors should be conducted.

Counselling skills are generally weak, hence there should be trainings focusing on this area.

4.4.4 Technical Committees

Most policy makers knew about the existence of a Child Survival Technical Working Group that had been notified by the Department of Primary and Secondary Healthcare to manage all newborns related issues. Quarterly meetings of the group are held in which there is discussion on various issues related to newborn health. In consultation with various stakeholders, important decisions are made and implemented. In the Child Survival Technical Committee meetings held on 6th March and 15th May 2018, PSBI Initiative was discussed with all stakeholders.

4.4.5 Supplies and Commodities

On discussing the status of supplies and commodities related to care of newborn there were mixed responses. Some felt that the mechanism of centralized procurement of medicines resulted in unequal distribution of supplies. In other words, medicine availability was not according to the needs of the health facilities. Some felt that the shortage of medicines and supplies had been overcome in recent past. Most of them during their visits to primary healthcare facilities had observed that there was shortage of Injectable antibiotics especially injection Gentamicin was not available in most of the facilities.

4.4.6 Feedback from Communities/ Complaint Management System

In the in-depth interviews the existing community feedback mechanism regarding healthcare were also discussed. The responses are as follows:

- Systems are in place for getting feedback from patients regarding services provided at a health facility. One of which is the Citizen Feedback System which exists at the Outpatient Department of Rural Health Centers. Another one is the Complaint Redressal Mechanism that was recently developed and is functional.
- Some data of feedback exists but it is not analyzed on a regular basis. The complaints from districts should be shared with the Director General Health periodically and actions should be taken to rectify the problems.
- People are not aware of the feedback systems and have no knowledge where to complain or inform in case they face problems at the health facility. LHWs should guide communities regarding existing complaint management systems. Moreover, posters should be displayed at the health facility displaying information of feedback systems for general public

4.4.7 Referral linkages

Weak and deficient referral mechanism between the BHUs, RHCs, THQs, DHQs and tertiary hospital results in increased default rate of patient “

- Referral linkages between facilities are poor, resulting in patients being neglected at the referral centers. As a result, patients refuse referrals to higher public facilities. There should be a liaison between the medical officer at primary healthcare facility with the pediatrician at the secondary level. Having separate referral desks at secondary and tertiary level can be a solution to the problem. Establishing a mechanism that all emergency cases are managed as a priority without wasting time on extensive documentation is much needed.
- The role of Family physicians should be defined and they should be linked with LHWs. The British Healthcare system where Family physicians are the first level doctors can be replicated in our country.

4.4.8 Clinical Mentoring and Supervision

Currently no formal mechanism of clinical mentoring or supervision exists. In the IRMNCH & NP there are District Coordinators who play an active role in monitoring the health facilities. However, their role needs to be enhanced. The medical officers at the primary facilities should be linked with the pediatricians at the referral facilities for clinical mentoring that can be through quarterly training sessions or through web based weekly meetings.

The web-based system is being implemented successfully in Hepatitis Control Program where all medical officers undergo induction training, followed by weekly web-based meeting with health experts in which cases are discussed and all queries are addressed.

4.4.9 Monitoring and Evaluation

A mechanism for monitoring and evaluation with the help of Monitoring and Evaluation Assistants (MEAs) is currently functional in Department of Health. They visit health facilities regularly and monitor a set of indicators on a monthly basis and report them. This network can be expanded and newborns indicators can be added into the dashboard.

It was mentioned that “The Sehat Khidmat Awards”, which is an innovative way of monitoring facilities was introduced in the province. All health facilities are ranked on the basis of their performance being judged on a set indicators and best performing districts are rewarded.

For PSBI initiative MEAs can be engaged in the monitoring of primary healthcare facilities.

4.4.10 Recording & Reporting Mechanism

All policy makers agreed to this point that the recording and reporting mechanism has been substandard in the past but is being updated. Manual registers are present and data sharing is poor. In recent past in many facilities android tablets are introduced where data is entered immediately in tablets, saved and shared at the central dashboard in Lahore. This results in quick and easy access to data for the health managers and indirectly is a monitoring mechanism for supervisors.

4.4.11 Public Awareness

The overall response was that public awareness is a neglected area. Despite being talked about a lot, little is being done. We need to develop communication strategies that suit our local context and are appealing and acceptable to masses. Behavior Change Communication should be our major focus so that people make healthy choices and are protected from diseases.

Mass awareness campaigns should be launched and media being the most effective mode of communication should be utilized.

4.4.12 Implementation of PSBI

In interviews when question was asked about the implementation of PSBI in Punjab, the following responses were recorded:

- Piloting any initiative is not preferable as it has no impact on the health indicators. Interventions should be introduced across the board. Government should develop implementation plan and then seek donors support where needed.
- Strong accountability and Supervision are the key element that can ensure success of any program/project.
- PSBI Initiative will prove to be effective in promoting newborn health. Managing SYI close to their homes will decrease patient load at higher facilities.
- Taking newborns to tertiary facilities exposes them to nosocomial infection and puts them at risk of diseases which is avoided by management at primary facilities.

4.4.13 Quality of Care

Views about quality of care of maternal and newborn services are given below.

“Setting Unrealistic Targets for institutional deliveries always compromises quality of care”

- The pressure to achieve targets at times leads to fake reporting.
- Continuous Quality Improvement (CQI) mechanisms like structured periodic meetings of what worked well and what could not work well should be a regular feature at all levels of care.
- Focusing on too many interventions at one time affects quality of care. It is advisable to initiate one simple intervention and implement it across the whole province.
- For instance, early initiation of breastfeeding is one indicator that should be followed and ensured at all health facilities and communities.

4.4.14 How to Achieve SDGs Targets?

Below is the summary of points regarding how to achieve SDG targets related to newborn health.

- Delivery by skilled birth attendants.
- Enhancing skills of healthcare staff through quality trainings, regular refreshers and post training monitoring.
- Establishing nurseries at the THQ and RHC hospitals.
- Strengthening referral linkages.
- Strong accountability and supervision.
- Filling vacant positions at the referral hospitals through some incentives or mandatory rotations of post graduate doctors.



Chapter 5

Findings: Formative Research

Findings: Formative Research

PSBI Initiative is being launched in Punjab. Formative research was also conducted to evaluate the attributes of the community / target audience. The perspective of the target audience, which in this case was mother of 0-59 days old newborn, regarding their understanding of the severity of newborn illness, the danger signs in newborn and the preferred management along with the causes of refusal. Research is imperative for planning future initiatives. Similarly gathering information about status of healthcare services available in the community as well as at the healthcare guides us about the existing health infrastructure and what steps should be taken to improve them.

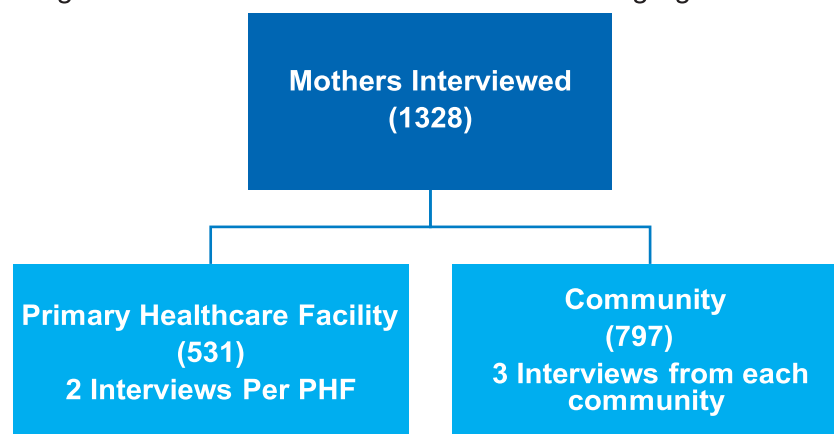
In short formative research provides a picture of the prevailing health issues and existing behaviors/ practices in the community. This information is very important as we have to plan our activities, keeping in mind the needs of the population and address issues appropriately.

5.1 Interview with Mothers

Perspective of mother of 0-59 days newborn regarding SYIs management

Two mothers were selected from among those visiting the primary healthcare facility on the day of the interview, whereas three mothers were selected from the catchment population of PHF. One of these was identified by the LHW whereas rest two were identified by enumerators with the help of communities. Selecting mothers randomly from the communities with the help of LHWs was essential to avoid bias in response.

Figure 5.1: Flow chart of Mother Interviews Segregation at PHF



5.1.1 LHW Antenatal Visits

To promote the health of mothers during pregnancy, community health workers, i.e. Lady Health Workers visit the homes of pregnant women in their catchment population during each trimester.

During these visits they assess the health status of pregnant women, counsel them on important pregnancy related issues like balanced diet, tetanus toxoid injection during pregnancy, delivery by skilled birth attendants, importance of ANC and PNC visits at the facility, the importance of breastfeeding along with provision of iron/folic acid tablets.

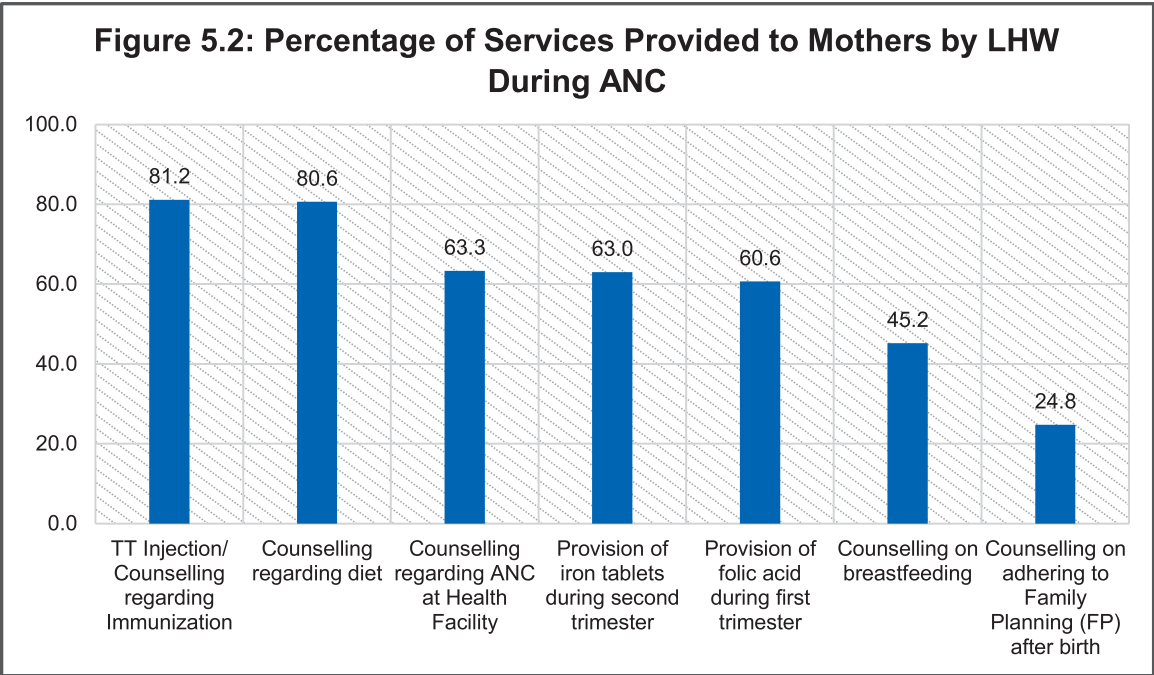
Data collected showed that 95% mother were visited during the third trimester, 94% during second trimester whereas 87% during the first trimester. Most mothers were not able to recall exactly how many visits were made by LHWs in each trimester as LHWs visit them every month and when needed even more than once.

5.1.2 Counselling During ANC

LHWs counsel mothers regarding various maternal and newborn health issues. When mothers were probed about services provided by LHW during pregnancy, it was seen that only 138 (10.9%) mothers received counselling on four essential topics during the ANC visits by LHWs (Counselling on breast feeding, TT Injection, Counselling regarding ANC at Health Facility and Counselling on adhering to Family Planning (FP) after birth).

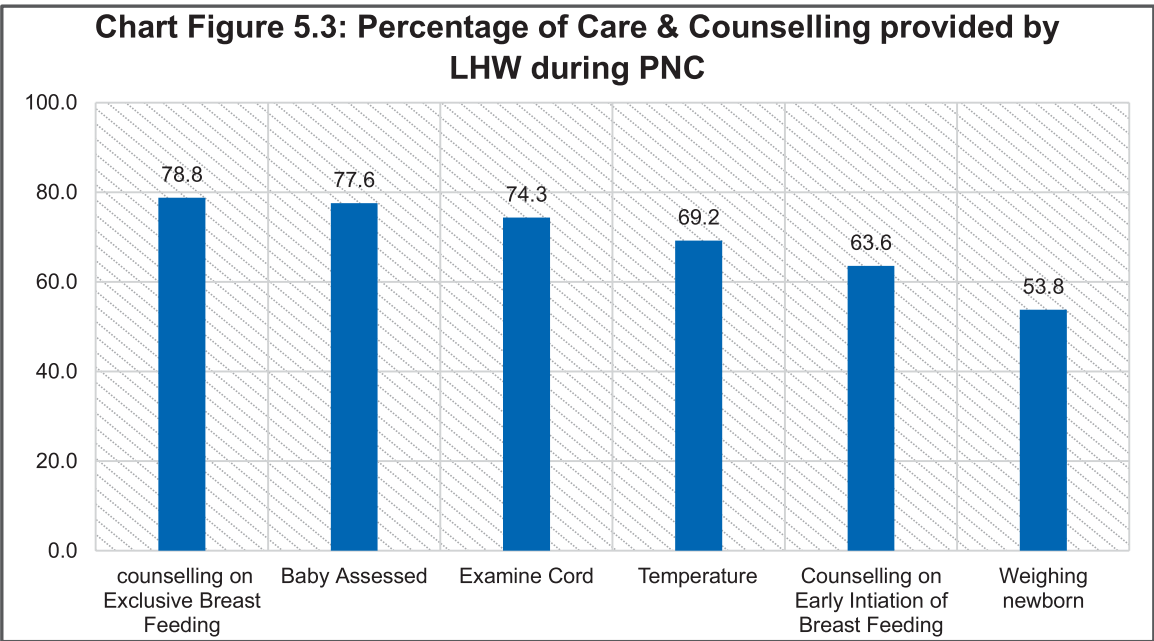
Bar diagram (Figure 5.1) is showing various services along with the percentage of services provided to mothers

It was seen that during antenatal visits 1029 (81.2%) LHWs counselled mothers regarding tetanus toxoid injection and immunization, 1022 (80.6%) counselled on balanced diet, 803 (63.3%) counselled on the importance of the ANC and importance of delivery by skilled birth attendant. Counselling regarding breastfeeding and postpartum family planning was weak being 45.2% and 24.8% respectively. It means that LHWs have less focus on these topics during antenatal visits. Counselling on these topics is essential as this will improve nutritional status of newborns, improve their immunity and protect them from infections, Family planning is a mean of promoting maternal health which indirectly affects health of newborns.



5.1.3 Services Provided by LHW during Postnatal Care Visits

Postnatal period is an important stage when mothers need support and guidance regarding management of pregnancy related health issues along with newborn illnesses. The services provided by LHWs to mothers during postnatal care visits are shown below.

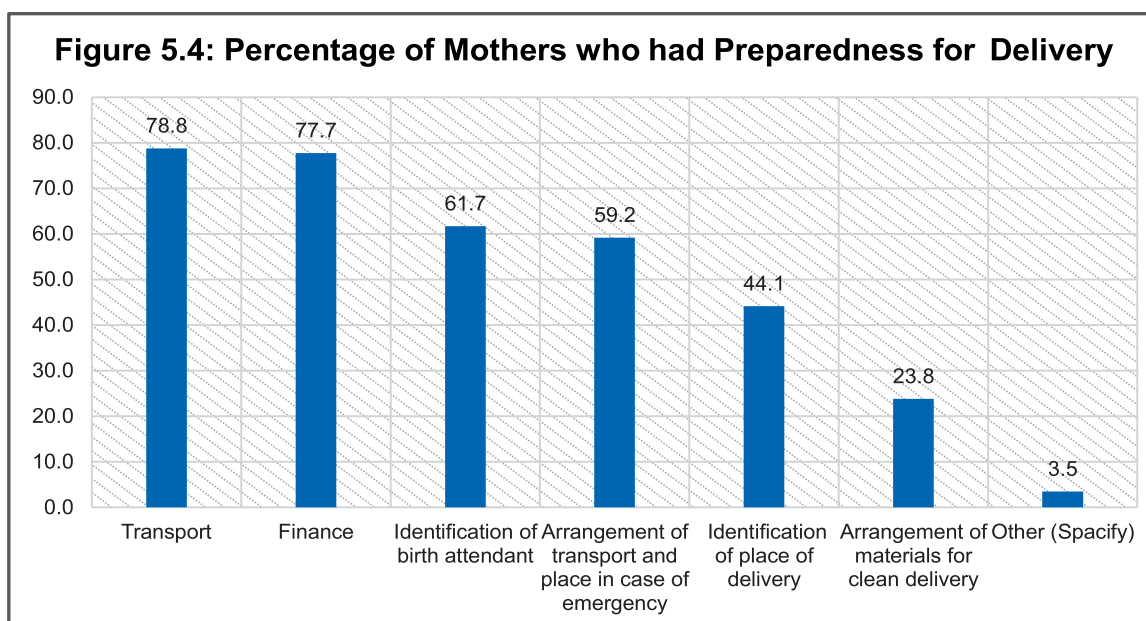


Around 1049 out of 1328 (79%) mothers were counselled about importance of exclusive breastfeeding whereas 845 out of 1328 mothers (63.6%) on early initiation of breastfeeding. Early initiation of breastfeeding is within 1 hour of delivery and counselling regarding it should take place during the antenatal visits. Examination of cord is very important to identify any cases of sepsis in newborns and it was done in 74.3% cases. It was seen that 77.6% LHWs assessed the newborn during home visits. However, weighing the newborn during assessment was not a common practice being 53.8%.

5.1.4 Preparedness for Delivery

Once a woman becomes pregnant, she needs to make preparations for her delivery. The purpose of these preparations is to ensure safety of both mother and the newborn.

There are various decisions to be made like deciding who will deliver her, where will she be delivered and how and where to go in case of emergency. In addition, other arrangements must be made like arranging finances, transportation and safe delivery material.



Mostly mother's preferred making financial and transport arrangements 1022(77%) & 1033 (77.8%). Planning for place of delivery and birth attendants is utmost important. Having delivery by a skilled birth attendant in a well-equipped health facility will lead to a safe delivery with minimal complications. Good infection control measures help save lives. Around 823 (62%) mothers identified the birth attendant during their pregnancy, whereas only 584 (44%) decided the place of delivery. Table 5.1 shows the break up at different levels of health facilities.

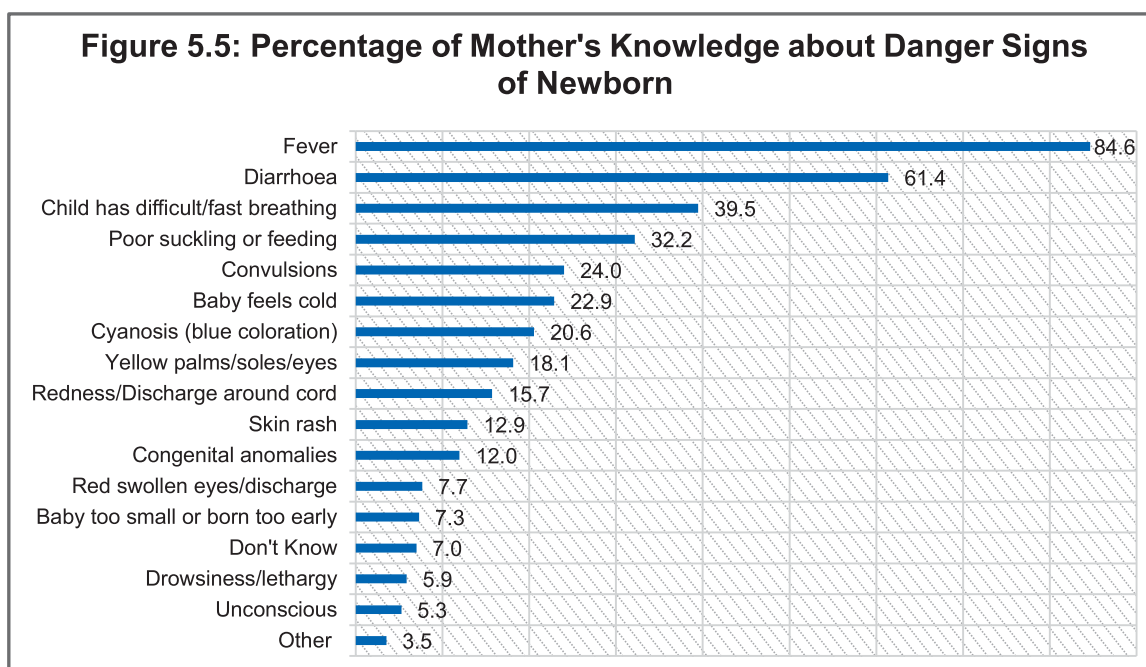
Table. 5.1: Place for Delivery by mothers				
Percentage of Planned Place for Delivery by mothers.				
	Home	Govt Health Centre	Private Health Centre	Other House
Punjab	9.3	74.8	14.1	1.7
BHU	8.9	79.4	10.0	1.7
RHC	8.3	78.3	13.3	0.0
Community	9.7	71.9	16.6	1.9

A very small percentage made arrangements for safe delivery material. During the last antenatal visit, LHWs should guide mothers about the importance of safe delivery material and make sure that they arrange for it.

5.1.5 Mother's Knowledge on Newborn Danger Signs

The knowledge of mothers about new born danger signs is very essential so that there is timely identification and medical help is sought urgently to avoid any complications. LHWs should educate the mothers about the danger signs of newborns during their counselling sessions

Majority of the mothers considered fever and diarrhoea as two major danger signs in newborns. Very few had knowledge of other alarming signs like poor feeding, convulsions, cyanosis and redness around the cord. It indicates that mothers must be educated more about newborn danger signs. LHWs should give awareness to mothers about various newborn diseases that need urgent care. While implementing the PSBI initiative capacity building of LHWs must be given special attention.



5.1.6 Mother's Knowledge about Mother's Danger Signs

On assessing the knowledge of mothers about maternal danger signs, it was seen that 932 mothers (70.2%) considered excessive vaginal bleeding a danger sign, 823 (62%) thought fever was a danger sign, whereas 701 (52.8%) and 271 (20.4%) considered “Severe Abdominal and convulsions” a danger sign. Another interesting observation was that 12.8% mothers did not understand what are maternal danger signs. While analyzing maternal knowledge it was realized that only 43.3 percent mothers had awareness about danger signs in mothers after delivery which need immediate care to avoid any complications. This indicates that mothers must be educated about danger signs after delivery.

Table 5.2: Mother Knowledge about Danger Signs of Mother

Percentage of mothers who had knowledge about mother danger signs after delivery.

	Excessive Vaginal Bleeding	High Fever	Foul-Smelling Discharge	Severe Abdominal pain	Convulsions	Other	Don't Know	Mother's knowledge about at least 3 Mother's Danger Signs ¹
Punjab	70.2	62.0	12.1	52.8	20.4	13.6	12.8	43.3
BHU	68.5	62.4	11.5	52.3	19.8	12.4	14.2	41.9
RHC	65.5	72.7	7.3	60.0	18.2	20.0	3.6	43.6
Community	71.5	61.0	12.9	52.5	20.9	13.9	12.6	44.1

¹ Indicator 1.8 Percentage of mothers who had knowledge about mother danger signs after delivery at least three signs

5.1.7 Referrals of Sick Young Infants

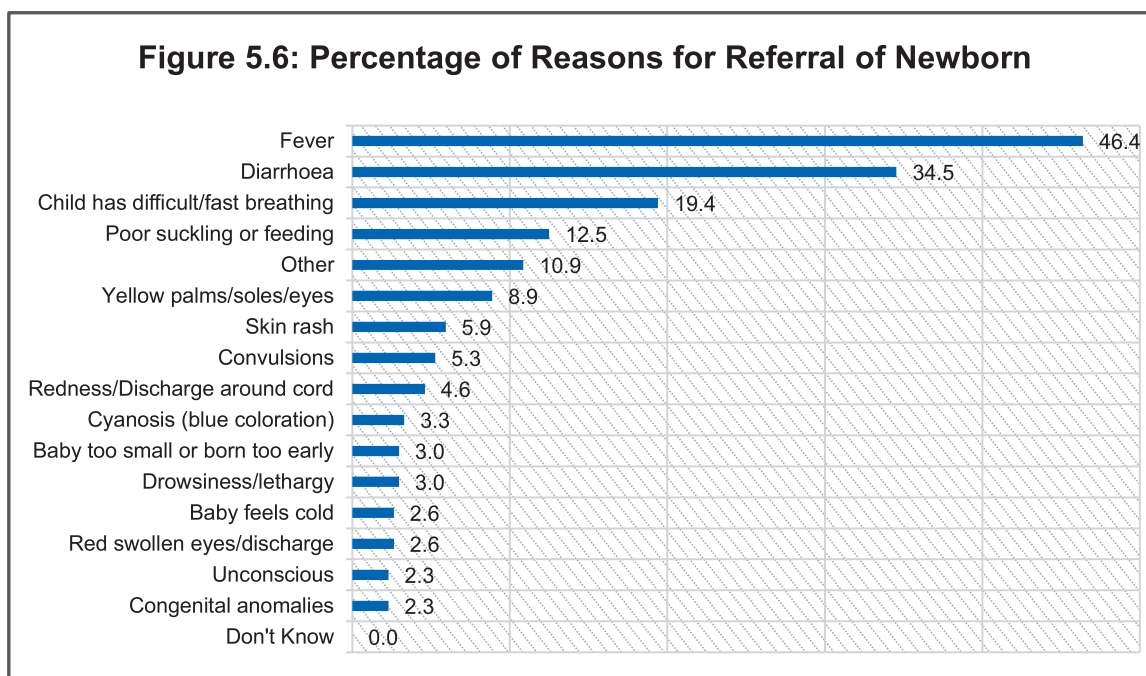
An important issue addressed in the Formative research was referrals of sick young infants as newborns with serious illnesses are referred to higher facilities. The prime focus of PSBI initiative is to manage sick young infants at primary healthcare facilities where referral is not possible.

Understanding the mother's perspective: Why newborns are referred? Which health facilities they preferred to visit when sick young infants are referred? and reasons for refusal of referral which can help in planning for new born interventions in future. We need to address the important issue, that why referrals are refused? and see how we can improve existing referral linkages.

5.1.8 Reasons of Referral

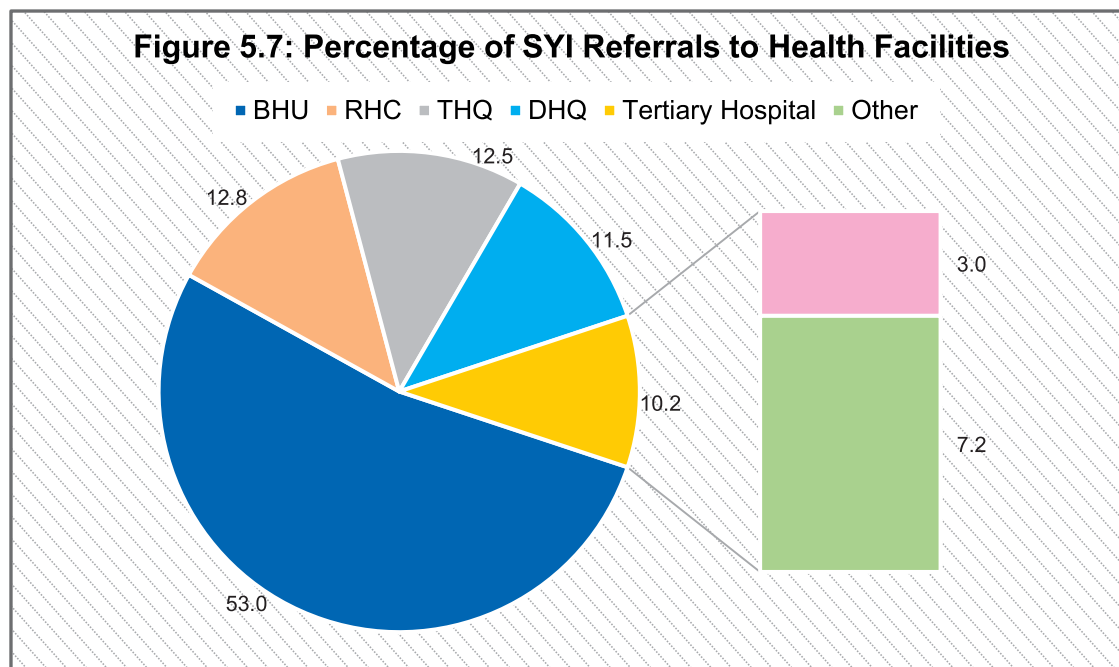
On inquiring the mothers about the reasons for referral of sick young infant, the highest response was fever 46.4%, followed by diarrhoea (34.5%) and difficult/ fast breathing 19.4%.

This information is consistent with our experience that most referrals are due to these three main causes and are leading causes of neonatal mortality. According to mothers, fever is the most common cause of referral followed by diarrhoea and difficult breathing. Hypothermia and redness and discharge around the umbilicus which can have grave consequences were not mentioned by many mothers. The bar diagram shows the percentage of all reasons for referral of sick young infants.



5.1.9 Place of Referral by LHW

On asking the mothers that on identification of sick young infants, where did LHW refer you? Most mothers responded that they were referred to BHU (53 %), RHC (12.8%), THQ (12.5%), DHQ (11.5%) while 3% and 7.2% were referred to tertiary hospitals and private health facilities respectively. This information is depicted in the pie chart below.



An important observation is that people are aware of the fact that there are limited newborn health services at the primary healthcare facilities. Although LHWs refer SYI to primary healthcare facilities, but many families go either to THQH, DHQH or even directly to tertiary hospitals or private healthcare facilities.

5.1.10 Acceptance / Refusal of Referral

Most mothers i.e. 979 (73.7%) on being referred took the newborn immediately to the health facility, but 187 (14.1%) consulted family members and 162 (12.2%) refused to take to the health facility. This shows that LHWs convinced many mothers to go to primary healthcare facilities for immediate checkup and treatment of their newborns.

Of the 12.2% mothers who refused referral, further questions were asked to identify some important reasons for refusal of referral which are shown in the table below:

Table 4.3: Reasons for not Accepting Referral

Percentage of reasons not accepting referral by the mothers.

	Financial Issues	Children alone at home	Unaware about seriousness	Husband refused	Family members refused	Facility was too far	No conveyance	Other
Punjab	4.5	11.4	9.1	18.2	15.9	15.9	18.2	40.9
PHF	0.1	8.3	16.7	33.3	16.7	25.0	16.7	33.3
Community	6.3	12.5	6.3	12.5	15.6	12.5	18.8	43.8

Having no transport to take newborn to health center was a main reason of refusal that is (18.2%), poor accessibility of the facility was also another important reason that is (15.9%). In many cases husbands and families were the main decision makers and they refused referral probably due to lack of awareness of the severity of the situation or they believed that alternate treatment options were more effective.

Sometimes mothers refused referral because of having no one to look after the kids in their absence. In some cases, it was seen that mothers did not understand the serious illness.

The table shows other reasons as 40.9%. Few mothers were not satisfied with services at the primary healthcare facility, while others felt uncomfortable in going to higher facilities due to family pressure and lack of attention at these facilities.

In rural areas, they opt going to spiritual healers due to cultural and religious beliefs for help in illness. The given table discloses some important reasons.

Other (Specify): Causes of refusal of referral
• Circumcision of newborn
• Newborn started getting better
• Lack of attention by Doctors at referred facility
• Referral health facilities have too many patients
• Fear of injectable treatment
• No BHU in vicinity
• Poor management at BHU
• Seeking help from religious healers
• Mother's illness

5.1.11 Satisfaction on Management of SYI at PHF

A larger proportion of mothers 1138 (85.7%) were satisfied with care provided to their sick young infant at the primary healthcare facilities. This is due to the improvement of infrastructure of PHF which is part of revamping activities by the Department of Primary and Secondary Healthcare and availability of doctors at majority of the facilities. Most of the patients were getting satisfactory healthcare services.

5.1.12 Influence of Gender on Referral Acceptance

Ten percent (13) mothers stated that gender influenced their decision of accepting referral. Male child would be taken immediately to the health facility. In many rural areas of the Punjab, families are not willing to bare the expenses of healthcare for daughters.

5.1.13 Mode of Transportation to Reach at Referred Facility

When mothers were asked how they reached the referral facility, 86% mothers said they preferred using personal conveyance, 12% mothers used public ambulance and 3% used private ambulance.

Lack of transportation is a major factor that leads to refusal of referrals. All primary healthcare setups should have ambulance services to shift critically ill newborns for advanced treatment at referral facilities

5.1.14 Follow ups of Newborns at Referral Facility

Follow ups of newborns after treatment at the health facilities is very important. Follow up should be within one week. Generally, follow up was low. When mothers were asked if they took their newborns for follow up, only 506 (38.1%) mothers said that they go for follow up visits. It is an observed that lack of follow ups after discharge are due to same reasons as for not accepting referral. LHWs should counsel mothers about the importance of follow ups and ensure they take the child for it.

Table 4.4: Follow up of SYI Referral to HF		
Percentage of follow-up of SYI referral to health facility.		
	Yes	No
Punjab	38.1	61.9
BHU	40.0	60.0
RHC	27.3	72.7
Community	38.2	61.8



Chapter 6

Conclusion and Recommendations

Conclusion and Recommendations

The study focused on the complete chain of care of SYIs from household level up to the level of referral health facilities i.e. DHQs and THQs. Overall the districts have the infrastructure, human resource, equipment and supplies but the Primary & Secondary Healthcare Department needs to improve quality of services, strengthen supervision, mentoring, monitoring and accountability to make the system deliver result for mother and child.

Knowledge of household especially that of mothers of young infants was assessed with the conclusion that LHWs could not satisfactorily raise awareness on the newborn and maternal danger signs and Early Essential Newborn Care during ANC and PNC. Most of the mothers' recognized diarrhoea as a dangerous entity while dehydration, poor feeding, drowsiness due to diarrhoea could be considered as danger signs more precisely. Fever and difficult breathing were duly recognized by the mothers as danger signs, however, their knowledge about the rest of danger signs like asphyxia, umbilical cord infection and hypothermia was very limited. Most of the mothers and household accepted the referral for facility-based treatment. Gender of the baby was sometimes considered as a barrier towards health seeking behavior of mothers. Mothers and households were generally satisfied with the treatments provided at the Primary Healthcare facilities.

LHWs assessment showed that they are performing well and are playing an important role in identifying newborn danger signs and referring them to primary healthcare facilities. However, there is still sufficient room for improving their knowledge and practices. Most of the LHWs received induction training satisfactorily but they need explicit training regarding management of SYIs at household level and timely referral of SYIs requiring facility-based care. Especially the training on Community IMNCI was essential. As the last training of healthcare providers on IMNCI was conducted many years back, most of the staff of referral health facilities needed training on IMNCI. Most of the staff at referral facilities required IMNCI training specially LHWs, Pediatricians and female doctors.

Referral mechanism by LHWs is weak with no specific referral slips. Nevertheless, LHWs were found to be a most accessible cadre and was most trusted by the household. She was found to be helpful in convincing the families refusing a referral to health facility and was able to provide available treatment along with continued counseling to accept the referral. In general, LHWs were found out of stock for one or more medicines/supplies at least for 24 hours during the span of the previous three months. Most of the LHWs lacked ARI timer and green book. LHWs awareness of EENC and counseling of mothers on EENC also was not satisfactory.

Primary level health facilities are providing care regarding ANC, delivery care, PNC, Immunization and Family Planning satisfactorily, but the component of SYIs management and referral remains compromised. Referral health facilities, i.e. DHQs/THQs were found to be performing well in the areas of the ANC, PNC, Immunization, but the referral system for both mothers and children remained weak.

EENC area is well catered at Primary healthcare facility so far as counseling of mothers about hypothermia and use of chlorhexidine gel for cord care is concerned. But counselling on early initiation of breastfeeding and exclusive breastfeeding needs to be improved.

Cyanosis, poor feeding, difficult breathing and fits were the main reasons for referral from primary health facilities to higher level health facilities i.e. DHQs/THQs.

Supply of essential equipment at primary healthcare facilities was reasonably sufficient with exception of few items like ARI timer, Safe delivery kits, PPEs and Sanitizer etc.

Medicines and supplies were not deficient, but the supply of chlorhexidine gel, Injection Gentacin 20mg, Injection Amoxil and Zinc needed to be enhanced.

Counselling of the mothers in general was found up to the mark but record maintenance of SYIs was missing at most of the facilities. There was no proper register available for recording SYIs visiting the health facilities for treatment.

6.1 Recommendations

To ensure sustainable care of SYIs from household level to the level of referral health facilities i.e. DHQs/THQs, evidence-based recommendations are as follows:

6.1.1 Improve Communication Skills of Community Health workers

LHWs communication skills should be enhanced for effective counseling of mothers on all aspects of SYIs care especially focusing on identification of danger signs. This can be through specific training packages on counselling and communication skills enhancement.

6.1.2 Community and Public Awareness

Educating communities about newborn illnesses and management. This can be through the network of Community Health workers. Media should be engaged for creating awareness.

6.1.3 LHWs Training on Community IMNCI

Capacity building of LHWs on community IMNCI is pre-requisite for implementation of WHO guidelines for managing PSBIs. This will enable them to identify newborn danger signs and ensure timely referral. There should be training on counselling to update their counselling skills on essential newborn care and danger sign in SYI.

6.1.4 Primary and Referral Facility IMNCI Trainings

IMNCI Training for medical officers, pediatricians and lady health visitors is very much required. Very few staff are trained on management of sick young infants. Their skills need to be enhanced and regular refresher trainings are needed to ensure ongoing improvement of knowledge and skills. Job aids such as IMNCI chart booklets should be available at healthcare facilities.

6.1.5 Improving Recording Reporting Mechanism

The outpatient registers in primary healthcare facilities should be updated with addition of separate columns for different age group of newborns (in months) which is not in practice at present. This information is very important for disease surveillance. Similarly record keeping of referred newborns and children at the referral facilities should be improved. In short PSBI indicators should be added to MIS hence strengthening the recording reporting mechanism. Having android App with centralized data collection mechanism could be another option.

6.1.6 Strengthen Referral Linkages

Comprehensive referral system from household to referral health facilities i.e. DHQs/THQs should be in place with strong linkages and alerts at LHW, primary health facility and referral health facility level. Well-developed recording reporting tools should be used for quality implementation and monitoring the functioning of referral system. This should be through developing triplicate referral slips for sick newborns and young infants, establishing separate desks at THQ/DHQ Hospitals for timely management of referred patients. Having separate desks at referral facilities for managing referred patients as a priority is suggested.

6.1.7 Promoting Quality of Care for Pregnant Women

Over years delivery by skilled birth attendants (SBAs) has increased in Punjab which is 75.1% according to Multiple Indicator Cluster Survey (MICS) Punjab, 2018. Despite increase in deliveries by SBAs, neonatal mortality rate has not changed much. This means that we now need to focus on quality of services to see a visible impact on the indicators.

Fixing of over ambitious, non-achievable targets, especially for institutional deliveries affects the quality of care for pregnant women hence we need to be realistic while setting targets to avoid false reporting.

6.1.8 Improve Supply Chain Mechanism

A uniform system of ensuring availability of commodities and supplies with LHWs should be in place, ruling out every possibility of stock out and ensuring availability according to demand.

6.1.9 Availability of Trained Staff

According to assessment, availability of staff is not much an issue at primary facilities but at referral facilities shortage of staff especially pediatricians was observed. Offering incentives (in the form of improved salary or career growth) to doctors working in rural areas can be one solution.

6.1.10 Clinical Mentoring and Supervision

Once PSBI is implemented in 02 districts, a system for clinical mentoring should be established. This can be through web based weekly meeting with pediatricians for discussing cases and guidance where needed.

6.1.11 Availability of Essential Antibiotics at Primary Healthcare Facility

To implement PSBI initiative at primary healthcare level, availability of injection Gentamicin, Syrup Amoxicillin, Low Osmolarity ORS and Chlorohexidine should be ensured. This should be the part of an automatic supply chain management system. This issue should be raised in the Child Survival Technical Working Group meeting. Till Government supplies come into place, other options for medicine availability such as procurement by Development partners support can also be considered.

6.1.12 Availability of Ambulances for Transferring Newborns

Current system of ambulance services whether 1034 or 1122 needs to be reviewed keeping in view the number of those cases which were denied the provision of any ambulance what so ever and they ended up in a disaster whereas many lives could be saved otherwise.

Ambulance service for timely transportation of referred cases must be available for every case every time everywhere without any discrimination of area and community.

6.1.13 Community Feedback Mechanism

The existing patient feedback mechanism should be strengthened. In Rural Health Centers and referral facilities there are helplines available. Communities should be made aware of these helplines and the numbers should be displayed at the facilities.

6.1.14 Governance and Accountability

Once implementation of PSBI Initiative begins, there should be strong governance and an accountability mechanism in place. The Department of Health should strictly monitor that all health practitioners once trained on IMNCI are implementing it in their respective facilities.

6.1.15 Availability of Trained Staff

According to assessment, availability of staff is not much an issue at primary facilities but at referral facilities shortage of staff especially pediatricians was observed. Offering incentives (in the form of improved salary or career growth) to doctors working in rural areas can be one solution.

6.1.16 Clinical Mentoring and Supervision

Once PSBI is implemented in 02 districts, a system for clinical mentoring should be established. This can be through web based weekly meeting with pediatricians for discussing cases and guidance where needed.



Annex-I

Photo Gallery

Photo Gallery





OUT-PATIENT DEPARTMENT (OPD) REGISTER

Sl. No.	Name with Father's / Marital Name	Address	SEX & AGE CATEGORY (Date of Registration)		Diagnosis	Notes/Remarks
			MALE	FEMALE		
1038	Najim					
1039	Sham ul-Haq	950			Cellulitis	1st Sept 2018 (1st visit)
1035	Mr. Waheed				Cellulitis	1st Sept 2018 (1st visit)
1049	Mr. Sajjad	Long			Cellulitis	1st Sept 2018 (1st visit)
1040	Sajid				Cellulitis	1st Sept 2018 (1st visit)
1041	Aysha				Cellulitis	1st Sept 2018 (1st visit)
1042	Zahid Ali				Cellulitis	1st Sept 2018 (1st visit)
1043	Mr. Sajjad				Cellulitis	1st Sept 2018 (1st visit)
1044	Sham ul-Haq	950			Cellulitis	1st Sept 2018 (1st visit)
1045	Mr. Waheed				Cellulitis	1st Sept 2018 (1st visit)
1046	Mr. Sajjad	Long			Cellulitis	1st Sept 2018 (1st visit)
1047	Mr. Waheed				Cellulitis	1st Sept 2018 (1st visit)
1048	Mr. Sajjad				Cellulitis	1st Sept 2018 (1st visit)
1049	Mr. Waheed				Cellulitis	1st Sept 2018 (1st visit)
1050	Mr. Sajjad				Cellulitis	1st Sept 2018 (1st visit)
1051	Mr. Waheed				Cellulitis	1st Sept 2018 (1st visit)
1052	Mr. Sajjad				Cellulitis	1st Sept 2018 (1st visit)



CATCHMENT AREA POPULATION CHART

Family Name: **ANJUM** Facility ID No: **131029** Year: **2018**
 Union Council Name: **09** District: **Faisalabad** Division: **Punjab**

No.	Name of Village	Population	Distance from U.C. (km)	No. of HHs	Population covered by U.C.
1	185	7600	10	02	7600
2	186	6400	08	06	6400
3	187	2500	10	04	2500
4	188	8571	08	08	8571
5	189	6300	09	06	6300
TOTAL		28111		20	28111

Target Groups	Standard Demographic Parameters	Estimated Yearly Target Population	Estimated Actual Target Population
Infant Pregnancies	3.4 %	1008	82
Infant Births	2.9 %	798	76
Months	2.7 %	718	122
9 years & 10 years	13.4 %	37232	3956
15 to 49 years	22 %	5376	4498
15 to 49 years	16 %	4538	4498

Source: Pakistan Demographic and Health Survey 2010-12

Medicine Expiry Date

BHU Name: **375/18**

No.	Name of Medicine	Expiry Date	No.	Name of Medicine	Expiry Date
1	Cap Amoxicillin 250 mg	11/12	41	Cap Amoxicillin 250 mg	11/12
2	Cap Amoxicillin 500 mg	10/12	42	Cap Amoxicillin 500 mg	11/12
3	Cap Amoxicillin 100 mg	10/12	43	Cap Amoxicillin 100 mg	11/12
4	Cap Amoxicillin 100 mg	10/12	44	Cap Amoxicillin 100 mg	11/12
5	Cap Amoxicillin 100 mg	10/12	45	Cap Amoxicillin 100 mg	11/12
6	Cap Amoxicillin 100 mg	10/12	46	Cap Amoxicillin 100 mg	11/12
7	Cap Amoxicillin 100 mg	10/12	47	Cap Amoxicillin 100 mg	11/12
8	Cap Amoxicillin 100 mg	10/12	48	Cap Amoxicillin 100 mg	11/12
9	Cap Amoxicillin 100 mg	10/12	49	Cap Amoxicillin 100 mg	11/12
10	Cap Amoxicillin 100 mg	10/12	50	Cap Amoxicillin 100 mg	11/12
11	Cap Amoxicillin 100 mg	10/12	51	Cap Amoxicillin 100 mg	11/12
12	Cap Amoxicillin 100 mg	10/12	52	Cap Amoxicillin 100 mg	11/12
13	Cap Amoxicillin 100 mg	10/12	53	Cap Amoxicillin 100 mg	11/12
14	Cap Amoxicillin 100 mg	10/12	54	Cap Amoxicillin 100 mg	11/12
15	Cap Amoxicillin 100 mg	10/12	55	Cap Amoxicillin 100 mg	11/12
16	Cap Amoxicillin 100 mg	10/12	56	Cap Amoxicillin 100 mg	11/12
17	Cap Amoxicillin 100 mg	10/12	57	Cap Amoxicillin 100 mg	11/12
18	Cap Amoxicillin 100 mg	10/12	58	Cap Amoxicillin 100 mg	11/12
19	Cap Amoxicillin 100 mg	10/12	59	Cap Amoxicillin 100 mg	11/12
20	Cap Amoxicillin 100 mg	10/12	60	Cap Amoxicillin 100 mg	11/12
21	Cap Amoxicillin 100 mg	10/12	61	Cap Amoxicillin 100 mg	11/12
22	Cap Amoxicillin 100 mg	10/12	62	Cap Amoxicillin 100 mg	11/12
23	Cap Amoxicillin 100 mg	10/12	63	Cap Amoxicillin 100 mg	11/12
24	Cap Amoxicillin 100 mg	10/12	64	Cap Amoxicillin 100 mg	11/12
25	Cap Amoxicillin 100 mg	10/12	65	Cap Amoxicillin 100 mg	11/12
26	Cap Amoxicillin 100 mg	10/12	66	Cap Amoxicillin 100 mg	11/12
27	Cap Amoxicillin 100 mg	10/12	67	Cap Amoxicillin 100 mg	11/12
28	Cap Amoxicillin 100 mg	10/12	68	Cap Amoxicillin 100 mg	11/12
29	Cap Amoxicillin 100 mg	10/12	69	Cap Amoxicillin 100 mg	11/12
30	Cap Amoxicillin 100 mg	10/12	70	Cap Amoxicillin 100 mg	11/12
31	Cap Amoxicillin 100 mg	10/12	71	Cap Amoxicillin 100 mg	11/12
32	Cap Amoxicillin 100 mg	10/12	72	Cap Amoxicillin 100 mg	11/12
33	Cap Amoxicillin 100 mg	10/12	73	Cap Amoxicillin 100 mg	11/12
34	Cap Amoxicillin 100 mg	10/12	74	Cap Amoxicillin 100 mg	11/12
35	Cap Amoxicillin 100 mg	10/12	75	Cap Amoxicillin 100 mg	11/12
36	Cap Amoxicillin 100 mg	10/12	76	Cap Amoxicillin 100 mg	11/12
37	Cap Amoxicillin 100 mg	10/12	77	Cap Amoxicillin 100 mg	11/12
38	Cap Amoxicillin 100 mg	10/12	78	Cap Amoxicillin 100 mg	11/12
39	Cap Amoxicillin 100 mg	10/12	79	Cap Amoxicillin 100 mg	11/12
40	Cap Amoxicillin 100 mg	10/12	80	Cap Amoxicillin 100 mg	11/12

Medicine Expiry Date

BHU Name: **375/18**

No.	Name of Medicine	Expiry Date	No.	Name of Medicine	Expiry Date
1	Cap Amoxicillin 250 mg	11/12	41	Cap Amoxicillin 250 mg	11/12
2	Cap Amoxicillin 500 mg	10/12	42	Cap Amoxicillin 500 mg	11/12
3	Cap Amoxicillin 100 mg	10/12	43	Cap Amoxicillin 100 mg	11/12
4	Cap Amoxicillin 100 mg	10/12	44	Cap Amoxicillin 100 mg	11/12
5	Cap Amoxicillin 100 mg	10/12	45	Cap Amoxicillin 100 mg	11/12
6	Cap Amoxicillin 100 mg	10/12	46	Cap Amoxicillin 100 mg	11/12
7	Cap Amoxicillin 100 mg	10/12	47	Cap Amoxicillin 100 mg	11/12
8	Cap Amoxicillin 100 mg	10/12	48	Cap Amoxicillin 100 mg	11/12
9	Cap Amoxicillin 100 mg	10/12	49	Cap Amoxicillin 100 mg	11/12
10	Cap Amoxicillin 100 mg	10/12	50	Cap Amoxicillin 100 mg	11/12
11	Cap Amoxicillin 100 mg	10/12	51	Cap Amoxicillin 100 mg	11/12
12	Cap Amoxicillin 100 mg	10/12	52	Cap Amoxicillin 100 mg	11/12
13	Cap Amoxicillin 100 mg	10/12	53	Cap Amoxicillin 100 mg	11/12
14	Cap Amoxicillin 100 mg	10/12	54	Cap Amoxicillin 100 mg	11/12
15	Cap Amoxicillin 100 mg	10/12	55	Cap Amoxicillin 100 mg	11/12
16	Cap Amoxicillin 100 mg	10/12	56	Cap Amoxicillin 100 mg	11/12
17	Cap Amoxicillin 100 mg	10/12	57	Cap Amoxicillin 100 mg	11/12
18	Cap Amoxicillin 100 mg	10/12	58	Cap Amoxicillin 100 mg	11/12
19	Cap Amoxicillin 100 mg	10/12	59	Cap Amoxicillin 100 mg	11/12
20	Cap Amoxicillin 100 mg	10/12	60	Cap Amoxicillin 100 mg	11/12
21	Cap Amoxicillin 100 mg	10/12	61	Cap Amoxicillin 100 mg	11/12
22	Cap Amoxicillin 100 mg	10/12	62	Cap Amoxicillin 100 mg	11/12
23	Cap Amoxicillin 100 mg	10/12	63	Cap Amoxicillin 100 mg	11/12
24	Cap Amoxicillin 100 mg	10/12	64	Cap Amoxicillin 100 mg	11/12
25	Cap Amoxicillin 100 mg	10/12	65	Cap Amoxicillin 100 mg	11/12
26	Cap Amoxicillin 100 mg	10/12	66	Cap Amoxicillin 100 mg	11/12
27	Cap Amoxicillin 100 mg	10/12	67	Cap Amoxicillin 100 mg	11/12
28	Cap Amoxicillin 100 mg	10/12	68	Cap Amoxicillin 100 mg	11/12
29	Cap Amoxicillin 100 mg	10/12	69	Cap Amoxicillin 100 mg	11/12
30	Cap Amoxicillin 100 mg	10/12	70	Cap Amoxicillin 100 mg	11/12
31	Cap Amoxicillin 100 mg	10/12	71	Cap Amoxicillin 100 mg	11/12
32	Cap Amoxicillin 100 mg	10/12	72	Cap Amoxicillin 100 mg	11/12
33	Cap Amoxicillin 100 mg	10/12	73	Cap Amoxicillin 100 mg	11/12
34	Cap Amoxicillin 100 mg	10/12	74	Cap Amoxicillin 100 mg	11/12
35	Cap Amoxicillin 100 mg	10/12	75	Cap Amoxicillin 100 mg	11/12
36	Cap Amoxicillin 100 mg	10/12	76	Cap Amoxicillin 100 mg	11/12
37	Cap Amoxicillin 100 mg	10/12	77	Cap Amoxicillin 100 mg	11/12
38	Cap Amoxicillin 100 mg	10/12	78	Cap Amoxicillin 100 mg	11/12
39	Cap Amoxicillin 100 mg	10/12	79	Cap Amoxicillin 100 mg	11/12
40	Cap Amoxicillin 100 mg	10/12	80	Cap Amoxicillin 100 mg	11/12







Annex-II

List of Indicators

List of Indicators

	Indicator	Numerator	Denominator
MO	Mothers who have recently delivered (< 60 days)		
1.1	Pregnant women visited by LHW	Number pregnant women visited by LHW a. First trimester b. Second trimester c. Third trimester d. All trimesters	Total number of visited pregnant women
1.2	Extensive care provided by LHW	Number of pregnant women receiving care in four essential contents (Counselling on breast feeding, TT Injection, Counselling regarding the ANC at Health Facility and Counselling on adhering to Family Planning (FP) after birth) by a Lady Health Worker (LHW).	Total number of pregnant women receiving care in all contents by a Lady Health Worker (LHW)
1.3	Preparation before delivery	Number of mothers who made preparation for delivery after the last ANC visit.	Total number of mothers
1.4	Public health facility deliveries	Number of women with most recent live birth delivery in a health facility (BHU/RHC/DHQ/THQ/Tertiary Hospital).	Total number of women
1.5	Postnatal health checks of new born by LHW	Number of newborns a. Examined immediately b. Given cord care c. Measured temperature by LHW during postnatal checks.	Total number of Children 0-59 days old

	Indicator	Numerator	Denominator
1.6	Counselling on breastfeeding	Number of mothers for counselling on <ul style="list-style-type: none"> a. Early initiation of breastfeeding during PNC b. Exclusive breastfeeding during PNC c. Breastfeeding during ANC d. Family planning during ANC e. ANC check-up at health facility f. Diet during ANC 	Total number of mothers
1.7	Newborn weighed at birth	Number of newborns who were weighed at birth.	Total number of Children 0-59 days old
1.8	Women's knowledge about mother's danger signs	Number of women who had knowledge about at least three mother's danger signs after delivery.	Total number of women
1.9	Mother's knowledge about new-born's danger signs (at least five)	Number of mothers who had knowledge about new born danger signs in first month of birth/ life; at least five signs.	Total number of women
1.10	Mothers reporting SYI Referrals by LHW from community (during last three months)	Number of mothers who reported that their sick young infant (SYI) was identified/referred by LHW to Health facility during last three months.	Total number of Children 0-59 days old
1.11	Mother reporting referral of SYI by LHW to PHF	Number of mothers who were referred to PHF (BHU / RHC).	Total number of referral children
1.12	Refusals of referrals	Number of sick young infants (SYI) whose mothers refused referrals.	Total number of referral children

	Indicator	Numerator	Denominator
1.13	Mode of transportation to reach at referral facility	Number of referral mothers who used: a) Public Ambulance b) Private Ambulance c) Personal Arrangement	Total number of referral children
1.14	SYI follow ups at referral facility	Number of SYI visiting referral facility for follow ups within one week of referral.	Total number of referral children
1.15	Causes of refusal of referral	Number of at least three causes of refusal of referral.	Total number of causes of referral refusals
1.16	Gender impact on referral	Number of mothers who think that decision to accept referral is influenced by the gender of new born.	Total number of women
LHW	Lady Health Workers		
2.1	LHWs trained on identification and referral of newborns with danger signs	Number of LHWs trained on Identification and referral of newborn with danger signs.	Total Number of LHWs
2.2	Knowledge of LHW about SYI referral (at least five signs)	Number of LHWs who have knowledge of at least five SYI danger signs for referrals.	Total Number of LHWs
2.3	Services provided by LHWs during home visits (8 key activities) in last calendar month	Number of LHWs who performed the Essential activities (Registration of Pregnant Women, ANC of Pregnant Women, Immunization, Ensuring Delivery by Skilled Birth Attendant, PNC, Nutritional Screening, Identification of SYI and Family Planning) during last Calendar Month.	Total Number of LHWs
2.4	Availability of IEC material for ENC Counselling	Number of LHWs who have IEC material regarding ENC counselling.	Total Number of LHWs

	Indicator	Numerator	Denominator
2.5	Seeking health care of SYI from GP/Doctor	Number of LHWs who believe that families seek healthcare of SYI from General Practitioner (GP)/Doctor once sick newborn identified by LHW.	Total Number of LHWs
2.6	LHW's Perception about family's awareness on services for SYI at PHF	Number of LHWs who think that communities are aware of available facilities for SYI at Primary Healthcare Facilities.	Total Number of LHWs
2.7	LHW referrals of SYI to Health Facility	Number of LHWs referring SYI to Health Facility.	Total Number of LHWs
2.8	LHW's Knowledge on Management of SYI	Number of LHWs who have knowledge about the management of SYI with Possible Serious Infections.	Total Number of LHWs
2.9	Use of Triplicate Referral Slips	Number of LHWs who used triplicate referral Slips for referral to health facility.	Total Number of LHWs who referred SYI to Health Facility
2.10	Counselling on Newborn danger signs	Number of LHWs who counselled mothers/ pregnant women on newborn danger signs.	Total Number of LHWs
TR	Trainings		
3.1	IMNCI trained staff of referral hospital (THQ/DHQ)	Number of IMNCI trained staff of referral hospital	Total clinical staff of referral hospital
3.2	IMNCI trained doctors of referral hospital (THQ/DHQ)	Number of IMNCI trained doctors of referral hospital	Total number of doctors of referral hospital
3.3	IMNCI trained LHV's of referral hospital (THQ/DHQ)	Number of IMNCI trained LHV's of referral hospital	Total number of LHV's of referral hospital

	Indicator	Numerator	Denominator
3.4	IMNCI trained paediatricians of referral hospital (THQ/DHQ)	Number of IMNCI trained paediatricians of referral hospital	Total number of paediatricians of referral hospital
3.5	IMNCI trained nurses of referral hospital (THQ/DHQ)	Number of IMNCI trained nurses of referral hospital	Total number of nurses of referral hospital
3.6	IMNCI trained medical officers at PHF (BHU/RHC)	Number of medical officers trained with IMNCI at PHF.	Total number of medical officers of referral hospital
3.7	IMNCI trained LHWs	Number of LHWs trained on IMNCI.	Total number of LHWs
3.8	ENC trained LHWs	Number of LHWs trained on ENC.	Total number of LHWs
PHF	Primary Healthcare Facility		
4.1	Availability of newborn weighing scale	Number of PHF having newborn weighing scale.	Total number of PHF
4.2	Availability of MUAC for children	Number of PHF having MUAC tape for children.	Total number of PHF
4.3	Availability of sanitizer	Number of PHF having sanitizer for infection control.	Total number of PHF
4.4	Ambulance service for sick new born	Number of PHF with access to ambulance service for transport of SYI	Total number of PHF
4.5	Low Osmolarity ORS	Number of PHF with low osmolarity ORS	Total number of PHF
4.6	Zinc Sulphate	Number of PHF with Zinc sulphate	Total number of PHF
4.7	Amoxicillin syrup	Number of PHF with amoxicillin syrup	Total number of PHF

	Indicator	Numerator	Denominator
4.8	Injection Gentamicin	Number of PHF with injection gentamicin	Total number of PHF
4.9	Chlorhexidine Gel	Number of PHF with chlorhexidine gel	Total number of PHF
4.10	Referral due to difficulty breathing	Number of SYI referred from PHF to referral health facility due to difficulty breathing	Total number of PHF
4.11	Treatment of SYI at PHF during last calendar month	Number of PHF where SYI was treated in the last calendar month	Total number of PHF
4.12	Referral of SYI during last calendar month	Number of PHF where SYI were referred to higher facility during last calendar month	Total number of PHF
5.1	Treatment of SYI at secondary facility	Number of referral health facility which provided treatment of SYI in the last calendar month	Total number of referral health facility
5.2	Referral of newborn/ child	Number of referral facility which sent newborn/ child to tertiary health care facilities for further management in the last calendar month	Total number of referral health facility
5.3	Counselling of mother on newborn danger signs at referral health facility	Number of referral facilities where mothers were counselled on newborn danger signs in the last calendar month	Total number of referral health facility
5.4	Maintenance of SYI registers	Number of the referral facilities having well maintained registers of SYI	Total number of referral health facility
5.5	Amoxicillin Syrup	Number of Referral health facility having amoxicillin syrup	Total number of referral health facility

	Indicator	Numerator	Denominator
THQ/DHQ	Referral Health Facility (THQ/ DHQ)		
5.6	Injection Gentamicin	Number of referral health facility with injection gentamicin	Total number of referral health facility
5.7	Chlorhexidine Gel	Number of Referral health facility with chlorhexidine gel	Total number of referral health facility
5.8	Low Osmolarity ORS	Number of Referral health facility with low osmolarity ORS	Total number of referral health facility
5.9	Zinc Sulphate	Number of Referral health facility with Zinc sulphate	Total number of referral health facility
5.10	Neonatal ICU	Number of Referral health facility with neonatal ICU	Total number of referral health facility
5.11	Neonatal Ventilator	Number of Referral health facility with neonatal ventilator	Total number of referral health facility
5.12	Incubator	Number of Referral health facility with incubator	Total number of referral health facility
5.13	Ambulance Service	Number of referral health facility with access to ambulance service for transport of SYI	Total number of referral health facility



Annex-III

Questionnaires

Questionnaires

Questionnaire for Lady Health Workers

LTI	Interview Starting Time:	____ : ____ HOURS MINUTE
-----	--------------------------	-----------------------------

INFORMED CONSENT

Assalam O Alaikum. My name is _____. We are from the Bureau of Statistics, Planning & Development Department, Government of the Punjab. We are working in collaboration with the Primary & Secondary Healthcare Department, Government of the Punjab, to collect information on the patient care of young infants in the Public Health Facilities of Punjab. In this context, we would like to talk to you to better understand different issues regarding service delivery to the SYI. Responses and issues that arise during the discussion will not be attributed to any individual. The objective is to strengthen the services for these infants and performance of the service providers. This should take about 20 minutes.

THANK YOU

Do you agree to participate?	Yes.....1 No.....2	➡ LID10
------------------------------	-----------------------	---------

RECOMMENDATIONS FOR THE INTERVIEWER

INTERVIEW AT LEAST TWO LADY HEALTH WORKERS PER PRIMARY HEALTH CARE FACILITY.

FOR ALL QUESTIONS IN THIS SURVEY, NEVER READ THE POSSIBLE OPTIONS UNLESS THERE IS A SPECIAL INSTRUCTION (CAPITAL AND IN BOLD). WAIT FOR THE RESPONDENT TO ANSWER THE QUESTION AND THEN CIRCLE THE RESPONSE GIVEN.

IDENTIFICATION		LID						
LID1	IDENTIFICATION No. of LHW <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>							
LID2	Facility Name & Code Name: _____ Code: _____							
LID3	Enumerator Name and Code Name _____ Code <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td></tr></table>							
LID4	Date of Interview ____ / ____ / ____ Day Month Year							
LID5	LHW Name: _____							
LID6	District Name and Code _____ Code <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td></tr></table>							
LID7	Tehsil Name and Code _____ Code <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td></tr></table>							
LID8	Village Name _____							
ID9	Supervisor Name & Code _____ Code <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td></tr></table>							
LID10	RESULTS: Completed.....1 Not Available.....2 Partly Completed..... 3 Refused.....4 Others(specify).....6							

LADY HEALTH WORKER'S CAPACITY ANALYSIS			LCB
LCB1	When did you start working as a lady health worker? Probe:	____ / ____ Month Year	
	If LHW not Know year	(If month not know then record 98)	
LCB2	Have you been trained in IMNCI?	Yes.....1 No.....2 Don't know.....8	LRP1 LRP1
LCB3	When were you trained in IMNCI?	____ / ____ Month Year (If month not know then record 98)	
LCB4	Have you received refresher training in IMNCI EVER?	Yes.....1 No.....2 Don't know.....8	LCB6LCB6 LCB6LCB6
LCB5	When did you receive refresher training?	____ / ____ Month Year (If month not know then record 98)	
LCB6	If you have received training, which topics were included? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (Record all responses mentioned)	REGISTERION OFPREGNANT WOMENA PROMOTE ANTENATAL CARE (ANC)B PROMOTE SKILLED BIRTH ATTENDANTS (SBAS).....C CONDUCT POSTNATAL CARE (PNC) HOME VISITS RECOGNIZE DANGERS SIGNS AND PROMPTLY REFERE CONDUCT 4TH DAY FOLLOW-UP VISITS TO SICK YOUNG INFANTS..... F Family Planning (FP) G EPIH Other (Specify) X	
LCB7	What you received training in counselling in ENC?	Yes.....1 No2	LCB8
LCB7A	What are the components of ENC? DO NOT READ OUT ANSWERS. Record all responses mentioned)	Counselling on early initiation of Breastfeeding (within an hour).....A.. Counselling on exclusive breastfeeding.....B Counselling to avoid hypothermia (skin to skin care & delayed bathing for 6 hours).....C Counselling on use of Chlorhexidini Gel for Cord Care.....D.. Counsel the mother on newborn danger signE	
LCB8	What you received training about recognizing danger sign in new born and then promptly referring them?	Yes..... 1 No 2	LRP1
LCB8 B	What are the danger signs for newborns?	Hypothermia A Asphyxia B	

	DO NOT READ OUT ANSWERS. (Record all responses mentioned)	Fever..... C Fits D Jaundice E Congenital anomalies F Cyanosis (Blue colour) G	
--	--	--	--

Registered Population			LRP
LRP1	How many lady health workers are attached with the Health Facility of your area?	Number of lady health workers Don't know98	
LRP2	how many households are in the area you cover? (verify this from record)	Number of households <input type="text"/> Don't know998	
LRP3	What is the Registered population in the area that you cover?	Population <input type="text"/> Don't know 998	
LRP4	Approximately how many children under 5 years are there in the area that you cover?	Children Under 5 Years Old <input type="text"/> Don't know 998	
LRP5	Approximately how many children under 1 year are there in the area that you cover?	Children Under 1 Year <input type="text"/> Don't know998	
LRP6	How many Currently pregnant women are registered with you?	Pregnant women <input type="text"/> Don't know998	
LRP7	What activities have you carried out in your area in the last calendar month? DO NOT READ OUT ANSWERS. (Record all responses mentioned)	Registered all pregnant women.....A Made antenatal visits to pregnant women.....B Made visits for Immunization C Made visits for birth plan to ensure Skilled Birth AttendanceD Made visits for PNC E Conducted nutrition screeningF Identification of SYIG Counselling of mothers on danger signs in SYI...H Counselling on PPFP/FP..... I Provision of FP medicienes s, verify from record.....J Provision of medicines for common deceasesk Referred to Health FacilityL Conducted Health Education Session in your communityM Other(specify).....X	

MEDICATIONS AND EQUIPMENT			LME
TAKE PERMISSION TO SEE THE FOLLOWING MEDICATIONS AND SUPPLIES. IF THE ITEM IS IN A DIFFERENT LOCATION, GO THERE AND OBSERVE IT. FOR EACH ITEM, RECORD THE APPROPRIATE CODE.			
LME1	ARI Timer	Available..... 1 Available but non-functional 2 Not available 3	
LME2	Thermometer	Available..... 1 Available but non - functional..... 2 Not available 3	
LME3	Weighing Scale	Available..... 1 Available but non-functional 2 Not available 3	
LME4A	MUAC Tape (For Mother)	Available..... 1 Not available 2	
LME4B	MUAC Tape (For Babies)	Available..... 1 Not available 2	
LME5	Soap	Available..... 1 Not available 2	
LME6	Do you have the Green Book?	Available..... 1 Not available..... 2	
LME7	Do you have Sehat Ki Dastak?	Available..... 1 Not available 2	
LME8	Referral slips	Available..... 1 Not available 2	

In the preceding three months, have you been out of stock of any of the following items for longer than one day (24 hours):

LME10A	Zinc Sulphate (Tablets/syrup)	Yes..... 1 No 2	
LME10B	ORS (Low osmolarity)	Yes..... 1 No..... 2	
LME10C	Iron folic acid tablets	Yes..... 1 No..... 2	
LME10D	MMS (Multi Micronutrient Supplement) Sachet	Yes..... 1 No..... 2	
LME10E	Antibiotic (e.g., amoxicillin syrup/ tablet)	Yes..... 1 No..... 2	

SUPERVISION			LSV
LSV1	Have you received a supervisory visit from your LHS?	Yes..... 1 No..... 2	
LSV2	Have you received a supervisory visit from anyone in the last three months?	Yes..... 1 No..... 2	

PROMOTION OF KEY FAMILY PRACTICES			LKP
LKP1	<p>When should the mother of a small child (U-5) wash her hands?</p> <p>DO NOT READ OUT ANSWERS.</p> <p><i>PROBE: ANYTHING ELSE?</i></p> <p>(Record all responses mentioned)</p>	<p>After defecation A</p> <p>Before preparing food B</p> <p>Before eating..... C</p> <p>Before feeding the infant D</p> <p>After cleaning an infant who has defecated..... E</p> <p>Other (specify) _____ X</p> <p>Don't know..... Z</p>	
LKP2	<p>What advice should you give to a mother on infant and young child feeding?</p> <p>DO NOT READ OUT ANSWERS.</p> <p><i>PROBE: ANYTHING ELSE?</i></p> <p>(Record all responses mentioned)</p>	<p>Initiation of Breastfeeding within an hour of birth A</p> <p>Breastfeed exclusively for the first six months.....B</p> <p>Introduce complementary foods at six months but continue to breast feed for the next two years C</p> <p>Other (specify) _____ X</p> <p>Don't know.....Z</p>	
LKP3	<p>What advice should you give to a mother caring for a sick infant at home?</p> <p>DO NOT READ OUT ANSWERS.</p> <p><i>PROBE: ANYTHING ELSE?</i></p> <p>(Record all responses mentioned)</p>	<p>Continue breastfeeding A</p> <p>Keeping the young infant warm B</p> <p>Taking the young infant to health facility in case of Danger Signs..... C</p> <p>Other (specify) _____ X</p> <p>Don't know..... Z</p>	
LKP4	<p>When should a mother take her sick young infant to the clinic or community health worker?</p> <p>DO NOT READ OUT ANSWERS.</p> <p><i>PROBE: ANYTHING ELSE?</i></p> <p>(Record all responses mentioned)</p>	<p>diarrhoea..... A</p> <p>convulsions..... B</p> <p>rapid breathing..... C</p> <p>fever..... D</p> <p>low body temperature E</p> <p>reduced movement or not moving at all F</p> <p>umbilicus red or draining pus G</p> <p>skin pustules H</p> <p>For vaccinations..... I</p>	

		Other (specify) _____ X Don't know..... Z	
LKP5	Do you have any material you use to counsel on essential newborn care?	Yes.....1 No.....2	
LKP6	Do you have any material you use to counsel on recognition of danger signs and prompt care-seeking practices?	Yes.....1 No.....2	

TREATMENT OF SICK YOUNG INFANTS			LTS
LTS1	In the past six months, how many sick newborns have you seen?	No.: ____ Don't Know.....9998 Yes..... 1 No..... 2	
LTS2	How do families care for their sick Young infant with serious illness? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (Record all responses mentioned)	Local Remedy..... A Doctor / GP..... B Went to Hakeem C Seek Help from LHW..... D Other (Specify) _____ X Don't know..... Z	
LTS3	Do you think families within the community have a good understanding of the services available for newborns at the Health Facility?	No.....2 Yes.....1	
LTS4	What is the recommended management for sick young infants with possible infection?	Referral to Health Facility1 Oral antibiotics.....2 Injectables.....3 Other (specify) _____ 6 Don't know.....8	
LTS5	What services do you provide during the PNC for mothers and	Support for BreastfeedingA	

	their babies at home? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (RECORD all responses mentioned)	Prevention of HypothermiaB Cord care with chlorhexidine.....C Post-natal check - mother D Post-natal check - new born E Other (specify) _____ X	
LTS6	What the families contact you to examine sick child outside their normal home visits?	Yes.....1 No.....2	

REFERRALS			LRF
LRF1	Do you refer sick young infants to the health facility?	Yes1 No2	LCE1
LRF2	How many suspected sick new borns were referred by you in the last 3 calendar months?	Number of children referred..... Don't know..... 998	
LRF3	When was the last time you referred sick young infants the health facility?	Less than one month ago 1 One to three months ago 2 More than three months ago..... 3	
LRF4	Did you use referral slip in triplicate?	Yes1 No2	
LRF5	For what reasons would you refer a child to the facility for treatment? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (Record all responses mentioned)	diarrhoea A convulsions/ fits..... B rapid breathing C fever..... D low body temperature E reduced movement or not moving at all F umbilicus red or draining pus G skin pustules H Other (specify) X Don't know..... Z	
LRF6	Did you receive a feedback slip from Health Facility?	Yes..... 1 No..... 2	
LRF7	What was the feedback of Mother?	Satisfied..... 1 Not Satisfied.....2	

LRF8	<p>Suppose that you identified sick young infant with serious illness and referred to the Health Facility and the family refuses referral, then how do you manage the patient?</p> <p>DO NOT READ OUT ANSWERS.</p> <p><i>PROBE: ANYTHING ELSE?</i></p>	<p>Convince the family by counselling A</p> <p>Start available treatment</p> <p>and reassess after 24-48 hours B</p> <p>Other (Specify)X</p>	
------	---	--	--

COMMUNITY ENGAGEMENT			LCE
LCE1	Is there a formal mechanism to engage with notables?	<p>Yes.....1</p> <p>No.....2</p> <p>Don't know.....8</p>	
LCE2	Is there a formal mechanism to engage with mother groups?	<p>Yes.....1</p> <p>No.....2</p> <p>Don't know.....8</p>	

LT2	Record the time the interview ends.	<p>___ : ___</p> <p>HOUR: MINUTE</p>
-----	-------------------------------------	--------------------------------------

Questionnaire for Incharge of Primary Healthcare Facility

PTI	Interview Starting Time:	<div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> <div>HOURS</div> <div>:</div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> <div>MINUTE</div>
-----	--------------------------	---

INFORMED CONSENT

Assalam O Alaikum! My name is _____. We are from the Bureau of Statistics, Planning & Development Department, Government of the Punjab. We are working in collaboration with the Primary & Secondary Healthcare Department, Government of the Punjab, to collect information on the patient care of young infants in the Public Health Facilities of Punjab. In this context, we would like to talk to you to better understand different issues regarding service delivery to the SYI. Responses and issues that arise during the discussion will not be attributed to any individual. The objective is to strengthen the services for these infants and performance of the service providers. This should take about 20 minutes.

THANK YOU

Interview of Sick Young Infant care at Primary Health Facility

POPULATION			PPC
PPC1	What is the catchment population for this facility?	Number: <div><div></div><div></div><div></div><div></div><div></div></div> Don't know..... 99998	
PPC2	How many Children under 5 years (0-59 months) old that are living in this Catchment Population ?	Number: <div><div></div><div></div><div></div></div> Don't know.....998	
PPC3	How many lady health workers are attached in this facility?	Number: <div><div></div><div></div></div> Don't know 98	

IDENTIFICATION		PID
PID1	Facility Name & Code _____ Code <input type="text"/> <input type="text"/>	
PID2	Interviewer Name & Code _____ Code <input type="text"/> <input type="text"/>	
PID3	Date of Interview _____ / _____ / _____ Day Month Year	
PID4	Respondent Name & Code _____ Code <input type="text"/> <input type="text"/>	
PID5	District Name & Code _____ Code <input type="text"/> <input type="text"/>	
PID6	Tehsil Name & Code _____ Code <input type="text"/> <input type="text"/>	
PID7	Village Name _____	
PID8	Supervisor Name & Code _____ Code <input type="text"/> <input type="text"/>	
PID9	RESULTS: Completed.....1 Not Available.....2 Partly Completed..... 3 Refused.....4 Others(specify).....6	

SERVICES IN THIS FACILITY			PSF
PSF1	What services have you provided for mother and child in your facility in the last month(calendar)? PROBE: ANYTHING ELSE? (Record all mentioned) (DO NOT READ OUT ANSWERS FOR RESPONDENT)	ANC..... A Natalcare (institutional delivery) B PNC..... C Immunization..... D FP..... E Treatment of SYI..... F Referral of Mother..... G Referral of Infants..... H Other (Specify) _____ X	
PSF2	During last Month what topics of counseling that you provided?	Counsel the mother on newborn	

		danger signs..... A Counsel the mother on danger signs in the post-partum period..... B Counsel the mother on essential newborn care..... C Nutrition COUNSELING..... D Others (Specify) X	
PSF2A	On what topics do you counsel the mothers? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (Record all responses mentioned)	Counselling on early initiation of Breastfeeding (within an hour) A Counselling on exclusive breastfeeding B Counseling to avoid hypothermia (Skin to skin care & Delayed bathing for 6 hours) C Counselling on use of Chlorhexidine Gel for Cord Care D Other (Specify)X	
PSF3	Does this facility provide treatment of infections for sick young infants (0 59DAY)?	Yes..... 1 No..... 2	

SUPERVISION

PSI1	Have Any personality checked your facility during the past 3 months?	Yes.....1 No.....2	
PFR	FACILITY RECORDS		
PFR1	Is the sick young infant register up to date (up to yesterday)?	Yes.....1 No.....2 Not available.....3	
PFR2	How many children (less than 1 years old) visited the Health facility in the last 3 calendar Months?	Numbers of Child Don't Know 998	
PFR3	How many young infant (0-59 Day) visits were made in the last 3 months?	Number of Child Don't know 998	
PFR4	How many Newborns (0-28 Day) child from their?	Numbers of Child Don't Know..... 998	

PFR5	How many newborns (0-28 Day) died in the last 3 calendar month?	Numbers of Child Don't Know 998	
PFR6	How many mothers died in the last 3 calendar months due to pregnancy and pregnancy related issues?	Numbers of Mothers..... Don't Know 998	
PFR7	How many deliveries were made in the last 3 calendar months?	Numbers of Mothers..... Don't Know 998	

REFERRALS			PRF
PRF1	How many newborns (0-28 days) has referred to a higher health facility level for treatment in the last 3 Calendar months?	Number of children..... No.....000 Don't know 998	⇒ PRF3 ⇒ PRF3
PRF2	How many newborns refused that referred to a higher health facility level for treatment in the last 3 months?	Number of children..... No..... 000 Don't know 998	
PRF3	Due to which reasons that you would refer a newborn to a higher health facility for treatment?	Not feeding well A Convulsions/ fits..... B Fast breathing..... C Severe chest in drawing D Fever (37.5 degrees Celsius or above)..... E Low body temperature (less than 35.5 degrees Celsius)..... F Movement only when stimulated or no movement at all..... G Any jaundice if age less than 24 hours H Yellow palms and soles at any age..... I Sunken eyes..... J Skin pinch goes back very slowly..... K Restless, irritable..... L Congenital anomalies..... M Cyanosis..... N Other (specify) X	

HEALTH WORKERS IN THE FACILITY			PHW
HW1	the following clinical staff is present to provide care for sick young infants in this facility		
	Clinical Staff	Available staff at OPD	IMNCI trained staff
	1	2	3
	Doctor		
	Nurse		
	LHV		
	Midwife		

EQUIPMENT AND SUPPLIES			PES
Now I would like to know about Equipment and supplies			
Essential Equipment (observe every equipment itself)			
PES1	ARI Timer	Available.....	1
		Available but non-functional	2
		Not available.....	3
PES2	Thermometer	Available.....	1
		Available but /non-functional.....	2
		Not available.....	3
PES3	Weighing Scale	Available.....	1
		Available but non-functional.....	2
		Not available.....	3
PES4	Safe Delivery Kit (SDK)	Available.....	1
		Available but non-functional	2
		Not available.....	3

PES5	Resuscitation trolley (Ambu Bag with mask, Bulb sucker, Catheter, Oxygen Cylinder & Manual Sucker)		
PES6A	MUAC Tape (For mother)	Available..... 1 Available but non-functional..... 2 Not available..... 3	
PES6B	MUAC Tape (for baby)	Available..... 1 Available but non-functional..... 2 Not available..... 3	
PES7	Do you have transportation for referral of sick young infants to higher level of care?		

Hospital Infection control (verify Everything itself)

PES8	Soap	Available..... 1 Not available..... 2	
PES9	Dustbin with lid	Available..... 1 Not available..... 2	
PES 10	Personal Protection Equipment (gloves, shoe cover, apron) (at least 3 should be present than record 1)	Available..... 1 Not available..... 2	
PES11	Sanitizer	Available..... 1 Not available..... 2	

MEDICATIONS FOR TREATMENT OF NEWBORN CONDITIONS (if medications are in a combined pack, tick yes for each medication in the pack)

		Does the facility have the following drugs available on the day of visit? (If one dose is expired in the lot, must record the answer as 2)	Has the facility experienced stock outs of any of the drugs in the previous month?
PES12	ORS (Low osmolality ORS)	Yes..... 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2
PES13	Zinc Sulphate (Tablets & Syrup)	Yes..... 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2
PES14	Intravenous solutions:	Yes..... 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2
PES15	Amoxicillin tablet/capsule	Yes..... 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2

PES16	Amoxicillin syrup	Yes 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2
PES17	Injection ampicillin	Yes 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2
PES18	Injection gentamicin/ Ampicillin	Yes 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2
PES19	Chlorhexidine gel	Yes 1 Yes, but expired..... 2 No..... 3	Yes..... 1 No..... 2
PT2	Record the time the interview ends.	HOUR : MINUTE ____ ____ : ____ ____	

Questionnaire for Sick Young Infant Care at Referral Healthcare Facility Level (DHQ or THQ)

RT1	Record the time the interview begins	
-----	--------------------------------------	--

INFORMED CONSENT

Assalam O Alaikum. My name is _____. I am from the Bureau of Statistics, Planning & Development Department, Government of the Punjab. We are working in collaboration with the Primary & Secondary Healthcare Department, Government of the Punjab, to collect information on the patient care of young infants in the Public Health Facilities of Punjab. In this context, we would like to talk to you to better understand different issues regarding service delivery to the SYI. Responses and issues that arise during the discussion will not be attributed to any individual. The objective is to strengthen the services for these infants and performance of the service providers. This should take about 20 minutes.

THANK YOU

Do you agree to participate?	Yes.....1 No.....2	RID9
------------------------------	-----------------------	------

Interview of Sick Young Infant care at Primary Health Facility

POPULATION COVERED			RPC
RPC1	What is the catchment population for this facility?	POPULATION..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DON'T KNOW..... 99998	
RPC2	Approximately how many children under 5 (0-59 months) years old are there in the area you cover?	NUMBERS..... <input type="text"/> <input type="text"/> DON'T KNOW..... 998	
RPC3	How many lady health workers are attached in this facility?	NUMBERS..... <input type="text"/> <input type="text"/> DON'T KNOW..... 98	

SERVICES PROVIDED IN THIS FACILITY			RSF
RSF1	What services have you provided to mother and child in your facility in the last month (calendar)? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE?	ANC.....A Natalcare (institutional delivery).....B PNC.....C Immunization.....D FP.....E Treatment of SYI.....F	

	(Record all responses mentioned)	Referral of Mother.....G Referral of Infants.....H Other (specify).....X	
RSF2	On what topics do you counsel the mothers in the last month (calendar)? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (Record all responses mentioned)	Counsel the mother on newborn danger signs.....A Counsel the mother on danger signs in the post-partum period.....B Counsel the mother on essential newborn care.....C Nutrition Counselling.....D Other (Specify)X	
RSF2A	What topic of ENC on which do you counsel the mothers?	Counselling on early initiation of Breastfeeding (within an hour) A Counselling on exclusive breastfeeding B Counseling to avoid hypothermia (Skin to skin care & Delayed bathing for 6 hours).....C Counselling on use of Chlorhexidini Gel for Cord CareD DON'T KNOW.....Z	

FACILITY RECORDS			RFR
RFR1	Is the sick young infant register up to date (up to yesterday)?	Yes..... 1 No 2 Register Not available.....3	
RFR2	How many sick young infants (less than 1 year) visits were made in the last 3 calendar months?	Numbers..... Don't know.....998	
RFR3	How many sick young infants (0-59) visits were made in the last 3 calendar months?	Numbers..... Don't know.....998	
RFR4	Of those young infants how many were newborns (0-28 days)?	Numbers..... Don't know.....998	
RFR5	How many Newborns (0-28 days) were referred from PHF in last 3 months?	Numbers..... Don't know.....998	
RFR6	Number of newborns who are referred to higher levels (last 3 calendar months)	Numbers..... Don't know.....998	
RFR7	How many Newborns (0-28days) were died in last 3 months?	Numbers..... Don't know.....998	
RFR8	How many Mothers were died in last 3 months during pregnancy?	Numbers..... Don't know.....998	
RFR9	How many Mothers were delivered babies in last 3 monthss?	Numbers..... Don't know.....998	

HEALTH WORK FORCE IN THE FACILITY											RHW
RHW1	Clinical staff providing care for sick young infants in this facility.										
	Clinical Staff	Number of available staff	Number of staff trained on IMNCI	Period since last batch trained (Months)	Number of staff trained of ENC	Number of staff trained of HBV	Number of staff trained of EMONC	Number of staff trained of EPHS	Number of staff trained of MSDS	Number of staff trained of PPFP / FP	
	1	2	3	4	5	6	7	8	9	10	
	1. Pediatrician										
	2. Gynecologist										
	3. Doctor										
	4. Nurse										
	5. Lady Health Visitor (LHV)										
	6. Midwife										
RHW2	Are IMNCI guidelines available with you? (If not available, revise column 3)				Yes.....1 (Please verify)			No.....2			
RHW3	How many SYI have been treated as per IMNCI protocols during the last calendar month?				Numbers 00			RES1			
RHW4	Please show the record (See standard Performa)				Available 1			Not available..... 2			

EQUIPMENT AND SUPPLIES			RES
Now I would like to understand more about resources and help that the facility provides for providing care for the sick young infants and parents/caretakers.			
RES1	Do you have Neonatal ICU?	Yes.....1 No.....2	
RES1A	Incubator	Available 1 Available but broken /non-functional 2 Not available3	
RES1B	Baby Warmer	Available 1 Available but broken /non-functional 2 Not available3	
RES1	Phototherapy Machine	Available 1 Available but broken /non-functional 2 Not available3	
RES1D	Neonatal ventilator	Available 1 Available but broken /non-functional 2 Not available3	
RES1E	Suction Machine	Available 1 Available but broken /non-functional 2 Not available3	
RES1F	Oxygen cylinder	Available 1 Available but broken /non-functional 2 Not available3	
RES1G	Pluse Oximeter	Available 1 Available but broken /non-functional 2 Not available3	
RES1H	cardiac Monitors	Available 1 Available but broken /non-functional 2 Not available3	
RES1I	Nebulizers	Available 1 Available but broken /non-functional 2 Not available3	
RES2	Resuscitation Trolley (Ambu Bag with mask, Bulb Sucker, catheter, Oxygen cylinder & Manual Sucker)	Available 1 Available but broken /non-functional 2 Not available3	
RES3A	MUAC (Mother Tape)	Available 1 Available but broken /non-functional 2 Not available3	

RES3B	MUAC (children Tape)	Available 1 Available but broken /non-functional 2 Not available3	
RES4	ARI Timer	Available 1 Available but broken /non-functional 2 Not available3	
RES5	Thermometer	Available 1 Available but broken /non-functional 2 Not available3	
RES6	Weighing Machine	Available 1 Available but broken /non-functional 2 Not available3	
RES7	Safe Delivery Kit (SDK)	Available 1 Available but broken /non-functional 2 Not available3	
RES8	Do you have transportation for referral of sick young infants to higher level of care?	Yes.....1 No.....2	

MEDICATIONS FOR NEWBORN CONDITIONS (if medications are in a combined pack, tick yes for each medication in the pack)

		Does the facility have the following drugs available on the day of visit? (If 1 day expire medicine record 2)	Has the facility experienced stock-outs of any of the drugs in the previous month?
RES9	ORS (Low osmolality ORS)	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES10	Zinc Sulphate (tablet and syrup)	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES11	Intravenous solutions	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES12	Amoxicillin tablet / capsule	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES13	Amoxicillin syrup	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2

RES14	Injection ampicillin	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES15	Injection gentamicin/ Amikacillin	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES16	Chlorhexidine gel	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES17	Injection Soluorteff / Hydrocortisone	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2
RES18	Injection Calcium gluconate	Yes..... 1 Yes, but expired2 No.....3	Yes.....1 No.....2

Hospital Infection Control (Self Inspection)

RES19	Soap	Available..... 1 Not available.....2	
RES20	Waste bin with lid	Available..... 1 Not available.....2	
RES21	Sanitizer	Available..... 1 Not available.....2	
RES22	Personal Protection Equipment (Gloves, shoe cover, apron, mask) (more than 3 tings are available tan record 1)	Available..... 1 Not available.....2	
RT2	Record the time at the end of interview	<div> <div> <div></div> <div></div> </div> <div>:</div> <div> <div></div> <div></div> </div> </div> HOURS: MINUTES	

Interview Guide for Policy Makers

Conduct interview with New born care focal person from Department of Health and ensure the person is familiar with policies and guidelines. Use a written or oral consent and guide the person through the interview.

Interviewed Person:

1. What are the available relevant policies and guidelines regarding the newborns?
 - a. including IMNCI protocols
 - b. task shifting / sharing guidelines
 - c. Has the sick young infant management been updated (reference should be made to IMNCI PROTOCOL FOR CHILDREN OF 0-59 DAYS)
 - d. If not, is there a plan to update it?
 - e. What support is required?
2. Have the pediatric association and Child Survival technical working group members been oriented and sensitized on revised WHO treatment guidelines?
3. Has there been refresher training for front-line (BHU/RHC) and referral (THQ/DHQ) facility health workers to ensure high quality management of sick young infants?
 - a. If not, what support is required?
4. Has there been any trainings of community health workers regarding care of sick young infants?
 - a. Training on EENC, HBB etc.
5. What innovative approaches can be used for supervision and referral, including “WHO Health” interventions?
6. What are the existing institutional mechanisms/plans for supportive supervision and clinical mentoring developed and implemented?
 - a. what support is required?
7. What has been done to improve planning for and procurement of essential PSBI drugs, equipment, and supplies in coordination with national supply chain management (SCM)/Logistics Management and Information System (LMIS) implementers?
 - a. Does the national drug list include pediatric formulation of gentamycin (20 mg/1ml or 40 mg/2ml)?
 - b. What support is required?
8. How is quality of care being improved through periodic feedback from mothers and communities? Is there any such mechanism.
 - a. Has there been experience using tested tools such as community scorecards, patient satisfaction surveys, and exit interviews?
 - b. What support is required?
9. Are health facility quality improvement (QI) teams established and supported on maternal and newborn health (MNH)?
 - a. How Quality of care for sick young infants can be ensured? What steps need to be taken?
10. How do you propose to scale up PSBI implementation throughout the province?
 - a. What resources and strategies are required to accomplish this?
11. In your experience do families refuse referral of sick newborns to higher health facilities in both rural and urban communities?

12. How PSBI Initiative will help improve the health and survival of newborns where referral is not possible?
13. In areas not having LHWs, how can community services/awareness be provided to communities?
14. What are the main reasons for high NMR in Punjab despite a good health system in place?
15. What are the major gaps in health service delivery for newborns?
16. What do u suggest should the government do to help achieve SDG targets?


Questionnaire for Women Who Have Recently Delivered

MT1	Record the time the interview begins	___ ___ / ___ ___ HOURS/MINUTES
-----	--------------------------------------	---------------------------------

INFORMED CONSENT

Assalam O Alaikum. My name is _____. I am from the Bureau of Statistics, Planning & Development Department, Government of the Punjab. We are working in collaboration with the Primary & Secondary Healthcare Department, Government of the Punjab, to collect information on the patient care of young infants in the Public Health Facilities of Punjab. In this context, we would like to talk to you to better understand different issues regarding the child's birth, birth preparedness and knowledge of danger signs. Responses and issues that arise during the discussion will not be attributed to any individual. The objective is to strengthen the services for these infants and performance of the health service providers. This should take about 20 minutes.

THANK YOU

Do you agree to participate?	Yes.....1 No.....2	 MID13
------------------------------	-----------------------	---

IDENTIFICATION		MID	
MID1	Identification: BHU..... 1 RHC..... 2 Community 3 (Answer „3“ won't answer MID4)	MID2	District Name & Code No: Name _____ Code No..... _____
MID3	Tehsil Name & Code No: Name _____ Code No..... _____	MID4	Primary Healthcare Facility: Name _____ Code _____
MID5	Village Name: _____	MID6	Interviewer Name & Code: Name _____ Code No _____
MID7	Supervisor's Name & Code: Name _____ Code ____	MID8	Mother's Name: _____
MID9	Child's Name: _____	MID10	Child's Birth Date: ____ / ____ / ____ Day Month Year
MID11	Child's Age If less than 30 days, record baby's age in days....1 ____ If greater than 30 days, record in weeks.....2 ____	MID12	Sex of Child Male 1 Female 2 Transgender 3
MID13	Result Completed:..... 1 Not available:..... 2 Partially completed:..... 3 Refused to complete:..... 4 Other (please specify):..... 6		

RESPONDENT CHARACTERISTICS			MRC
BIRTH PREPAREDNESS			MBP
<i>Now I would like to ask you some questions about you.</i>			
MRC1	What is your Date of Birth?	Month ____ ____ Don't know month.....98 Year ____ ____ ____ ____ Don't know year.....9998	
MRC2	How old are you? Compare and correct MRC1 and/or MRC2 if inconsistent.	Age in completed years ____ ____	
MRC3	What is your current marital status?	Married.....1 Formerly Married (divorced, widowed) 2 Separated.....3	
MRC4	Have you ever attended school?	Yes 1 No2	⇒ MRC6
MRC5	What is the highest class you completed?	Grade/Class completed ____ ____	
MRC5A	Check out which highest class she completed?	MRC5=0,1,2,3,4 or 5..... 1 MRC5=More than 6.....2	⇒ MRP1
MRC6	Now I would like you to read out as much of this sentence as you can. (Show card to the respondent) (For Class 5 or less)	Cannot read at all..... 1 Able to read parts of sentence..... 2 Able to read whole sentence 3 Card not available in particular language.....4	

Now I would like to ask you some questions about how you prepared for the arrival of your baby.

MBP3	What preparations did you make for the delivery?	Financial..... A Transport B	⇒ MBP1D
	How many times did LHW visit you during your pregnancy?	Numbers..... — — Don't know..... 98	
MBP1	Were you ever visited by a LHW during your last pregnancy?	Yes..... 1 No..... 2	
MBP1A	DO NOT READ OUT ANSWERS Probe: "Did you do anything else to	Identification of birth attendant..... C Identification of facilityD	
MBP1B	When did she visit you?	First Trimester (Pregnancy less than 3 months) A Second Trimester (pregnancy during 3 to 6 months) B Third Trimester (pregnancy 6 or more than 6 months) C	
MBP1C	Can you tell me about what she did during those visits? PROBE: ANYTHING ELSE? But do NOT prompt with any suggestions. (Circle all responses mentioned)	Counselling regarding diet..... A TT (Tetanus) injection/ Counselling regarding Immunization..... B Counselling regarding ANC at Health Facility C Counselling regarding mother feeding.....D Counselling regarding Family Planning after child birth E Providing Folic Acid during 1 st Trimester...F Providing Iron tablets during 2 nd Trimester..... G Other (Specify)..... X	
MBP1D	Has LHW ever visited your home to discuss health issues about mothers and babies?	Yes..... 1 No..... 2 Don't know8	
MBP2	During your last pregnancy did you make any preparations for your delivery?	Yes 1 No 2	⇒ MBP4
	prepare?" (Circle all responses)	Materials for clean delivery Identification of transport and facility in case of emergencyF Other (Specify) X	

MBP4	<p>Who did you plan to accompany you for your delivery?</p> <p>DO NOT READ OUT ANSWERS</p> <p><i>Probe: "Did you do plan anyone else to attend the delivery?"</i></p> <p>(Circle all responses)</p>	<p>Husband.....A</p> <p>MotherB</p> <p>Mother-in-law.....C</p> <p>Other relative.....D</p> <p>Traditional Birth Attendant.....E</p> <p>Lady Health Worker (LHW).....F</p> <p>Other (Specify)_____X</p> <p>No one.....Z</p>	
MBP4A	<p>Who accompany you for your delivery?</p> <p>DO NOT READ OUT ANSWERS</p> <p><i>Probe: "Did anyone else to attend the delivery?"</i></p> <p>(Circle all responses)</p>	<p>Husband.....A</p> <p>MotherB</p> <p>Mother-in-law.....C</p> <p>Other relative.....D</p> <p>Traditional Birth Attendant.....E</p> <p>Lady Health Worker (LHW)..... F</p> <p>Other (Specify)_____X</p> <p>No one..... Z</p>	
MBP5	<p>Where did you plan to deliver your child?</p>	<p>HOME</p> <p>Your home 1</p> <p>Other home 2</p> <p>PUBLIC SECTOR</p> <p>Govt. Health center(BHU/RHC)3</p> <p>Govt. Hospital(THQ/DHQ) 4</p> <p>Tertiary Hospital.....5</p> <p>Private Sector</p> <p>Private Health Facility 6</p> <p>Other (Specify)_____..96</p>	
MBP5A	<p>Where did you plan to deliver your child?</p>	<p>HOME</p> <p>Your home. 1</p> <p>Other home..... 2</p> <p>PUBLIC SECTOR</p> <p>Govt. Health center (BHU/RHC)3</p> <p>Govt. Hospital (THQ/DHQ) 4</p> <p>Tertiary Hospital.....5</p> <p>Private Sector</p> <p>Private Health Facility 6</p> <p>Other (Specify)_____..96</p>	

SERVICES PROVIDED BY LHW			MSP
Now I would like to ask you some questions about the knowledge provided by the LHW regarding newborns and during your PNC.			
MSP1	Did LHW (name) check or look at your baby?	Yes 1 No..... 2 NOT APPLICABLE3 DON'T KNOW..... 8	
MSP2A	Did LHW examine the cord?	Yes1 No.....2 NOT APPLICABLE3 DON'T KNOW8	
MSP2B	Did LHW TAKING TEMPERATURE?	Yes 1 No..... 2 DON'T KNOW..... 8	
MSP2C	COUNSELLING ON EARLY INITIATION (WITHIN 1 HOUR) OF BREASTFEEDING	Yes1 No.....2 NOT APPLICABLE3 DON'T KNOW..... 8	
MSP2D	COUNSELLING ON EXCLUSIVE BREASTFEEDING	Yes 1 No..... 2 NOT APPLICABLE.....3 DON'T KNOW..... 8	
MSP3	How much did (name) weigh at birth? <i>Birth weight taken within 7 days of delivery. Do not record if beyond the first week.</i> <i>Record weight from health card, if available.</i>	KG from card..... KG from recall..... Baby not weighed.....99.6 Don't know.....99.8	} MSP4
MSP4	When (name) was born, was he/she larger than average, smaller than average or average?	Larger than average 1 Average2 Smaller than average3 Don't know8	
MSP5	Sometimes mothers, after delivery, have severe illnesses and should be taken immediately to a health facility. What types of symptoms would cause you to go to a health facility right away? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (Circle all responses mentioned)	Excessive Vaginal Bleeding.....A Foul-Smelling Discharge.....B High Fever.....C Severe Abdominal pain.....D Convulsions.....E Other (Specify).....X Don't know.....Z	

MSP6	<p>Sometimes newborns, within the first month of life, have severe illnesses and should be taken immediately to a health facility.</p> <p>What types of symptoms would cause you to take your newborn to a health facility right away?</p> <p>DO NOT READ OUT ANSWERS.</p> <p><i>PROBE: ANYTHING ELSE?</i></p> <p>But do NOT prompt with any suggestions.</p> <p>(Circle all responses mentioned)</p>	<p>Convulsions.....A</p> <p>Fever.....B</p> <p>Poor suckling or feeding.....C</p> <p>Child has difficult/fast breathing.....D</p> <p>Baby feels cold.....E</p> <p>Baby too small or born too early.....F</p> <p>Redness/Discharge around cord.....G</p> <p>Red swollen eyes/discharge.....H</p> <p>Yellow palms/soles/eyes.....I</p> <p>Drowsiness/lethargy.....J</p> <p>Unconscious.....K</p> <p>Skin rash.....L</p> <p>Congenital anomalies.....M</p> <p>Diarrhoea.....N</p> <p>Cyanosis.....O</p> <p>Other (specify).....X</p> <p>Don't know.....Z</p>	
------	---	---	--

REFERAL			MRF
I would like to ask you some questions about why your baby was referred by the LHW.			
MRF1	When LHW visited your sick newborn, was the baby referred to a health facility?	<p>Yes.....1</p> <p>No.....2 ⇒ MRF16</p> <p>Newborn was not ill.....3 ⇒ MRF16</p>	
MRF2	Where was the baby referred?	<p>BHU.....1</p> <p>RHC.....2</p> <p>THQ.....3</p> <p>DHQ.....4</p> <p>Tertiary Hospital.....5</p> <p>Other (Specify)6</p>	
MRF3	How did you react when she advised you to go to the health post/center?	<p>Took the baby immediately.....1</p> <p>Took time to consult family members and then shifted later on.....2</p> <p>Refused to take the baby.....3</p>	

MRF4	<p>What kind of illness did your baby have? What danger signs?</p> <p>DO NOT READ OUT ANSWERS.</p> <p><i>PROBE: ANYTHING ELSE?</i></p> <p>(Circle all responses mentioned)</p>	<p>Diarrhoea.....A</p> <p>Convulsions.....B</p> <p>Fever.....C</p> <p>Child has difficult/fast breathing.....D</p> <p>Difficult/Rapid breathing.....E</p> <p>Hypothermia.....F</p> <p>Baby too small or born too early.....G</p> <p>Redness around cord/cord is draining pus.....H</p> <p>Red swollen eyes/discharge.....I</p> <p>Yellow palms/soles/eyes.....J</p> <p>Drowsiness/Lethargy.....K</p> <p>Unconscious.....L</p> <p>Skin rash.....M</p> <p>Congenital anomalies.....N</p> <p>CyanosisO</p> <p>Other (specify).....X</p> <p>Don't know.....Z</p>	
------	---	--	--

MRF4A	Check: If MRF3=3 then go to MRF7		
MRF5	Were you satisfied with the treatment provided at the primary health facility?	<p>Yes.....1</p> <p>No.....2</p>	⇒ MRF5
MRF6	Who made the final decision in your home regarding referral to the health post or health center for care?	<p>Self.....1</p> <p>Husband.....2</p> <p>Mother/Father.....3</p> <p>Mother in Law/Father in Law.....4</p> <p>Other Relative.....5</p>	
MRF7	Did you take your baby to the health facility referred by the LHW?	Yes.....1	MRF7
MRF7	Did you take your baby to the health facility referred by the LHW?	<p>Yes.....1</p> <p>No.....2</p>	⇒ MRF14
MRF8	How did you get there?	<p>Government provided Ambulance.....1</p> <p>Private Ambulance.....2</p> <p>By own.....3</p>	
MRF9	How did you arrange the payment?	<p>Saved little by little.....A</p> <p>Member of savings scheme.....B</p> <p>Borrowed.....C</p> <p>Sold livestock.....D</p> <p>Performed labor.....E</p> <p>Other (Specify)X</p>	

MRF7	Did you take your baby to the health facility referred by the LHW?	Yes.....1 No.....2	⇒MRF14
MRF8	How did you get there?	Government provided Ambulance.....1 Private Ambulance.....2 By own.....3	
MRF14	Why did you not bring your baby to the health facility? DO NOT READ OUT ANSWERS. PROBE: ANYTHING ELSE? (Circle all responses mentioned)	Financial Issues.....A Children alone at home.....B Unaware about the seriousness of the condition.....C Husband refused.....D Family members refused.....E Facility was too far.....F Unavailability of convenience.....G Other (Specify)X	
MRF15	If something like this happened again in the future, where would you prefer to go for treatment?	BHU.....A RHC.....B THQ.....C DHQ.....D Tertiary Hospital.....E Other (Specify)X	
MRF16	Does the baby's gender influence the decision regarding the acceptance of the referral?	Yes.....1 No.....2	



Annex-IV

Tables

List of Tables

Table L.1 : Population Coverage by LHW	114
Table L.2: Topics Covered in community IMNCI Training of LHWs	114
Table L.3: Knowledge Of LHW About Danger Signs of Newborn	114
Table L.4 : Knowledge of LHW about PSBI Management Protocols.....	115
Table L.5: Knowledge of LHW about ENC Counselling	115
Table L.6: LHW with Out-of-Stock Medicinal Supplies in Last three Months for Longer Than One Day (24 Hours)	115
Table L.7: Activities Carried Out in The Last Calendar Month by LHW	116
Table L.8: Causes of Referral by LHW.....	116
Table L.9 : Management of Referral Refusal of SYI at the Level of LHW.....	117
Table L.10: Monitoring/Supervision of LHW	117
Table P.1: Percentage Services Provided at PHF	117
Table P.2: ENC Counselling of Mothers at PHF	118
Table P.3: Availability of Equipment and Supplies at PHF	119
Table P.4: Availability of Medicines for Treatment of Newborn Illness	120
Table P.5: Reasons of Referrals to Higher Facility from PHF.....	121
Table R.1: Services Provided by the Referral Health Facility	122
Table R.2: Counselling of Mothers at Referral Facility.....	122
Table R.3: Inspection of Stock Out Medicines	122
Table M.1: Care provided by LHW to the mothers during ANC	123
Table M.2: Care and Counselling provided by LHW to the Mothers during PNC.....	123
Table M.3: Mode of Transportation to Reach at Referral Facility.....	123
Table M.4: Mother's Knowledge about Danger Signs of newborn	124
Table M.5: Reasons for Referral of Newborn	125
Table M.6: Mother's Response on Referral to HF.....	126
Table M.7: Satisfaction level of Mother about PHF treatment.....	126
Table M.8: Gender of Baby effect on Referral Decision.....	126
Table M.9: Counselling by LHW during ANC	127
Table M.10: Preparedness for Delivery.....	127

Tables

INTERVIEWS FOR POLICY MAKERS

Table L.1 : Population Coverage by LHW

Mean Number of Registered HH	Mean Number of Registered Population	Mean Number of U-5 Children	Mean Number of U-1 Children	Mean Number of Registered Pregnant Women with each LHW
237	1528	183	42	22

Table L.2: Topics Covered in community IMNCI Training of LHWs

Percentage of topics covered in community IMNCI training of LHWs									
	Register Pregnant Women	Promote Antenatal Care (ANC)	Promote Skilled Birth Attendants (SBAs)	Conduct Postnatal Care (PNC) Home Visits	Recognize Danger Signs and Promptly Refer	Conduct 4th Day Follow-Up Visits to SYI	Family Planning	EPI	Other
Punjab	88.0	79.7	52.6	69.9	56.4	43.6	75.2	66.2	7.5
BHU	86.4	81.4	52.5	69.5	55.1	44.1	74.6	65.3	7.6
RHC	100.0	66.7	53.3	73.3	66.7	40.0	80.0	73.3	6.7

Table L.3: Knowledge Of LHW About Danger Signs of Newborn

Percentage of knowledge of LHW about danger signs of newborn							
	Hypothermia	Asphyxia	Fever	Fits	Jaundice	Congenital anomalies	Cyanosis (blue coloration)
Punjab	52.3	59.8	85.6	67.4	65.2	50.0	70.5
BHU	47.9	60.7	84.6	66.7	62.4	51.3	68.4
RHC	86.7	53.3	93.3	73.3	86.7	40.0	86.7

Table L.4 :Knowledge of LHW about PSBI Management Protocols

Percentage of knowledge of LHW about PSBI management protocols.

	Referral to Health Facility	Oral Antibiotics	Injectables	Other	Percentage of LHWs having Knowledge to Manage SYI ¹
Punjab	86.5	33.2	6.2	4.3	90.2
BHU	86.9	33.2	5.9	4.0	90.5
RHC	83.3	33.3	8.3	6.7	88.3

¹ Indicator 2.8:LHW's Knowledge to Manage SYI**Table L.5: Knowledge of LHW about ENC Counselling**

Percentage of Knowledge of LHW about ENC Counselling.

	Early Initiation of Breastfeeding (within an hour)	Exclusive Breastfeeding	Avoiding hypothermia (skin to skin care & delayed bathing for 6 hours)	Use of Chlorhexidine Gel for Cord Care	Counselling the Mother on Newborn Danger Sign
Punjab	97.6	87.8	51.2	67.5	56.9
BHU	98.2	87.3	50.0	68.2	58.2
RHC	92.3	92.3	61.5	61.5	46.2

Table L.6: LHW with Out-of-Stock Medicinal Supplies in Last three Months for Longer Than One Day (24 Hours)

Percentage of LHW with out-of-stock medicinal supplies in last three months for longer than one day (24 hours).

		Punjab	BHU	RHC
Zinc Sulphate (tablet/syrup)	Yes	68.7	69.8	60.0
	No	31.3	30.2	40.0
ORS (Low osmolarity)	Yes	40.9	40.0	48.3
	No	59.1	60.0	51.7
Iron folic acid tablets	Yes	65.3	67.2	50.0
	No	34.7	32.8	50.0
MMS (Multi Micronutrient Supplement) Sachet	Yes	42.4	43.1	36.7
	No	57.6	56.9	63.3
Antibiotics (e.g., amoxicillin syrup/dispersible tablet)	Yes	66.0	67.0	58.3
	No	34.0	33.0	41.7

Table L.7: Activities Carried Out in The Last Calendar Month by LHW

Percentage of activities carried out in the last calendar month by lady health workers.

	Registered all pregnant women	Made antenatal visits to pregnant women	Made visits for Immunization	Made visits for birth plan to ensure Skilled Birth Attendance	Made visits for PNC	Conducted Nutrition Screening	Identification of SYI	Counselling of mothers on danger signs in SYI	Counselling on PFP/FP	Provision of FP medications (verify from record)	Provision of common medications (verify from record)	Referred to Health Facility	Conducted Health Education Session in your community (verify from diary)	Percentage of LHWs who performed essential activities in the last (calendar) month ¹
Punjab	84.8	78.6	85.9	34.3	52.5	54.8	16.9	25.7	46.2	58.5	50.3	41.8	41.3	5.3
RHC	88.3	86.7	83.3	28.3	40.0	58.3	18.3	18.3	46.7	50.0	48.3	40.0	36.7	3.3

¹ Indicator 2.3: Essential activities of LHWs

Table L.8: Causes of Referral by LHW

Percentage of causes of referral by lady health workers.

	Diarrhoea	Convulsions/ fits	Rapid Breathing	Fever	Low body temperature	Reduced Movement or Not Moving at All	Umbilicus Red or Draining Pus	Skin Pustules	Other
Punjab	84.9	42.9	73.1	88.8	25.3	21.1	27.7	24.2	25.0
BHU	85.0	42.0	73.9	88.9	24.8	21.7	27.2	24.1	24.8
RHC	84.2	50.9	66.7	87.7	29.8	15.8	31.6	24.6	26.3

Table L.9 :Management of Referral Refusal of SYI at the Level of LHW

Percentage of management of referral refusal of SYI at the level of LHW.

	Convince the Family by Counselling	Start available treatment and reassessed after 24-48 hours	Other
Punjab	97.1	16.8	3.9
BHU	97.2	16.3	3.9
RHC	96.5	21.1	3.5

Table L.10:Monitoring/Supervision of LHW

Percentage of LHWs who are supervised by lady health supervisor and anyone else.

	Supervisory Visit from LHS		Supervisory Visit from Anyone else in the Last Three (calendar) Months	
	Yes	No	Yes	No
Punjab	95.5	4.5	23.5	76.5
BHU	95.8	4.2	24.3	75.7
RHC	93.3	6.7	16.7	83.3

Table P.1:Percentage Services Provided at PHF

Percentage of services provided at primary healthcare facility.

	ANC	Natal care	PNC	Immunization	FP	Treatment of SYI	Referral of Mother	Referral of Infants	Other
Punjab	93.6	87.3	87.3	92.5	77.2	63.3	60.7	52.8	5.6
BHU	93.7	86.5	86.5	93.2	76.8	62.4	58.6	49.8	5.9
RHC	93.3	93.3	93.3	86.7	80.0	70.0	76.7	76.7	3.3

Table P.2: ENC Counselling of Mothers at PHF

Percentage of ENC counselling of mothers at PHF.

	Counselling on early initiation of Breastfeeding (within an hour)	Counselling on exclusive Breastfeeding	Counselling to avoid hypothermia	Counselling on use of chlorhexidine Gel for Cord Care.	Other
Punjab	70.4	73.8	71.5	83.5	14.2
BHU	70.0	73.8	71.3	82.7	14.8
RHC	73.3	73.3	73.3	90.0	10.0

Table P.3: Availability of Equipment and Supplies at PHF

Percentage of availability of equipment and supplies at PHF.				
		Punjab	BHU	RHC
ARI Timer	Available	20.5	20.8	17.9
	Available but non functional	0.8	0.9	0.0
	Not Available	78.7	78.3	82.1
Thermometer	Available	96.5	96.0	100.0
	Available but nonfunctional	0.0	0.0	0.0
	Not Available	3.5	4.0	0.0
Weighting Scale	Available	92.9	92.9	92.9
	Available but nonfunctional	3.1	3.5	0.0
	Not Available	3.9	3.5	7.1
Safe Delivery Kit (SDK)	Available	74.4	74.8	71.4
	Available but nonfunctional	0.4	0.4	0.0
	Not Available	25.2	24.8	28.6
Resuscitation trolley (Ambu bag with mask, bulb sucker, catheter, oxygen cylinder, manual sucker)	Available	88.6	87.2	100.0
	Available but nonfunctional	1.2	1.3	0.0
	Not Available	10.2	11.5	0.0
MAUC Tape (Mothers)	Available	67.7	65.0	89.3
	Available but nonfunctional	0.0	0.0	0.0
	Not Available	32.3	35.0	10.7
MAUC Tape (Babies)	Available	68.1	65.5	89.3
	Available but can't be used	0.0	0.0	0.0
	Not Available	31.9	34.5	10.7
Ambulance for referral of sick young infants to higher level of care	Available	38.6	35.8	60.7
	Not Available	61.4	64.2	39.3
Soap	Available	96.9	96.5	100.0
	Not Available	3.1	3.5	0.0
Waste bin with lid	Available	94.5	94.2	96.4
	Not Available	5.5	5.8	3.6
Personal Protection Equipment (gloves, shoe cover, apron, mask)	Available	77.6	77.0	82.1
	Not Available	0.0	0.0	0.0
Sanitizer	Available	39.4	38.5	46.4
	Not Available	60.6	61.5	53.6

Table P.4: Availability of Medicines for Treatment of Newborn Illness

Percentage of availability of medicines for treatment of newborn illness.				
		Punjab	BHU	RHC
ORS (Low osmolarity)	Yes	83.9	84.8	76.7
	Yes, but expired	1.1	1.3	0.0
	No	10.1	9.3	16.7
Zinc Sulphate (tablet/syrup)	Yes	69.3	71.3	53.3
	Yes, but expired	0.0	0.0	0.0
	No	25.8	24.1	40.0
Intravenous solutions	Yes	89.9	90.3	86.7
	Yes, but expired	0.4	0.4	0.0
	No	4.9	4.6	6.7
Amoxicillin tablet/ capsule	Yes	86.5	87.8	76.7
	Yes, but expired	0.4	0.4	0.0
	No	8.2	7.2	16.7
Amoxicillin syrup	Yes	86.5	87.3	80.0
	Yes, but expired	0.4	0.4	0.0
	No	8.2	7.6	13.3
Injection ampicillin	Yes	70.0	74.7	33.3
	Yes, but expired	0.0	0.0	0.0
	No	25.1	20.7	60.0
Injection gentamicin/amikacin	Yes	34.8	32.9	50.0
	Yes, but expired	0.0	0.0	0.0
	No	60.3	62.4	43.3
Chlorhexidine gel	Yes	36.3	36.3	36.7
	Yes, but expired	0.4	0.4	0.0
	No	58.4	58.6	56.7

Table P.5: Reasons of Referrals to Higher Facility from PHF

Percentage of Reasons of Referrals to higher facility from PHF			
	Punjab	BHU	RHC
Convulsions	64.6	63.7	71.4
Not Feeding Well	54.3	52.7	67.9
Fever (37.5 degrees Celsius or above)	53.1	52.7	57.1
Severe chest in drawing	47.6	45.6	64.3
Child has difficult/fast breathing	86.2	86.3	85.7
Low body temperature (less than 35.5 degrees Celsius)	35.4	35.0	39.3
Movement only when stimulated or no movement at all	39.4	37.6	53.6
Any jaundice if age less than 24 hours	50.8	50.9	50.0
Sunken eyes	23.2	23.5	21.4
Yellow palms and soles at any age	28.0	26.5	39.3
Restless, irritable	13.4	11.9	25.0
Skin pinch goes back very slowly	28.7	27.4	39.3
Congenital anomalies	60.6	60.6	60.7
Cyanosis (blue coloration)	54.7	55.3	50.0
Other (Specify)	16.1	16.8	10.7
Don't Know	0.8	0.9	0.0

Table R.1: Services Provided by the Referral Health Facility

Percentage of services provided by the referral health facility.	
ANC	100
Natal care (institutional delivery)	100
PNC	92.9
Immunization	100
Family Planning	100
Treatment of SYI	92.9
Mother Referral	64.3
Child Referral	57.1
Others (Specify)	7.1

Table R.2: Counselling of Mothers at Referral Facility

Percentage of counselling of mothers at referral facility.	
Counsel the mother on newborn danger signs	85.7
Counsel the mother on danger signs in the post-partum period	92.9
Counsel the mother on essential newborn care (ENC)	85.7
Nutrition Counselling	100

Table R.3: Inspection of Stock Out Medicines

Percentage of inspection of stock out medicines at referral facility.		
	Yes	No
ORS (Low osmolarity ORS)	100.0	0.0
Zinc Sulphate (syrup/dispersible tablet)	92.9	7.1
Intravenous solutions	100.0	0.0
Amoxicillin tablet/ capsule	92.9	7.1
Amoxicillin syrup	92.9	7.1
Injection ampicillin	64.3	35.7
Injection gentamicin/amikacillin	85.7	14.3
Chlorhexidine gel	35.7	64.3
Injection Soluortecff/Hydrocortisone	92.9	7.1
Injection Calcium Gluconate	85.7	14.3

Table M.1: Care provided by LHW to the mothers during ANC

Percentage of Visits of LHW during first, second and third trimester of ANC.

	First Trimester	Second Trimester	Third Trimester	Pregnant women visited by LHW in all trimester ¹
Punjab	87.1	94.1	94.9	81.2
BHU	85.6	93.0	95.9	80.4
RHC	85.5	96.4	90.9	80.0
Community	88.0	94.5	94.5	81.8

¹ Indicator 1.1: Pregnant women visited by LHW**Table M.2: Care and Counselling provided by LHW to the Mothers during PNC**

Percentage of care and counselling provided by LHW to the mothers during PNC.

	Baby Assessed	Examine Cord	Temperature	Early Initiation of Breast Feeding	Exclusive Breast Feeding	Weighed
Punjab	77.6	74.3	69.2	63.6	78.8	53.8
BHU	79.4	77.1	72.8	66.9	80.5	53.1
RHC	71.7	70.0	55.0	56.7	70.0	55.0
Community	76.9	73.0	68.1	62.1	78.4	54.1

Table M.3: Mode of Transportation to Reach at Referral Facility

Percentage of mode of transportation to reach at referral facility.

	Government provided Ambulance	Private Ambulance	By own
Punjab	11.7	2.7	85.6
BHU	5.0	1.7	93.3
RHC	9.1	0.0	90.9
Community	14.0	3.2	82.8

Table M.4: Mother's Knowledge about Danger Signs of newborn

Percentage of mother's knowledge about danger signs of newborn.				
	Punjab	BHU	RHC	Community
Convulsions	24.0	25.3	25.0	23.2
Fever	84.6	84.3	90.0	84.4
Poor suckling or feeding	32.2	31.0	41.7	32.1
Child has difficult/fast breathing	39.5	36.9	51.7	40.0
Baby feels cold	22.9	24.2	20.0	22.3
Baby too small or born too early	7.3	7.0	6.7	7.5
Redness/Discharge around cord	15.7	13.8	20.0	16.6
Red swollen eyes/discharge	7.7	7.2	3.3	8.3
Yellow palms/soles/eyes	18.1	18.5	25.0	17.4
Drowsiness/lethargy	5.9	4.9	8.3	6.3
Unconscious	5.3	5.9	5.0	4.9
Skin rash	12.9	13.6	11.7	12.5
Congenital anomalies	12.0	11.5	20.0	11.7
Diarrhoea	61.4	60.5	63.3	61.7
Cyanosis (blue coloration)	20.6	21.9	20.0	19.8
Other (Specify)	3.5	4.0	5.0	3.1
Don't Know	7.0	7.4	3.3	7.0

Table M.5: Reasons for Referral of Newborn

Percentage of reasons for referral of newborn.				
	Punjab	BHU	RHC	Community
Convulsions	5.3	1.4	0.0	6.8
Fever	46.4	52.1	16.7	46.2
Poor suckling or feeding	12.5	12.7	0.0	13.1
Child has difficult/fast breathing	19.4	12.7	0.0	22.6
Baby feels cold	2.6	1.4	0.0	3.2
Baby too small or born too early	3.0	2.8	8.3	2.7
Redness/Discharge around cord	4.6	5.6	8.3	4.1
Red swollen eyes/discharge	2.6	2.8	0.0	2.7
Yellow palms/soles/eyes	8.9	9.9	8.3	8.6
Drowsiness/lethargy	3.0	2.8	0.0	3.2
Unconscious	2.3	4.2	0.0	1.8
Skin rash	5.9	7.0	0.0	5.9
Congenital anomalies	2.3	4.2	0.0	1.8
Diarrhoea	34.5	35.2	33.3	34.4
Cyanosis (blue coloration)	3.3	1.4	0.0	4.1
Other (Specify)	10.9	14.1	41.7	8.1

Table M.6: Mother's Response on Referral to HF

Percentage of mother's response on referral to healthcare facility.			
	Took the baby immediately	Consult	Refused to take the baby
Punjab	73.7	14.1	12.2
BHU	70.4	14.1	15.5
RHC	75.0	16.7	8.3
Community	74.7	14.0	11.3

Table M.7: Satisfaction level of Mother about PHF treatment

Percentage of satisfaction level of mother about PHF treatment.		
	Satisfied	Not Satisfied
Punjab	85.7	14.3
BHU	88.0	12.0
RHC	66.7	33.3
Community	86.1	13.9

Table M.8: Gender of Baby effect on Referral Decision

Percentage of effectiveness of gender on referral.		
	Yes	No
Punjab	10.3	89.7
BHU	12.3	87.7
RHC	6.7	93.3
Community	9.4	90.6

Table M.9: Counselling by LHW during ANC

Percentage of counselling by LHW during ANC.									
	Counselling regarding diet	TT Injection/ Counselling regarding Immunization	Counselling regarding ANC at Health Facility	Counselling on breastfeeding	Counselling on adhering to Family Planning (FP) after birth	Provision of folic acid during first trimester	Provision of iron tablets during second trimester	Other (Specify)	Counselling by LHW on four important contents of ANC ²
Punjab	80.6	81.2	63.3	45.2	24.8	60.6	63.0	3.7	10.9
BHU	78.8	82.4	61.3	44.8	26.6	60.4	63.1	4.3	12.2
RHC	78.2	74.5	60.0	45.5	27.3	58.2	63.6	5.5	14.5
Community	81.8	80.9	64.8	45.4	23.5	61.0	62.9	3.3	9.9

¹ Indicator 1.2: Extensive care provided by LHW

Table M.10: Preparedness for Delivery

Percentage of preparedness for delivery.							
	Finance	Transport	Identification of birth attendant	Identification of place of delivery	Arrangement of materials for clean delivery	Arrangement of transport and place in case of emergency	Other
Punjab	77.7	78.8	61.7	44.1	23.8	59.2	3.5
BHU	74.9	79.4	59.4	44.1	26.2	58.2	3.9
RHC	71.4	69.6	58.9	42.9	23.2	55.4	5.4
Community	79.8	79.1	63.3	44.3	22.5	60.0	3.1

INTERVIEWS FOR POLICY MAKERS

- Program Director Policy and Strategic Planning Unit, Primary and Secondary Healthcare Department
- Program Director Hepatitis Control Program
- Additional Director Technical, Primary and Secondary Healthcare Department
- Additional Director Training, IRMNCH &NP
- Additional Director Technical, Policy and Strategic Planning Unit, Primary and Secondary Healthcare Department
- Director Admin, DG Health Office, Lahore



PROGRAM DIRECTOR
INTEGRATED REPRODUCTIVE MATERNAL
NEWBORN & CHILD HEALTH (IRMNCH) &
NUTRITION PROGRAM, PUNJAB

5-Montgomery Road, Lahore
Phone 042-99205325-31 Fax. 042-99205329
E-mail: pc.punjab@gmail.com



No. 10653-73 /IRMNCH

Dated Lahore the 24th May, 2018

To

All participants
(List attached)

Subject:- **MINUTES OF MEETING OF CHILD SURVIVAL TECHNICAL
WORKING GROUP MEETING TO DISCUSS "POSSIBLE
SERIOUS BACTERIAL INFECTION (PSBI) INITIATIVE**

Kindly refer to subject cited above.

Enclosed find herewith minutes of meeting of Child Survival Technical Working Group Meeting held on 15th May, 2019 to discuss "Possible Serious Bacterial Infection (PSBI) initiative.

Naem Majeed
Additional Director (Trainings)

IRMNCH & Nutrition Program, Punjab

No. 10674 /IRMNCH

Dated Lahore the 24th May, 2018

A copy is forwarded for information to:-

1. The Director General Health Services, Punjab Lahore

Naem Majeed
Additional Director (Trainings)
IRMNCH & Nutrition Program, Punjab

MINUTES OF MEETING

Meeting: Child Survival Technical Working Group Meeting to discuss "Possible Serious Bacterial Infection (PSBI) initiative".

Date: 15.5.2018 **Time:** 10.00am-12.30pm

Venue: Board Room B, Falettis Hotel.

PRECEEDINGS OF MEETING:

- Meeting was chaired by Dr Akhtar Rashid, Director Operations IRMNCH &NP and attended by leading pediatricians from teaching hospitals of Lahore, microbiologists, representatives from PSPU Primary and Secondary Healthcare Department, Representatives from UNICEF, WHO and BOS. (Participants list attached)
- Following recitation from Holy Quran, there was a round of Introduction
- Dr. Yahya Gulzar (WHO) explained Pakistan's experience of PSBI in Sindh. Treating 0-59 days sick young infants with antibiotics (gentamicin and amoxicillin) at the primary healthcare facilities, where referral was not possible, was successful in Sindh. Caretakers of about 85% newborns refused referral and those 0-59 Days infants were managed at Primary healthcare facility with only 1 death reported among 423 newborn suffering from clinically severe infection and 1 death among 847 newborns suffering from pneumonia. Most of the participants expressed their satisfaction over this method of treating infants where referral was not possible.
- Dr. Tahir Manzoor (Health Specialist UNICEF) gave an overview about managing possible serious bacterial infection (PSBI) initiative where referral is not possible. He stated that looking at very high NMR in Pakistan, we need to adopt latest recommendations by WHO, for managing sick newborns with PSBI at primary healthcare facilities, who refuse referral. He discussed PSBI related principal policy questions that were finalized in the previous meeting held on 6th March 2018 with the participants. Participants agreed that only trained doctors and trained LHVs should manage newborns suffering from PSBI at primary healthcare facilities. This was followed by a debate on antibiotic resistance and antibiotics of choice for newborns, a major policy decision pending from the previous technical working group meeting.
 1. Concern was raised that resistance to antibiotics is common in tertiary care hospitals due to misuse of medicines. Some of the participants however were of the view that resistance maybe more common in tertiary hospitals where children come after getting treatment from various place and with different antibiotics but this may not be the case in rural communities. Possibility of having a clinical study and doing blood cultures was discussed but was not approved due to complexities involved and in the presence of data from Sindh.
 2. One of the participants were of the view that Gentamicin is not in use now days and it has ototoxic and nephrotoxic side effects. However, some other participants told that Gentamicin is still in use even at tertiary care hospitals and both Amikacin and Gentamicin are equally ototoxic and nephrotoxic. However, if patients are adequately hydrated and staff trained on its usage, this problem rarely arises. One of the participants told that

List of participant Child Survival TWG Meeting

- Ch. Sajid Rasul, Director General, Bureau of Statistics Punjab
- Dr. Akhtar Rashid, Director Operations IRMNCH &NP, Primary and Secondary Healthcare Department.
- Dr. Nadeem Zaka, APD (T) PSPU, Primary and Secondary Healthcare Department.
- Dr. Naeem Majeed, Additional Program Director Training, IRMNCH &NP
- Professor Dr. Tariq Bhutta, Pediatrician, Chairman NITAG.
- Professor Shakeela Zaman, Public Health Department, UHS.
- Professor Iftikhar Ejaz, Pediatrics Department KEMU, Lahore.
- Dr. Irfan Waheed, Neonatologist, Children Hospital, Lahore.
- Dr. Shehla Javaid, Associate Professor Microbiology SIMS.
- Dr. Rameeza Kaleem, Associate Professor, Preventive Pediatrics SGRH.
- Dr. Khalida Amir, Preventive Pediatrics Children Hospital, Lahore
- Dr. Faiz Ahmed Raza, Senior Research Officer Microbiology, Pakistan Health Research Council
- Ms. Abida Bashir, Research Associate, PSPU
- Dr. Yahya Gulzar, WHO
- Mr. Shams-ul-huda, Deputy Director, Bureau of statistics Punjab
- Mr. Sheraz, Deputy Director, Bureau of Statistics Punjab.
- Ms Shaista Ashraf, Statistical officer, Bureau of Statistics Punjab
- Mr. Muhammad Farooq, Statistical officer, Bureau of Statistics Punjab
- Mr. Isaac Shahzad, Statistical officer, Bureau of Statistics Punjab
- Dr. Tahir Manzoor, Health Specialist, UNICEF, Punjab
- Dr. Naila Shahid, MCH Officer, UNICEF, Punjab
- Dr. Saira Khan, Health Officer, UNICEF Punjab.

Bureau of Statistics Punjab

65-Trade Center Block

M.A Johar Town, Lahore

Tel: +92 (42) 9923917-19

Fax: +92 (42) 99232903

Eai;: bureau.info@bos.gop.pk