Policy Brief:
From Evidence
to Action

Country Assessment on Stillbirths, Newborn Deaths and Small & Sick Newborn Care: *Recommendations for Action*

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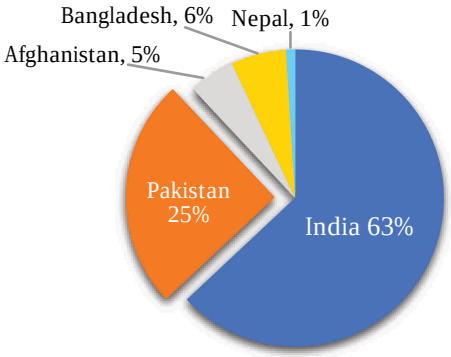
Context and Background

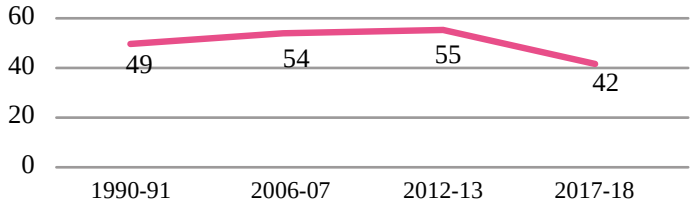
Pakistan, alongside India accounts for 86% of the newborn deaths in South Asia (Fig 1). Neonatal mortality rate in the country has not significantly declined in last two decades (Fig. 2). The country also has the highest stillbirth rate (43.1 stillbirths per 1000 total births compared to a global estimate of 18.4). Despite the high occurrence of stillbirths in the country, it has remained a neglected health issue and is underreported across the nation (Fig. 3).

Figure 1: Distribution of Newborn Deaths in South Asia, 2016



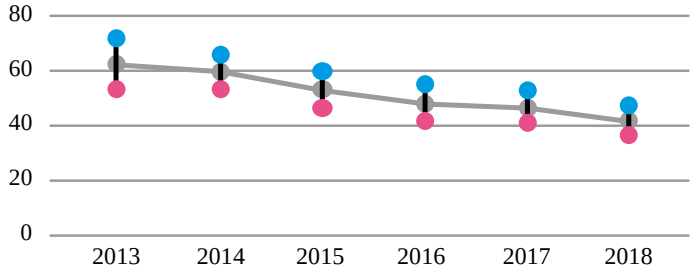
Source: South Asia Headline Results 2018-2021 UNICEF

Figure 2: Trends of Neonatal Mortality Rates in Pakistan



Source: Pakistan Demographic and Health Survey

Figure 3: Rate of Stillbirths (per 1000 Deliveries) in Thatta



Source: Maternal and Newborn Health Registry-Thatta
(Department of Community Health Sciences- Aga Khan University, Pakistan)

Summary

What is Known About the Topic?

- Neonatal mortality has remained stagnant in Pakistan during 2012-2018.
- Stillbirth is a neglected issue in the country.

What does this Research & Policy Brief Add?

It presents the landscape of in-patient care of sick newborn and young infants in Pakistan. The findings depict good practices, strengths and gaps in four major areas: (1) Newborn and Young Infant (NYI) Care (2) Caregivers' Perspective on Care Provided to NYIs (3) Secondary Data Analysis of Stillbirths & Neonatal Deaths in Pakistan and (4) Strategies, Policies and Guidelines related to NYIs in Pakistan.

- Findings demonstrated that the majority of the facilities have the infrastructure in place to provide services for NYIs. However, it is inadequately staffed with specialist cadres and essential equipment. Quality assurance activities are also lacking in most of the facilities. None of the facilities have consolidated statistics on stillbirths.
- Caregivers were satisfied with staff behavior, but they are faced with very high out-of-pocket expenditures especially related to transportation cost.
- Findings from the desk review demonstrated that Pakistan contributes to 7% of the global neonatal deaths with high stillbirth rates in the region.
- MNCH guidelines and strategies have not adequately addressed all the essential standards of in-patient care for NYIs.

What Policy Options are Proposed?

Actions at MONHSR&C level

Develop coordination mechanisms between MONHSR&C and Provincial Departments of Health (DOH) in areas of MNCH and support provinces lagging behind on all aspects of in-patient Care of NYIs.

Actions at Provincial Level

Develop an action plan as part of health sector strategy to enhance performance across all components of the health system. This includes, increasing budgetary allocation to strengthen in-patient care for NYIs, availability of specialist cadres with well-equipped neonatal care units, develop consensus and standardize definition of stillbirths and classification of neonatal deaths, standardize reporting formats for stillbirths and newborn care indicators and develop preventive maintenance plans for essential equipment etc.

The Situation Analysis for Stillbirths, Newborn Deaths and Small and Sick Newborn Care in Pakistan is part of the UNICEF global initiative to understand the status of in-patient care of sick NYIs in low-and-middle-income countries.

Objectives

- Assess the service availability, quality and readiness of in-patient care of small and sick newborns in Pakistan.
- Assimilate the available information on the rates and risk factors and causes of stillbirths and neonatal deaths in Pakistan.

Assessment Methods

The assessment was conducted in 23 health care facilities (District Health Quarters and Tertiary Health Care Facilities) across the country (Table 1).

The study was conducted by using multiple sources of data. (Table 2)

Table 1. Districts included in the Assessment

Regions	Districts
Baluchistan	Quetta, Sibi & Jaffarabad
Khyber Pakhtunkhwa	Peshawar, Swat, Dera Ismail Khan, Lower Dir & Bajour
Sindh	Karachi, Larkana, Khairpur & Jacobabad
Punjab	Lahore, Vehari, Bahawalnagar, Chakwal, Hafizabad & Mianwali
Azad Jammu & Kashmir	Poonch & Bagh
Gilgit Baltistan	Gilgit
Islamabad Capital Territory	Islamabad

Table 2. Sources of Data

1. Health Facility Survey
2. Key Informant Interviews with senior officials of the Federal Ministry of Health, Director Generals of Provincial Health Departments, Maternal Neonatal and Child Health Program Directors/ Managers, Medical Superintendents of hospitals, healthcare providers and caregivers of NYIs.
3. Caregivers of NYIs (admitted) at in-patient care settings.
4. Desk review of published and grey literature on stillbirths, neonatal deaths, policies, strategies and guidelines on maternal, neonatal and child health.

Key Findings

1. Newborn and Young Infant Care

The assessment identified some good practices and several gaps and challenges; summarized in the following tables.

Strengths	
Facilities have at least one Pediatrician	100%
Facilities have access to ambulance services	100%
Facilities have radiant warmers and incubators	96%
Facilities have services in placed for NYIs	86%
Facilities have Special Care Units	83%

Gaps and Challenges	
Reviewed records lack documentation on danger signs	83%
Facilities do not receive feedback on referral out cases	77%
Facilities do not have Neonatal Nurses and Neonatologists	69%
Facilities do not monitor nosocomial infection rates	65%
Facilities lacked Kangaroo Mother Care Units	61%
Facilities do not undertake neonatal death audits	57%
Facilities have compiled statistics on stillbirths	0%

Discrepancies emerged in the perceptions of national and provincial key respondents related to political will and commitment to improve NYIs and existing coordination mechanism in general.

Table 3. Quality Assurance Activities Related to In-patient Care of Newborn & Young Infants (n=23)

Parameters	Total (%)	AJK (n=2)	Baluchistan (n=4)	GB (n=1)	ICT (n=1)	KP (n=5)	Punjab (n=6)	Sindh (n=4)
Monitoring of nosocomial infection rates	35%	2			1	2	3	
Conduct of quality assurance activities	57%	2	2		1	1	5	2
Accreditation/ certification program by facilities	27%	1	1				3	1
Baby friendly designated facility	39%	0	3		1		2	3

Table 4. Availability of Specialist Cadres (n=23)

Specialists	*Percent*
Pediatricians	100%
Neonatologists	13%
Neonatal Nurses	13%
Neonatal Surgeons	9%

Table 5. Services and Interventions Available for NYIs at the Health Facilities (n=23)

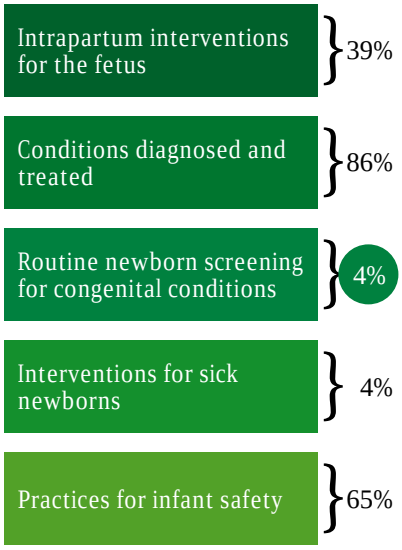
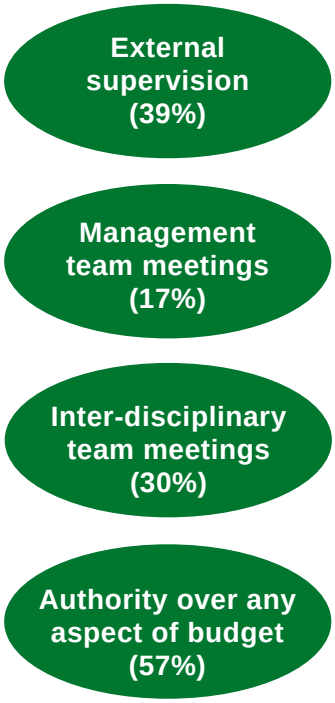


Figure 4. Facility Management Practices (n=23)



2. Caregivers' Perspective Related to Newborn and Young Infant Care

Caregivers' perception were sought on their experiences and challenges with regards to the NYIs care at the health care facilities. Most of the caregivers were satisfied with doctors' and nurses' behavior, as most of them perceived that they were treated with respect and sympathy. They however, mentioned that there is a room to improve staff communication. In addition, caregivers were faced with high out-of-pocket expenditures, as majority of the caregivers (83%) reported high cost associated with transportation and other non-medical items during their stay at the hospital (Table 6). In addition, none of the caregivers reported to have received health sessions/ counseling related to the care of NYIs during their stay at the facility.

Table 6. Caregivers' Perspective: Financial Burden Associated with Non-medical Items		
1	Transportation	83%
2	Meals during the stay	63%
3	Overnight accommodation	36%

3. Secondary Data Analysis: Stillbirths & Neonatal Deaths in Pakistan

[Sources: Published and grey literature, Data from 23 surveyed facilities and Maternal and Newborn Health Registry (MNHR) in Thatta].

According to PDHS 2017-2018, Pakistan contributes to 7% of the global neonatal deaths with a neonatal mortality rate of 42 per 1000 live births. These rates imply that nearly one in 16 children die before reaching their first birthday. In addition, stillbirth rate in the country is 43.1 per 1000 births.

The most common causes of stillbirths and neonatal deaths are summarized in Table 7.

Table 7. Most Common Causes of Neonatal Deaths and Stillbirths	
Stillbirths	Neonatal Deaths
1) Intrapartum Asphyxia-related 2) Antepartum Hemorrhage 3) Pregnancy-Induced Hypertension	1) Birth Asphyxia 2) Sepsis 3) Prematurity
Sources: i. National Institute of Population Studies (NIPS) [Pakistan], and Macro International Inc. 2008. Pakistan Demographic and Health Survey 2006-07. ii. Maternal and Newborn Health Disparities Country Profiles-UNICEF (2017). iii. Health and Demographic Surveillance System in Peri-urban Areas of Karachi, Pakistan (2018).	

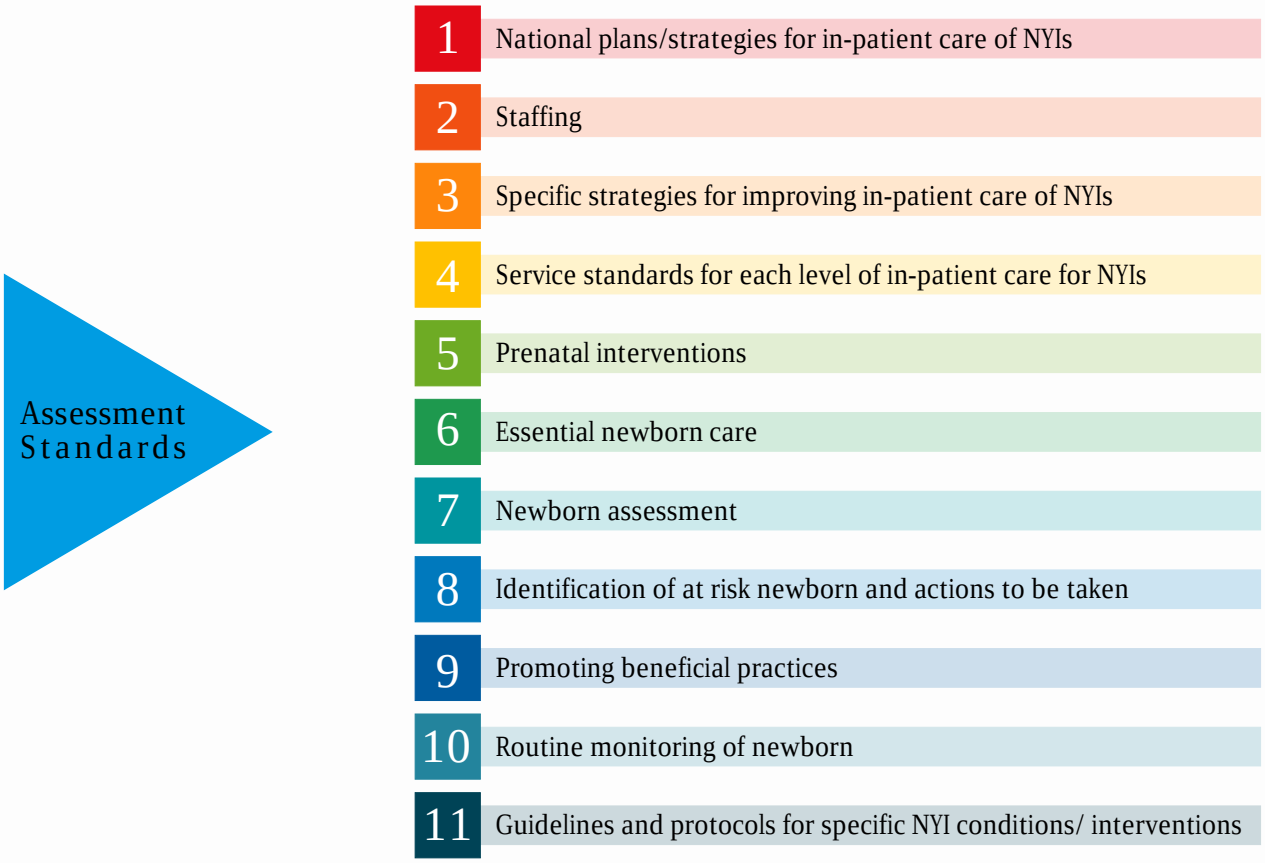
Gaps

- Healthcare providers' lack of uniform understanding about the definition and classification of stillbirths (macerated and fresh) and neonatal deaths (early and late).
- Under-reporting of stillbirths.
- Inadequate antenatal care leading to poor maternal and fetal outcomes.
- Absence of gateway mechanism at the health care facilities, leading to high influx of cases at tertiary care settings.

4. Strategies, policies and guidelines related to NYIs

A total of 39 documents were reviewed [national (n=12) and provincial (n=27)] against the eleven international standards related to the different aspects of in-patient care for NYIs, as shown in figure 5.

Figure 5. Assessment Standards Related to the Care of In-patient NYIs.



Gaps

- MNCH guidelines and strategies have not adequately addressed all the essential standards of in-patient care for NYIs.
- Standards for routine monitoring of newborn care were found to be absent in most of the provinces.

Strengths

- Majority of the reviewed documents have addressed the strategies for in-patient care of NYIs.
- Standards for staffing, specific strategies for improving in-patient care of NYI, service standards for NYIs and essential newborn intervention etc. were generally found in the reviewed documents.

Proposed Recommendations and Actions to Improve the In-patient Care of Newborn & Young Infants in Pakistan:

1- Strengthen coordination among federal MONHSR&C and provincial health departments in the field of MNCH, especially to oversee and monitor care of NYIs.

Proposed Actions:

- The federal MONHSR&C should establish and or activate the interprovincial coordination group or task force on MNCH and conduct quarterly meetings between federal and provincial health departments on matters pertaining to NYIs;
- Develop and or revise the terms of reference of the group or task force to review strategic aspects of NYIs related, among others, to policies and strategies, protocols and guidelines, provincial plans and their implementation progress, scaling up neonatal care in district hospitals across the country.

2- Enhance allocation for the care of NYIs in provincial health budgets by including it in the annual development plans as well as in the regular budget.

Proposed Actions:

- Provincial Department of Health should revisit their MNCH PC -1 and review their regular budget to include adequate funding for strengthening of NYIs care in DHQ hospitals. This should include resources for:
  - Recruitment of Neonatologists, Neonatal Surgeons, Neonatal Nurses in district hospitals;
  - Specialized trainings of existing Pediatricians and Nurses in district on different aspects of neonatal care;
  - Procurement, repair and maintenance of equipment (incubators, phototherapy lights and radiant warmers) at infant care units;
  - Safety nets for caregivers to cover transportation cost and other expenses incurred by families (in care of NYIs).

3- Update national and or provincial documents related to policies, strategies and protocols to align them with the eleven international standards of intrapartum and essential newborn care.

Proposed Actions:

- Engage academic institutions in the country, and where needed international MNCH experts, to develop guidelines and protocols adapted to the international standards related to intrapartum and essential newborn care;
- Develop short training courses to build capacity of staff in district and tertiary hospitals in the use of these protocols and guidelines;
- Engage a team of national experts to widely disseminate the set of adapted guidelines among all the secondary and tertiary care hospitals.

4- Strengthen capacity of MNCH Units in Provincial Health Departments to plan for and oversee quality of care of NYIs in DHQ and THQ hospitals.

Proposed Actions:

- Deploy staff with expertise in planning for neonatal care in MNCH Units of Provincial Department of Health to develop and update action plans and monitor their implementation at the district level;
- Develop standards, which should be monitored in each DHQ hospital to assess quality of care procedures followed at NICUs, Special Care Units and Kangaroo Mother Care Units;
- Conduct regular supervisory visits to assess performance and provide hands on supervision in NYI in DHQ and THQ hospitals;
- Provide guidelines and monitor the rates of nosocomial infection at districts and tehsil hospitals.

5- Enhance capacity of DHQs in all provinces by deploying staff that is specialized in neonatology including surgery and nursing.

Proposed Actions:

- Create positions and recruit neonatologists, neonatal surgeons and neonatal nurses in DHQ hospitals based on the need assessment and resource availability;
- Deploy neonatal surgeons and neonatal nurses from tertiary care hospitals on rotational basis to district hospitals to enhance access to neonatal care. This is possible in at least the larger provinces;
- Provide monetary and non-monetary incentives to deploy and retain the staff (where they are critically needed to overcome the staff shortage in care of NYIs). Monetary incentives include hard area allowance, per diem etc. Non-monetary incentive include selection for higher level training programs.

6- Strengthen pre-service and develop an in-service training program for nurses and physicians in clinical care and communication aspects of the NYIs.

Proposed Actions:

- Invite leading institutions to develop and offer modules on neonatal care in undergraduate education in medical and nursing schools. Once developed and piloted these need to be endorsed by PMDC and
- PNC for introduction in the respective curricula;
  Federal MOHSRC should invite College of Physicians and Surgeons and other leading academic institutions to develop advanced courses for pediatricians and pediatric surgeons in neonatology and neonatal surgery respectively;
- Introduce modules on communication skills (with focus on counseling skills) in pre-service training curriculum of medicine;
- Provide training and development opportunities to nurses and physicians to enhance their knowledge and skills in the care of NYIs through short term training programs at the recognized institutes (such as Aga Khan University), where they can have 4-6 weeks of attachment.

7- Strengthen the information system to capture important information on stillbirths and newborn care across DHQs and Tertiary care settings.

Proposed Actions:

- MNCH interprovincial group, working in consultation with Obstetricians and Gynecologists should: Revise the existing information system (District Health Management Information System/ Facility-based Health Management Information System) reporting formats to include data on stillbirths and newborn care indicators (birth weight and gestational age).
- Standardize the reporting formats (to include gender segregated indicators) to capture information on stillbirths, neonatal deaths and newborn care, such as APGAR score, the daily weight of the small and sick NYIs and a note on danger signs assessment.

8- Develop consensus on the standard definition and classification of stillbirths and neonatal deaths at the national & provincial level and train health care providers

Proposed Actions:

- Assign MNCH technical working group in consultation with Obstetricians and Gynecologists to use international standards of defining stillbirths (macerated and fresh) and neonatal deaths (early and late) in order to develop a consensus on definitions;
- Once standardized definitions and classification should be translated into guidelines and disseminated to hospitals across all provinces to train heath care providers.

9- Institute the referral mechanism by emphasizing the feedback between primary, secondary and tertiary health facilities to enhance continuity in the care of NYIs.

Proposed Actions:

- Link DHQ and THQ hospitals with higher level tertiary hospitals with good capacity for NYIs care and pilot a referral mechanisms that includes two-way referral that relies on electronic communication; MNCH Unit in Provincial Department of Health should work to regularize the feedback mechanism between the primary, secondary and tertiary level of care facilities by sharing of HMIS data (manual or electronic).
- Engage a university to assess the functionality of the referral in terms of the volume and appropriateness of referrals and identify gaps before scaling up.

10- Implement discharge education plan at the facility level with regards to in-patient care of newborns and young infants.

Proposed Action:

- MNCH Technical Working Group in collaboration with Neonatologists, Neonatal Nurses, Obstetricians, and Gynecologists should develop a comprehensive Discharge Education Plan with focus on danger sign assessment by caregivers and essential newborn care.

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Acknowledgments

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Ministry of National Health Services Regulation & Coordination of Pakistan

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