



Islamic Republic of Afghanistan
Ministry of Public Health



Independent Assessment of the Design and Performance of Primary Health Care in Afghanistan

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Executive Summary

Introduction

Afghanistan has made significant progress in terms of reducing maternal and child morbidity and mortality rates since 2003. The Basic Package of Health Services (BPHS) is core to primary health care in Afghanistan and has been lauded as a major driver of health gains. Health service implementation was contracted out (CO) to non-government organisations (NGOs) in 31 provinces and contracting in to Ministry of Public Health (MoPH-SM) in remaining provinces. The BPHS was revised in 2010 to respond to emerging health priorities and to increase reach to white areas. Yet still, several challenges such as inequities, poor quality of services and health facility inefficiencies remained. In response, the Ministry of Public Health (MoPH) implemented the Sehatmandi project (2018 to 2021) and a performance for pay (P4P) model for contracting and financing of service providers.

Though several independent evaluations of BPHS and its implementation modalities exist, a current and comprehensive study was needed. Applying the Primary Health Care Performance Initiative (PHCPI) conceptual framework, this study examined BPHS implementation gaps and challenges since its 2010 revision with a lens towards understanding challenges with contracting mechanisms, Sehatmandi and P4P approaches.

The specific objectives of this study were to:

- 1) Examine whether the BPHS package, the current model of implementation (contracting out and MoPH-SM), and Sehatmandi and pay for performance (P4P) are feasible and responsive to the current needs of the country.
- 2) To thoroughly study Objective 1 through the PHCPI lens of factors related to systems, inputs, service delivery, outputs and outcomes
- 3) Provide recommendations on how to improve health systems performance and health service delivery.
- 4) Outline the lessons learned and strategies that should be put in place to improve BPHS performance in Afghanistan.

Methods

This study employed a mixed-methods approach with three activities: 1) systematic scoping literature review; 2) quantitative analysis of key datasets; 3) qualitative inquiry using in-depth interviews and focus group discussions. An iterative evidence triangulation approach considering results from all three research activities were used to develop inferences and final recommendations. All research and analyses were conducted between August and October 2020. Research ethics approval for this study was obtained from the Institutional Review Board of MoPH.

Findings

A total of 284 participants representing MoPH leadership, donors, UN agencies, MoPH technical units, MoPH central and provincial managers, NGO managers, health care workers, and community shuras were consulted. All 34 provinces were represented. In-depth interviews were conducted with 66 respondents from 11 provinces and a consultative workshop was

conducted with 90 respondents from 23 provinces. In total, 120 respondents took part in 16 focus group discussions.

We present key findings as a set of recommendations in line with the PHCPI framework as follows:

(1) System (governance & leadership, oversight & accountability, contracting mechanisms, community-based health care, health financing)

(2) input and service delivery (drugs & supplies, facility infrastructure, information systems, workforce, referral & ambulances, access, availability of effective PHC services, health facility management)

(3) output & outcome (RMNCH, immunisation, malaria, tuberculosis, HIV/AIDs and other diseases, Covid-19, public nutrition, NCDs, mental health, disability, drug demand reduction, health promotion, health status, quality of care, equity, efficiency, gender-based violence, resilience & emergency preparedness)

Recommendations for improving primary health care (PHC) in Afghanistan

System	Governance & leadership	<ul style="list-style-type: none"> - Develop a new package of primary health care services based on the principles of PHC and needs of the population. The next generation PHC should highlight working under two scenarios, (i) easy-to-reach area and (ii) hard-to-reach area. - Ensure MoPH, development partners and service providers value and promote the “mission of integration” in all activities for efficiency and sustainability. - Develop and implement a policy to ensure equitable distribution of resources. - Continue and strengthen political support to all MoPH technical departments, Grant and Contract Management Unit (GCMU), Finance Department, Performance Management Office (PMO), Health Management Information System (HMIS), Expenditure Management Information System (EMIS), Monitoring and Evaluation Directorate (M&E) and service providers (SPs). - Conduct thorough appraisal of Integrated Package of Essential Health Services (IPEHS) for Afghan context.
	Oversight & accountability	<ul style="list-style-type: none"> - Review the design of third-party monitoring (TPM) and reshape it according to the reality on the ground. - Ensure the TPM is transparent, accountable, and technically sound. - Use latest and cutting-edge technology in monitoring the BPHS health facilities.

		<ul style="list-style-type: none"> - Strengthen the role of monitoring directorate of MoPH and transfer ownership of BPHS monitoring to them. - Address the complaints of MoPH technical departments, specifically providing them with clear roles, responsibilities, and ownership in providing technical assistance to BPHS and in conducting monitoring and supervision. - Provide more role and responsibilities to Provincial Public Health Directorates (PPHDs). Involve them meaningfully in the procurement of services. Strengthen their role in monitoring of services and ensure service providers are accountable to them. - Re-visit the balanced scorecard to make it more output and outcome oriented.
	Contracting mechanisms	<ul style="list-style-type: none"> - Continue with contracting out mechanism. However, improve monitoring, financial management and procurement processes including service provider's selection approach. Pay attention to the quality of SPs' proposals. - Given the depth of the current challenges, avoid extending the current contracts of NGOs; instead, re-bid the BPHS services with an improved design and financing approach. - Change the MoPH-SM to contracting out mechanism or another effective approach. - Keep the number of contracts limited to each NGO to ensure management efficiency of NGOs and prevent from 'diseconomies of scale'. - Commission an external review of the internal audit systems of NGOs to identify any weaknesses and to inform capacity building. - Encourage new NGOs as well as private sector to participate in bidding processes/BPHS service provision to prevent from oligopoly and ensure meaningful competitions. - Respect NGOs as an essential partner of MoPH and define the relationship of MoPH with NGOs appropriately. - Protect NGOs and their operations from undue interference from external parties.
	Community-based health care (CBHC)	<ul style="list-style-type: none"> - MoPH and relevant partners should provide continuous technical and political support to CBHC programme. - Re-define the roles and responsibilities of community health workers (CHWs) to ensure efficient use of their time and resources. - Community health supervisors should be empowered with adequate knowledge and resources to carry out their roles.

		<ul style="list-style-type: none"> - Integrate local governance into the new PHC package. - Downgrade, upgrade, establish, and or close down BPHS health facilities based on evidence. For example, review new initiatives such as Family Health Houses (FHHs) and integrate into the new package if found effective. - Improve knowledge of community shuras on their scope of work, including their role in increasing community engagement in health activities.
	Health financing	<ul style="list-style-type: none"> - Assess the drivers of out-of-pocket expenditures in BPHS health facilities and address the causes. - Identify new sources of financing including domestic revenue to fill the financial gaps in the upcoming years. - Integrate vertical and off-budget projects and funding sources as much as possible. Assess the feasibility of sector-wide approach to channel the BPHS funding through a single source. - Allocate a separate line of budget to service providers for innovative approaches. - Re-define the design of P4P to make it applicable in the context of Afghanistan such as changing the current sanction-based approach to incentive-based approach for health workers. - Re-set the P4P baselines and targets. - Re-design the current P4P verification mechanism to make it transparent or assign a mechanism to assess the quality of information generated by third-party monitoring (TPM). - Include management staff of NGOs, PHDs, TPM, PMO, GCMU, M&E, HMIS and other concerned departments of MoPH in the P4P scheme. - Prevent delays in P4P payments to NGOs and TPM. - TPM should provide a transparent basis for selection of sites. Site selection could be systematically done based on a risk analysis, targeting service providers with weak internal systems and/or previously poor showing in a TPM report. - Review the unintended consequences of P4P regularly and provide timely support to address the challenges. - Identify and investigate outliers among the service providers, when the TPM reports are produced, and further to understand the reasons behind high and/or poor performance, possibly with repeated TPM visits or a fourth party consisting members from TPM, PPHDs, MoPH technical departments and other concerned units.

		<ul style="list-style-type: none"> - Find technological solutions that could increase reporting accuracy or process changes that could increase efficiency. Currently, the process is heavily paper-based and inefficient and, therefore, open to error and corruption. The MoPH and partners might commission an external review of data reporting and claims. - Commission qualitative studies conducted by a different organisation (neither TPM nor service providers) on biannually-basis to explore the opinions and behavior of policy makers, health managers, health care workers and community on the process of P4P, challenges, and key solutions.
Input & Service Delivery	Dugs & supplies	- Ensure that health facilities are supplied with adequate drugs, medical supplies and equipment.
	Facility infrastructure	- Review and consider the inclusion of maintenance of health facilities into the contracts of service providers.
	Information systems	- HMIS data quality and incompleteness challenges should be identified and targeted for improvement.
	Workforce	<ul style="list-style-type: none"> - Reform the staffing pattern of BPHS to address the identified gaps. - Provide required short-term training courses to facility staff to improve knowledge on key issues.
	Referral & ambulance	- Strengthen BPHS referral system. Conduct cost-benefit analysis of using real ambulances versus rented cars to make an evidence-based decision on the use of real ambulance in health facilities.
	Access	<ul style="list-style-type: none"> - Improve overall access of patients to health services by addressing financial, physical and other barriers. - Improve access of mothers and newborns to the critical care services. Manage the complications of pregnancy in BPHS facilities.
	Availability of effective PHC services	- Improving health worker motivation and competence should be key focus areas in revised PHC system.
	Health facility management	- Service providers and/or managers should be able to access technical, operational, and financial skill trainings for effective management of their clinics.
Output and Outcomes	Reproductive, Maternal, Neonatal, Child Health (RMNCH)	- RMNCH is still the priority of the country. Focus on the most impactful interventions. Review the leading causes of maternal and child morbidities and mortalities and design the new PHC package accordingly.
	Immunisation	- Give the ownership of EPI programme to MoPH. Integrate the services into the BPHS. Finance the activities through one source. Improve coordination between key stakeholders. Identify and tackle main drivers of current challenges. Unify the reporting mechanism and improve quality of data. Reduce the

		number of stakeholders. Define the role and responsibilities of all key stakeholders and make every stakeholder accountable.
	Malaria & tuberculosis	- Include Malaria and tuberculosis key missing interventions into the new PHC package. Integrate the vertical interventions into the package. Channel the funding through a single source to service providers.
	Covid-19, HIV/AIDs and other diseases	- Further assess the impact of COVID-19 pandemic on the financing of primary health care services and find key solutions. - Ensure BPHS facilities have enough capability to manage COVID-19 cases. - HIV/AIDs receive tremendous resources while other important diseases are largely neglected in BPHS (e.g. leishmaniasis and rabies); financial and human resources should be aligned with public health urgency of diseases.
	Public nutrition	- Coordinate and integrate public nutrition activities into the BPHS to prevent fragmentation and to ensure efficiency of services.
	NCDs, mental health & disability	- Support the full package of mental health and disability interventions defined in the BPHS. Provide political support to the programmes. - Design a novel framework for managing NCDs in Afghanistan and provide political and financial support to it.
	Drug demand reduction	- Integrate drug demand reduction into the new PHC package.
	Health promotion	- Integrate health promotion and determinants of health into the new PHC package.
	Quality of care	- Quality of care should be central to the new PHC package.
	Equity	- MoPH should consider at least two different types of BPHS to serve easy to reach and hard to reach settings. - Focus on developing better access to rural areas. - Train and deploy more female workers for outreach - Revise CBHC to expand outreach services. - Re-design roles and responsibilities of CHWs to ensure efficiency and prevent burn out. - Reduce OOP expenditures especially among disadvantaged families.
	Efficiency	- Conduct technical efficiency analysis of health facilities regularly. Strengthen Expenditure Management Information System (EMIS) to provide timely data as needed for efficiency analysis.

		<ul style="list-style-type: none"> - Conduct health facility efficiency monitoring and benchmarking regularly using data collected by EMIS and HMIS. - Use data to identify and target poor ranking (low efficiency) facilities. - Use P4P to reward relative efficiency in service delivery.
	Gender-based violence	<ul style="list-style-type: none"> - Integrate gender-based violence into the new PHC package.
	Resilience & emergency preparedness	<ul style="list-style-type: none"> - Integrate emergency preparedness and response into the new PHC package.

This study supports existing evidence that the introduction of BPHS has contributed meaningfully to improving survival and health status in Afghanistan. Success factors include the following: PHC services were standardised, cost-effective interventions were introduced, health care workers especially community midwives and nurses were trained and deployed, reporting and monitoring & evaluation mechanisms were established, coordination was strengthened, financial resources were mobilised and physical access to health care services was improved. However, the findings of this study show that the BPHS has been unable to universally cover Afghanistan’s population. Moreover, the package has not ensured efficiency and equity as well as quality of care, and much work remains.

We hope that the set of recommendations proposed can be used by the government, development partners, non-state providers, practitioners, and other stakeholder groups to build on and improve health systems performance and service delivery in Afghanistan.

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Abbreviations & Acronyms

AHS	Afghanistan Health Survey
AIDs	Acquired Immunodeficiency Syndrome
ANPHI	Afghanistan National Public Health Institute
BCG	Bacillus Calmette–Guérin (BCG) vaccine
BHC	Basic Health Centre
BPHS	Basic Package of Health Services
CBHC	Community-Based Health Care
CBMM	Community Based Management of Malaria
CCNPP	Citizens' Charter National Priority Programme
CDC	Community Development Council
CHC	Comprehensive Health Centre
CHE	Current Health Expenditure
CHW	Community Health Worker
CHS	Community Health Supervisor
CO	Contract Out
DBD	Development Budget Department
DH	District Hospital
DP	Development Partner
DPT	Diphtheria, Pertussis, Tetanus Vaccine
DS TB	Drug-Susceptible Tuberculosis
EMIS	Expenditure Management Information System
EPI	Expanded Programme for Immunisation
EU	European Union
FHAG	Family Health Action Groups
FGD	Focus Group Discussion
FHH	Family Health House
GBD	Global Burden of Disease
GBV	Gender-Based Violence

GCMU	Grant and Contract Management Unit
GDM&EHIS	General Directorate Monitoring & Evaluation and Health Information System
GDP	Gross Domestic Product
GFAMT	Global Fund to Fight AIDS, Malaria and Tuberculosis
HCW	Health Care Worker
HEFD	Health Economics and Financing Directorate
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HM	Health Manager
HMIS	Health Management Information System
HP	Health Post
HS	Health Shura
IDI	In-Depth Interview
IPEHS	Integrated Package of Essential Health Services
JICA	Japan International Cooperation Agency
LLINs	Long Lasting Insecticidal Nets
MAM	Moderate Acute Malnutrition
MDR TB	Multi-Drug Resistant Tuberculosis
MHT	Mobile Health Team
MICS	Multi Indicator Cluster Survey
MoPH	Ministry of Public Health
MoPH-SM	MoPH Strengthening Mechanism
MSL	Measles
NCDs	Non-Communicable Diseases
NGO	Non-Governmental Organisation
NMC	National Monitoring Checklist
NEPI	National Expanded Programme on Immunisation
NTP	National TB Programme
OOP	Out of Pocket
P4P	Pay for Performance

PIP	Performance Improvement Plan
PHCPI	Primary Health Care Performance Initiative
PM	Policy Maker
PMO	Performance Management Office
PMSOP	Performance Management Standard Operating Procedures
PPHD	Provincial Public Health Directorate
PSC	Psychosocial Counsellors
PV	Plasmodium Vivax
RDT	Rapid Diagnostic Test
RMNCH	Reproductive, Maternal, Neonatal, Child Health
SAM	Severe Acute Malnutrition
SAPR	Semi-Annual Performance Review
SHC	Sub Health Centre
SP	Service Provider
TB	Tuberculosis
TD	Technical Department
TPM	Third-Party Monitoring
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organisation

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Dr. Ahmad Shah Salehi, Principal Investigator

Dr. Nadia Akseer, Co-Investigator

Foreword

This study offers valuable insights on the performance of primary health care in Afghanistan. Specifically, the study examines the Basic Package of Health Services (BPHS) in detail and assesses its effect on population health and service delivery. It also identifies BPHS content gaps and challenges in operation and modality of implementation. This is the first study of its kind, which provides institutional and methodological understanding into the BPHS package as well as contracting and P4P approaches.

The Ministry of Public Health is pleased to welcome the findings of this study, which will pave the way for the successful reform of the primary health care system in Afghanistan.

I would like to extend my gratitude to the EU/GIZ Technical Cooperation Programme for Ministry of Public Health (TCPH) for funding this study, and colleagues for providing technical support.

Special thanks to Dr. Ahmad Shah Salehi and Dr. Nadia Akseer, the lead researchers of this study, for their diligent efforts to complete this endeavour in a short two months.

Let us commit ourselves and join our hands together in implementing the recommendations of this study to attain the noble cause of improving primary health care to meet the needs of the people in Afghanistan.

Sincerely,



Ahmad Jawad Osmani, MD, MSc
Acting Minister of Public Health
Kabul, Afghanistan

1. Introduction

Following decades of conflict and dissolution of governance, by 2002, Afghanistan's health system was in dire need of repair. Suffering from lack of a policy framework, weak health infrastructure, low capacity of public and private sectors, shortage of human resources for health, inequalities in health service provision, poor quality of care, and lack of coordination among stakeholders - the Ministry of Public Health of Afghanistan (MoPH) faced monumental challenges (1). Expectedly, the nation's health statistics were some of the worst recorded worldwide at that time, including an under-five mortality rate (U5MR) of 257 and an infant mortality rate (IMR) of 165 per 1,000 live births, respectively, as well as a maternal mortality ratio (MMR) of 1,600 per 100,000 live births (2). Only eight percent of the population had access to any form of health services (3).

Responding to the most urgent health needs, the MoPH and development partners designed and adopted packages of essential health interventions for immediate scale-up (3). The basic package of health services (BPHS) and the complementary essential package of hospital services (EPHS) were adopted in 2003 and 2005, respectively (4). An overview of BPHS and EPHS evolution in Afghanistan is provided in the **Annex 1**. The BPHS and EPHS established the health system pyramid. The system, from the base to apex, consists of the health post (HP), sub-health centre (SHC), basic health centre (BHC), comprehensive health centre (CHC), district hospital (DH), provincial hospital (PH), and national hospital (NH) (5) (described in **Box 1**).

Box 1. Afghanistan's Health System Pyramid

The HP is the first point of contact for patients seeking health care services at the community level. The services are delivered by community health workers (CHWs) from their own homes which functions as community HPs. The HP is staffed with one female and one male CHW and covers 100-150 families (5). The SHC is the next level of contact. It covers a population of 2,000 to 15,000. It is staffed with one male nurse and one community midwife (CMW). The SHC provides some limited basic services to mothers and children including reproductive health services and management of acute respiratory infection and diarrheal diseases (5). The BHC covers a population of 15,000-30,000 people. The BHC is staffed with a nurse, a midwife, a community health supervisor, and two vaccinators. The BHC provides the same services as a SHC, in addition to covering relatively wider coverage of population and having fixed and outreach vaccination services (5). The CHC provides the BHC and additional services including minor and essential surgery as well as comprehensive emergency obstetrics care services. The CHC is staffed with doctors, midwives, nurses, vaccinators, community health supervisor, and lab technicians. Some of the CHCs have up to 10 beds (5). The DH is staffed with doctors including female obstetricians/gynecologists, a surgeon, an anesthetist, a pediatrician, midwives, lab and X-ray technicians, a pharmacist, and a dentist and dental technician. Each DH covers 100,000-300,000 people (5).

Key components of the BPHS focused on services that tackled the major health problems, services that were cost-effective and that could be equally accessed by both rural and urban populations (1,5). The BPHS offers health care services through seven components: i) maternal

and newborn health (antenatal care, delivery care, postpartum care, family planning, and care of newborn), ii) child health and immunisation (expanded programme on immunisation (EPI) services including routing and outreach, integrated management of childhood illness), iii) public nutrition (micronutrient supplementation and assessment of malnutrition), iv) communicable diseases (control of tuberculosis and malaria and prevention of HIV/AIDS), v) mental health (mental health education and awareness; and case identification, diagnosis and treatment), vi) disability and physical rehabilitation services (disability awareness, prevention, and education; provision of physical rehabilitation services; and case identification, referral and follow-up), and 7) regular supply of essential drugs (listing of all essential drugs needed) (1,5). Non-government organisations (NGOs) were given contracts (contracting out [CO]) to implement the BPHS in 31 (out of 34) provinces while the government has taken the responsibility of direct implementation in three provinces (Kapisa, Parwan, Panjshir) – i.e. the Ministry of Public Health Strengthening Mechanism (MoPH-SM).

Since 2003, Afghanistan made significant progress in terms of reducing maternal and child morbidity and mortality rates (6). Despite the expansion of health service provision, concerns around equitable reach, poor quality of services, and health facility inefficiency were glaring (6–14). Moreover, the contracting out and MoPH-SM implementation mechanisms have had mixed reviews (14–19). With the vision of circumventing ongoing challenges within the health system, Afghanistan adopted the 3-year Sehatmandi project in 2018 (20). Sehatmandi has three component activities: 1) improving health service delivery through strengthening the BPHS and EPHS by ensuring greater flexibility with contractors, encouragement of innovation, and expansion of primary health centres; 2) strengthening of the health system through reformed management of regional and tertiary hospitals, including results-based contracts and partnerships with the private sector; 3) strengthening community engagement through community scorecards and grievance redress mechanisms. Additionally, an innovative approach for contracting and financing of service providers (SP) under the Sehatmandi project was adopted. It involves two types to payments: a lump sum and a performance-based payment (21). The pay-for-performance (P4P) model is based on 11 trace indicators set by the MOPH which determine rewards or sanctions for SPs.

Though several studies have assessed contracting models, results-based financing, and the process of BPHS service implementation in Afghanistan (6,12,14–19,22–38), a comprehensive study exploring BPHS implementation gaps and challenges, particularly since its revision in 2010, has not been conducted. Specifically, whether the implementing modalities comprising of contracting mechanisms, Sehatmandi and P4P are effective for scaling service delivery in Afghanistan remains to be studied. Earlier assessments of results-based financing pilots in Afghanistan reported challenges with data accuracy, limited improvements in equitable service provision, higher operational costs, weak governance and oversight, complex and costly verification processes, delayed payments and unclear theory of change (24,36,39)

Thus, MoPH with the support of EU/GIZ commissioned this up-to-date and comprehensive review Afghanistan's primary health care (PHC). Using the Primary Health Care Performance Initiative (PHCPI) framework (40), this study thoroughly examines the interface between the demand for services and the ability of the health care system to respond with a focus on BPHS implementation, contracting mechanisms, Sehatmandi and P4P.

Findings from this important evaluation will be presented, deliberated, and acted upon in a stakeholder conference in Geneva in November 2020. The Geneva Conference aims to commit the international community and the Afghan government to mutual objectives related to development cooperation in Afghanistan for the period spanning 2021 – 2024.

2. Objectives

As a general approach, the current review solicited input from key concerned stakeholders and studied those in light of epidemiological, institutional, and structural changes in Afghanistan. The specific objectives of this study were to:

- Examine whether the BPHS package, the current model of implementation (contracting out and MoPH-SM), and Sehatmandi and pay for P4P are feasible and responsive to the current needs of the country.
- To thoroughly study Objective 1 through the PHCPI lens of factors related to systems, inputs, service delivery, outputs and outcomes.
- Provide recommendations on how to improve health systems performance and health service delivery.
- Outline the lessons learned and strategies that should be put in place to improve BPHS performance in Afghanistan.

3. Methods

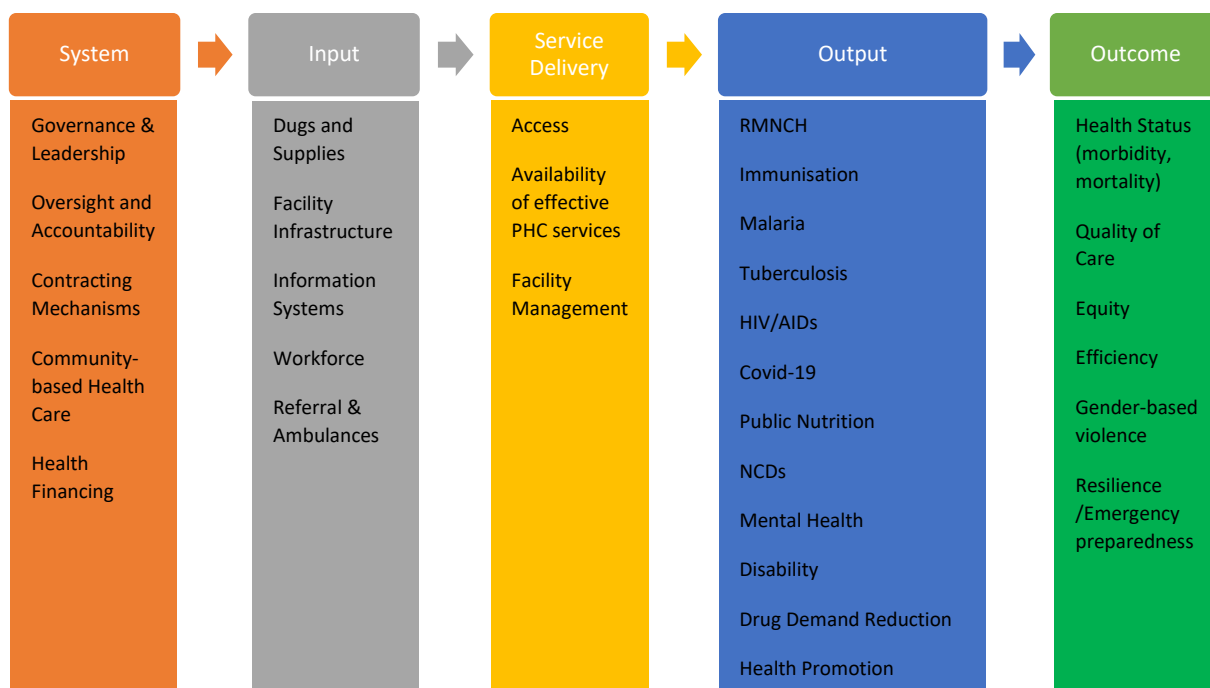
This study used rigorous and comprehensive mixed method approaches to examine study objectives. Specifically, research activities included: 1) systematic scoping literature review; 2) quantitative analysis of key datasets; 3) qualitative inquiry using in-depth interviews and focus group discussions. An iterative evidence triangulation approach considering results from all three research activities were used to develop inferences and final recommendations. Detail on study methodology is provided below and in the **Annex 1**.

Given BPHS reform in 2010 and the general epidemiological, insecurity and governance transition in Afghanistan since then, this study primarily focuses on the period 2010 to 2020.

3.1 Conceptual Framework

We adapted and applied the PHCPI conceptual framework to the Afghan context to study essential elements of a primary health care system. The PHCPI's framework was developed through extensive literature review and consultations with leading global experts, advocates, and policymakers, and builds on over 40 existing frameworks for health systems performance used in low- and middle-income countries (41). The framework describes the critical domains for effective PHC including systems, inputs, service delivery, outputs and outcomes that form part of a strong primary health care system. **Figure 1** displays the adapted PHCPI conceptual framework used in this study. A methods note describing the various PHCPI framework domains and indicators is included in **Annex 1**.

Figure 1: Primary Health Care Performance Initiative Conceptual Framework (adapted to Afghanistan context)



PHC: Primary Health Care; NCDs: Non-Communicable Diseases; RMNCH: Reproductive, Maternal, Neonatal, Child Health

Source: (41)

3.2 Data Collection and Analyses

3.2.1 Systematic Scoping Literature Review

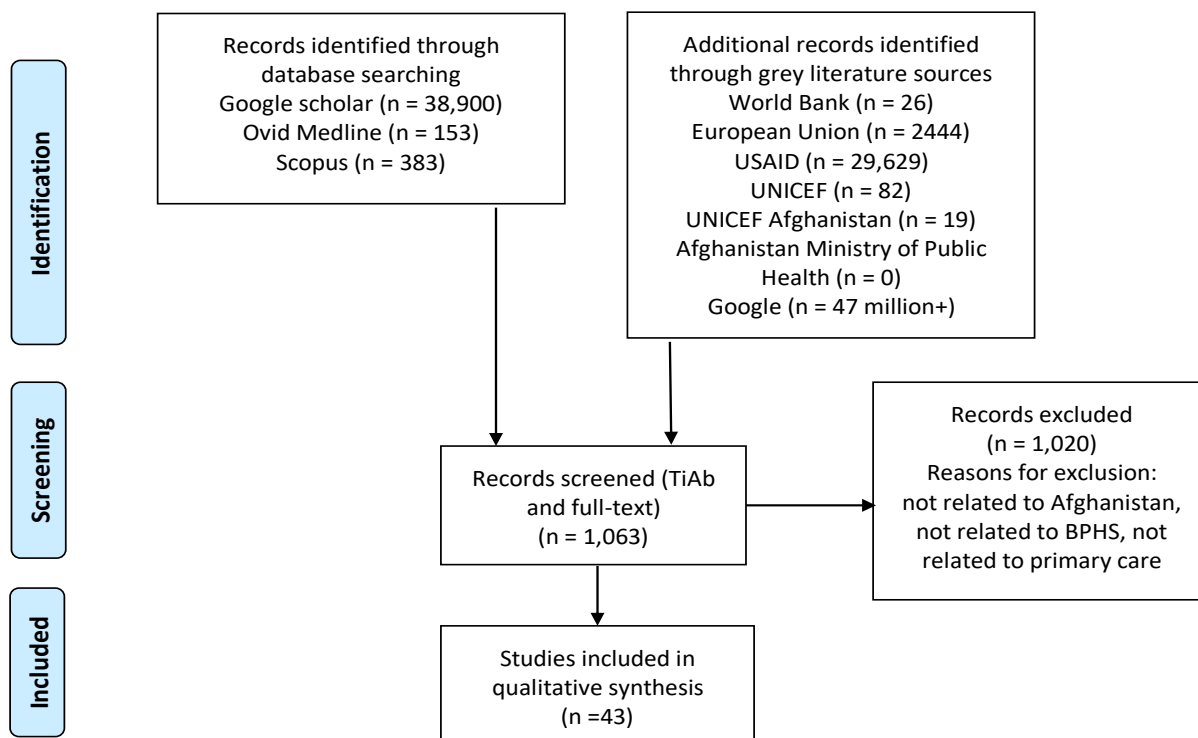
We conducted a systematic scoping literature review to identify critical issues and major policy arguments in relation to study objectives. This review was an intensive process with literature searching, reviewing, and synthesizing of all significant documents pertinent to the set objectives. It included academic papers, gray literature, reports, and official policy documents. The documents were searched via Internet as well as consulting the MoPH concerned units and individuals.

Four separate searches were conducted: 1) Basic Package of Health Services, 2) Sehatmandi project, 3) pay-for-performance, and 4) contracting mechanisms. Searches were conducted separately on the same databases, with different search terms. Key databases used were Google Scholar, Ovid Medline, and Scopus, and websites from the World Bank, European Union, USAID, UNICEF, UNICEF Afghanistan, the Afghanistan Ministry of Public Health, and Google.

As an illustration, detail on the search for BPHS is discussed subsequently and presented in **Figure 2**. The general search strategy was: (Afghanistan) AND (Basic Package of Health Services OR primary health care). The search strategy was modified based upon the database or website being searched. The search was conducted on August 31 and September 1, 2020, and resulted in 1,063 records screened, with 43 records ultimately abstracted. Records were excluded that did not pertain to Afghanistan, the Basic Package of Health Services, or primary

health care. Methods information and flow charts for the other three searches are included in the **Annex 1**.

Figure 2: PRISMA Diagram for Basic Package of Health Services Search



3.2.2 Quantitative Analysis

Design: We conducted an ecological assessment of national, provincial and sub-national (urban/rural, maternal education, wealth quintile) estimates of key indicators spanning the years 2000, 2010 and 2020, or the closest available year in that period. Analyses and inferences were generally focused on post-2010.

Datasets: Primary data sources included the Afghanistan Multiple Indicator Cluster Surveys (MICS) 2003/04 and 2010/11, Afghanistan Demographic and Health Survey (DHS) 2015, Afghanistan Health Survey (AHS) 2018, National Nutrition Survey (NNS) 2013, Model Disability Survey of Afghanistan (MDSA) 2019, programme data from technical departments within MoPH, the EMIS/HMIS data system, and the Balanced Scorecards (BSCs) 2011/12 to 2020. Since BSC indicators were revised in 2011/12 (lacking comparability to previous years), our analysis used data from this year onward.

We also retrieved published estimates from the Global Burden of Disease (GBD) study (2000-2020 where available), the World Bank/WHO/UNICEF Joint Malnutrition Estimates 2020, the UN Inter-agency Group for Child Mortality Estimation (UN-IGME) and the UN Maternal Mortality Estimation Inter-agency Group (UN-MMEIG).

Outcomes: We examined estimates of mortality, cause of death, morbidity, reproductive, maternal, newborn and child health (RMNCH) interventions, immunisation, nutrition, NCDs, disability and mental health disorders. Populations of interest included children under-5 years, adolescents aged 10-19 years, women of reproductive age (WRA) (15-49 years) and older adults (age 50+ years). Key indicators across the 6 domains health systems performance domains in the BSC were also analyzed: the client and community, human resources, facility physical capacity, quality of service provision, management systems, and overall mission.

Analysis: Descriptive statistics, including frequencies and proportions for categorical variables and means and standard deviations for continuous measures, were used to describe the samples. Disability-adjusted life years (DALYs) were obtained for Global Burden of Disease (GBD) outcomes. DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences. A higher DALY suggests greater burden of disease and death from that outcome. Prevalence (%) of key indicators was estimated with 95% confidence intervals at the national and subnational levels. For analyses of household survey data, we took into account the sampling design characteristics (including province strata and enumeration area clusters). Analyses were conducted using STATA version 12.0 and SAS version 9.4.

3.2.3 Qualitative Analysis

Design: The aim of the qualitative component of this study was to solicit valuable insights information-rich cases who had deep experience in the design, development, or implementation of PHC in Afghanistan. Information collected across stakeholder types (described below) would be used to document meaningful patterns and shared outcomes.

Sampling: We used a maximum variation purposeful sampling strategy (42). The sampling plan was stratified according to different categories of stakeholders as follows: 1) MoPH at the central and provincial levels, 2) development partners, 3) NGOs, 4) third party organisation, 5) health care workers, and 5) communities (health shuras). This approach enabled the team to explore perceptions and ideas of diverse stakeholders, and thus to examine similarities and divergence of ideas across the study population whom have shared goals.

Beyond collecting insights at the national level, a key element of this study was to dig deep into the experiences and narratives emerging directly from provinces. Given time constraints, we selected 11 provinces for field visits and invited the remaining to a consultation held in Kabul (to be discussed subsequently). Criteria for selecting provinces were deliberated among study investigators and key concerned stakeholders. To ensure maximum variation across the country, we selected provinces based on varying levels of security, environment/terrain, ethnicity, physical location, health services implementation modality and NGO type (**Table 1**). In total, 11 provinces were targeted including Bamyan, Faryab, Ghor, Logar, Nimruz, Kabul, Kandahar, Kapisa, Kunar, Parwan and Takhar. The study also gave attention to provinces where health facilities are supported by off-budget projects.

Table 1: Factors examined in sampling the provinces

	Province	Security	Geography	Location	Modality	NGO Type
1	Bamyan	Good	Hard	Central	Contract out	International
2	Faryab	Mixed	Hard	North	Contract out	Local
3	Ghor	Mixed	Hard	Central	Contract out	Local
4	Logar	Mixed	Fair	South	Contract out	Local
5	Nimruz	Mixed	Fair	West	Contract out	International
6	Kabul	Good	Good	Capital	Mixed	MoPH & NGO
7	Kandahar	Mixed	Fair	West	Contract out	Local
8	Kapisa	Good	Good	Central	Contract in	MoPH
9	Kunar	Mixed	Hard	East	Contract out	International
10	Parwan	Good	Good	Central	Contract in	MoPH
11	Takhar	Mixed	Fair	North	Contract out	Local

Across stakeholder types at central and provincial level, a total of 66 in-depth interviews (**Table 2**) and 16 FGDs (**Table 3**) were conducted. In addition, a workshop was held in Kabul with policy makers, health managers, NGOs, provincial health directors, and health care workers from the remaining 23 provinces.

Tools: A semi-structured interview guide was developed to solicit insights specifically on strengths, challenges and recommendations for BPHS, contracting mechanisms, Sehatmandi and P4P. The guides were modified as needed based on stakeholder type (e.g. with separate probes for policy makers compared to health care workers). All tools were developed in English and translated to/back translated from local languages (**Annex 2**).

Field work: To ensure high quality data collection, a short but intense training programme was delivered to field research teams (particularly data collectors). Lead study investigators coached the field team to 1) adequately understand study objectives, the interview guide's questions and probes, 2) effectively collect and manage data, 3) appropriately protect privacy and other interests of study participants. During field work, the research team was in daily contact to review the process and progress of data collection and to troubleshoot any challenges. All discussions were conducted in local languages based on participant ethnicity. Detailed field notes and tape recordings were used to ensure verbatim transcription of interviews. Data collection and interview transcriptions were conducted on the same day. All fieldwork occurred in September 2020.

Analysis: Data was analyzed using the *content analysis approach* (43) in which the key issues, core elements and shared outcomes (or “thematic areas”) are deduced from the data (44). Data triangulation was done across data collection method and stakeholder group to ensure consistency in findings (42).

Research ethics approval for this study was obtained from the Institutional Review Board (IRB) of MoPH in August 2020 (**Annex 3**).

Table 2: Sampling frame for in-depth interviews

Institution	Participants	Number
MoPH	Health Minister	1
	GD Policy and Planning	1
	NMHRA Director	1
	HMIS Head	1
	MoPH-SM Head	1
	Finance Dept Director	1
	Health Promotion Director	1
	PHC Director	1
	Drug Demand Reduction Head	1
	M&E Director	1
	GCMU Head	1
	PMO Head	1
Provincial MoPH	Provincial Health Directors	11 (one per province)
Development Partners	EU, Embassy of Canada, GFF, UNDP, UNICEF, USAID, WB, WHO	8
NGOs	Managers	11 (one per province)
Third Party Organisation	Managers	1
Health Facility	Healthcare workers (doctor, midwife)	22 (two per province, including off-budget health facilities)

Table 3: Sampling frame for focus group discussions

Institution	Participants	Number
MoPH Headquarters	PMO	1
	GCMU	1
	M&E Unit	1
	Technical units (RMNCH, nutrition, EPI, malaria, tuberculosis, disability, mental health)	1
NGOs	NGOs representatives (Kabul)	1
Community	Health Shura	11 (1 per province)

4. Findings

In total, two hundred and eighty-four subjects participated in the qualitative study. Sixty-six respondents from eleven provinces took part in the in-depth interviews. One hundred and twenty-eight respondents in sixteen groups participated in the focus group discussions and ninety respondents from twenty-three provinces attended the consultative workshop. The respondents were representing the MoPH leadership, donors, UN agencies, MoPH technical units, MoPH central and provincial managers, NGO managers, health care workers, and community shuras. The average time spent in conducting IDIs and FGDs were one hour and two hours and fifteen minutes, respectively.

Below we narrate the key findings from the three research activities (literature review, quantitative and qualitative analyses) presented along the five elements of our adapted PHCPI conceptual framework. Results are presented under three categories and thirty-one subcategories as (1) System (governance & leadership, oversight & accountability, contracting mechanisms, community-based health care, health financing), (2) input and service delivery (drugs & supplies, facility infrastructure, information systems, workforce, referral & ambulances, access, availability of effective PHC services, health facility management), (3) output & outcome (RMNCH, immunisation, malaria, tuberculosis, HIV/AIDs & other diseases, Covid-19, public nutrition, NCDs, mental health, disability, drug demand reduction, health promotion, health status, quality of care, equity, efficiency, gender-based violence, resilience & emergency preparedness).

4.1 System

4.1.1 Governance & Leadership

In early 2003, the MoPH endorsed the first version of BPHS. The BPHS offered services in the areas of reproductive and neonatal health, child health and immunisation, communicable diseases, mental health, disability and essential drugs through HPs, BHCs, CHCs, and DHs. In 2010, the package was revised. The revision process was participatory and many key stakeholders including the staff of MoPH, donor community, UN agencies, NGOs and other MoPH partners took part in the exercise. The revised BPHS included SHCs and mobile health teams (MHTs) as new approaches to delivering health care. In addition to adding several new interventions in existing service areas, the BPHS 2010 also shifted mental health and disability to first tier priority services (see **Annex 1** for a breakdown of BPHS evolution since 2003).

One of the main strengths of the BPHS is the dedication and commitment from MoPH and Afghanistan's health care leadership (45). Instead of attempting to restore an ineffective system, the MoPH embarked on significant health system reform. This commitment and willingness to lead the health sector helped foster cooperation with partners (12,46). Generous donor funding has been another enabler of success for the BPHS. Donor funding presented and continues to present an opportunity for BPHS to excel in Afghanistan, despite obvious difficulties in economy and insecurity (9,19).

Study respondents believed that BPHS put an end to fragmentation of the health system. Respondents acknowledged BPHS as a pivotal strategy that was successful through strengthening government's stewardship, standardising primary health care service provision,

introducing cost-effective interventions, increasing demand for primary health care services, improving access to health care services, attracting support of international donors, mobilising resources to rural areas, establishing a unified reporting mechanism, establishing monitoring & evaluation mechanisms, strengthening coordination between key stakeholders, training community midwives and nurses, and improving community participation and involvement.

Developing the BPHS, per se, was a great achievement. We know that several developing countries have copied our BPHS experience. The BPHS has improved the health of population, especially mothers and children in Afghanistan. [DP IDI]

I remember the time before the introduction of the BPHS. There was a chaos, and no one knows who was doing what. The MoPH was weak and those implementing the services were not speaking to each other as well as to MoPH. The BPHS pop up as a superman to standardize the health system and bring all actors about one policy. [HM IDI]

In 2019, the MoPH developed a new package called “Integrated Package of Essential Health Services” (IPEHS). The IPEHS merged the BPHS and EPHS into one package with the aim of aligning the two documents to better emphasise the difference in essential interventions between basic health facilities and first line referral hospitals. While maintaining focus on the still too high maternal, neonatal, and child mortality rates, the IPEHS also included non-communicable diseases, injuries due to armed conflict, emergency trauma care and palliative care. Despite having officially launched in 2019, there seems to be little knowledge of the IPEHS content even among senior MoPH managers (47), while acceptance among those familiar with the package is also low. One reason could be the high costs; a rapid costing exercise revealed that executing the package would necessitate a per capita normative cost of US\$ 18.6 (48). Some respondents believed that the IPHS is an expensive package and it is neither affordable nor financially sustainable for the country. In addition, majority of respondents expressed their concern with the process of developing the IPEHS, which they felt was missing consultation with key stakeholders.

The IPEHS was developed with limited consultations with key stakeholders. The process was not transparent, and it does not seem a feasible document. [DP, IDI]

I know that the MoPH developed a new package called IPEHS. Personally, I have not seen it. [HM, IDI8]

4.1.2 Oversight and Accountability

Afghanistan’s Health Information System (HIS) is comprised of the health management information system (HMIS), disease surveillance, monitoring, vital statistics, and research and evaluation. The General Directorate Monitoring & Evaluation and Health Information System (GDM&EHIS) is responsible for data management and coordination, while the Afghanistan National Public Health Institute (ANPHI) leads the coordination and implementation of research activities.

The largest component of the HIS is the HMIS – the system that captures data generated at the health facility level. In brief, data in the form of monthly reports are sent to relevant NGOs and Provincial Public Health Directorates (PPHDs) Offices where paper-based forms are entered into Access files. Information is reviewed in monthly meetings at the PPHDs and forwarded to the MoPH HMIS directorate on a quarterly basis. Data are used to produce quarterly and annual reports. The Service Providers (SPs) submit their reports according to the contract to the Performance Management Office (PMO) as per a set schedule. The PMO shares all reports and deliverables with relevant departments and units in the MoPH to get their feedback and inputs prior to the Quarterly and Semi-annual Performance Review meetings. The MoPH has contracted the verification of data to a third- party monitor, which validates all data provided by SPs. The GDM&EHIS oversees and manages the activities of the third- party monitor. The MoPH technical team visits the health facilities and verifies the quality of care based on predefined indicators of specific interest and significance. Once the PMO receive the verification, analysis, and feedback of the relevant units of the MoPH on the reports submitted by the SP, the review meetings are organized. A Quarterly Performance Review meeting is organized in the province and a semi-annual performance review (SAPR) is organized in Kabul. As a result of SAPR, the SPs receive their payments and their performance is appraised based on evidence (20).

The performance management system adopts two approaches to measure quality of care provided by the SPs: Balanced Scorecard (BSC) and Quality of Care indicators. The BSC serves as an overall performance measurement of SP activities and the latter is used by the technical departments (TDs) for their monitoring and supportive supervision in the field. The current BSC includes several indicators associated with quality of care. The BSC indicators were revised in the first half of 2019 to better take up the indicators of the TDs' interest.

Although some successes with BPHS's monitoring and evaluation systems are noted, several challenges exist. Many of these could be related to general limitations of collecting data in a chronically fragile state such as Afghanistan, where access to conflict-affected geographies is challenging (9). Accordingly, collected data is often insufficient, poor quality and unreliable and thus may skew measurement of health care progress in Afghanistan (10). Corroborating this, respondents felt that the BSC data may be inaccurate and in some instances, severely skewing the true picture, Respondents also felt the BSC was not output and outcome oriented and that this should be a priority to make effective use of the data.

Third-party monitoring (TPM) groups have been collecting BSC data in Afghanistan since 2004; respondents shared opinions on the importance and challenges of the TPM. Though the respondents stated that TPM is the backbone of contracting and P4P approaches, majority of the respondents expressed their concern on the feasibility of the TPM in the current situation, especially in insecure and hard to reach areas.

P4P has lots of difficulties, for example the third-party monitors cannot obtain accurate data from insecure areas, and the MoPH does not have a clear mechanism to verify their reports. [Consultative Workshop]

Most of the respondents claimed that the process of TPM does not seem transparent. They suggest it is in favor of SPs that can establish a close relationship with the monitors in the time

of data collection. This was confirmed by some NGOs respondents too who additionally requested transparent and an accountable monitoring process.

We doubt about the mechanism of the third-party monitoring. There have been a lot of complains from the provincial health directors, our monitoring teams, and some NGOs on the quality of information. We know that the third-party organisation is doing their best, but it is not easy for them to control each monitor one by one. [PM IDI]

Other departments of MoPH (provincial health directorates, monitoring directorate, technical units, PMO,) are also responsible for monitoring of the BPHS health service delivery. According to the Performance Management Standard Operating Procedures (PMSOP) (20), the PPHD is primarily responsible for the performance of the service provider that operates in the province. Using the national monitoring checklist (NMC), PPHDs are expected to monitor the performance of service providers in all health facilities on a regular basis to ensure quality of care is provided as per standards and guidelines. Despite a clear role for PPHDs in overseeing the performance of service providers, the provincial health directors were discontent with the arrangement suggesting that they are not included in the decision-making process, that their roles are more symbolic in the selection and oversight of service providers, and that they are not provided with the service providers' financial and technical reports.

Decision made within the performance management system is a sole responsibility of the MoPH leadership. [page 11 of PMSOP, (20)]

The Monitoring Directorate on behalf of the GDM&EHIS is responsible for overseeing and managing activities of the TPM. However, the PMSOP is silent in terms of the role of Monitoring Directorate in the monitoring of BPHS health facilities within the context of P4P. Some respondents stated that the MoPH Monitoring Directorate regularly visits the BPHS health facilities and their visit reports confirm their availability and willingness to oversee TPM activities. On the other hand, some respondents felt the role of the MoPH monitors was not dedicated to BPHS, but that it was broader on overall health systems including the EPHS, provincial hospitals and even environmental health issues. Accordingly, these respondents felt that their monitoring visits are not conducted in-depth on BPHS health facilities.

The monitoring unit teams focus on non-essential areas in the BPHS facilities. They need more coordination and understanding from the key indicators of the BPHS when they visit the health facilities. [HM FGD]

According to PMSOPs (20), the MoPH TDs are expected to provide technical updates on new developments in their technical fields regularly through PMO to the service providers. It is expected that the TDs receive, review, and analyse a copy of the Quarterly Performance Report, HMIS Reports, BSCs, verification reports of TPM and other relevant reports. The TDs are expected to provide their feedback to PMO in writing with key recommendations. The TDs are also expected to conduct field supervision visits to ensure that the health services delivered by the SPs meet the quality standards set forth by the TDs, as well as provide the SPs with on-the-job technical assistance through coaching approach. Nevertheless, this does not happen in practice. The TDs does not have enough staff to dispatch them to the field for regular supervision. Meanwhile, the TDs feel they are marginalized, cannot contact the service

providers directly, and think their relationship is established with the service providers through the PMO, which is bureaucratic and ineffective.

The technical units are pushed aside. The NGOs are no longer taking the technical units seriously. Generally, we are not happy with this arrangement and we found it ineffective. [HM FGD]

On the other hand, the established BPHS coordination and oversight mechanism was found efficient by some other respondents. They believed that if the TDs coordinate their technical issues with the service providers directly, the service providers will be overwhelmed with the frequent comments and requests of the TDs. Thus, they found the current mechanism reasonable.

We need to allow the service providers to also focus on the implementation. We should not knock their doors every minute for making new inquiries. [HM IDI]

At the community level, the provincial performance review committee should invite Health Shura and/or Health Subcommittee to the regular performance review meeting and ensure their findings and observations of the Community Scorecard are included in the Performance Improvement Plan (PIP). This study found that the health shuras were aware of some activities of health facilities such as availability of drugs and recruitment and dismissal of staff. However, they were confused with the details of their scope of work. In most cases, the health shuras were uninformed about their roles and responsibilities in terms of the greater engagement of community in the monitoring of health services.

We try to support our clinic. We take our meetings and we always talk about drugs and staffing of the clinic. [HS FGD]

4.1.3 Contracting Mechanisms

Respondents were generally able to describe the contract out (CO) versus the MoPH-Strengthening Mechanism (MoPH-SM i.e. contract in). Almost all respondents assessed the MoPH-SM a failed project and strongly recommended to change the modality of implementation immediately.

The SM project is not working at all. We do not know why the MoPH has kept it for such a long time in spite of knowing the problems. For example, the SM health facilities have not had drugs since one and a half years. [HM FGD]

Respondents, including health care workers, NGOs, health managers, development partners and some policy makers, expressed favorable perspectives on the CO mechanism. They believed that due to insecurity and overall government bureaucracy, the MoPH is unable to directly offer the BPHS services efficiently. They highlighted that the CO has had a positive impact on service delivery.

Contract and financing management of the BPHS is full of challenges. We should be proud that we have been able to manage it well so far. [PM IDI]

A few respondents were against CO stating that the mechanism has undermined the role of the government in service delivery and overlooked the legitimacy of government in offering public services.

Some respondents expressed their concern about challenges the BPHS contracting out approach may have encountered. A key concern was about the least cost selection method of the bidding process. They believed that the 'least-cost' proposal always impacts service quality as the contracted SPs cut spending on drugs, supplies, training, and salaries to save money.

The health facility run out of drugs in the third week of each month. When we ask the NGO why they do not supply the clinic with drugs, they say that they do not have enough fund. [HS FGD]

Most of the equipment in our clinic are out of order. We requested the NGO to replace them with new equipment. They said that they did not have budget for it. I examine patients with a broken stetoscope. I feel bad when I put an out of order stetoscope on the chest of patients. [Consultative Workshop]

Some respondents stated that the NGOs were not efficient due to the high number of contracts awarded to them. They suggested reducing the number of contracts to one per NGO to ensure efficiency and quality of services. They also suggested to encourage the private sector to take part in service delivery. [HM FGD]

It is not wise to award several contracts to one NGO. They claim that they are capable of managing a large number of contracts, but it is not true. The current stagnation of health indicators and the low quality of services in BPHS facilities are due to the fact that they can manage several contracts in one time. Donors argue that awarding several contracts to one NGO can ensure economies of scale, while they do not estimate how much resources are wasted due to an inefficient management when several contracts are given to NGOs. [HM IDI]

Service providers complained about lack of mutual respect between the MoPH and NGOs . They suggested that MoPH officials consider NGOs only as contractors hired to do a job, rather than as partners contributing to the larger goal of achieving primary health coverage in the country.

We sometimes avoid visiting the MoPH and provincial health directorates as we are not treated well. [HM FGD]

NGOs expressed their frustration regarding the interference of politicians, parliament members, provincial council members, MoPH, and influential individuals in staff recruitment processes, pharmaceutical procurement processes, and daily activities.

We are fed up with the interference of irresponsible people. We do not know how to keep them happy. If we do not respond to their orders, the next day they will start making trouble for us. [HM IDI]

4.1.4 Community-based Health Care

Community-based health care (CBHC) in Afghanistan has explored a range of innovations to deliver the BPHS to families in remote areas or white areas. White areas in Afghanistan refer to areas where no permanent health services are available (49). CBHC features community health workers who are situated in health posts, and community health supervisors (CHS), health shuras, family health action groups (FHAG) and family health workers. The programme has seen many successes including training of about 29,000 volunteer CHWs, more than 16,000 shura-e-sehi (health shura), more than 5000 FHAG and 1245 CHS (50).

Many respondents stated that the CBHC programme and the role of CHWs is very effective in offering services, especially in promotive care, preventive services, tuberculosis (TB) case detection, and reproductive health services including referral and family planning. However, they expressed their concern regarding the long list of responsibilities a CHW must carry out. The respondents found the supervision, especially by community health supervisors (CHSs) inadequate of poor quality and without supportive measures.

Either the Ministry should provide sufficient support to CHWs or stop the CBHC programme. I am sad to see that some trained CHWs are reluctant to continue their work due to the low attention of the Ministry. [HCW IDI]

CHWs are not paid. Can you imagine how difficult it is to work without receiving a salary. On the other hand, the ministry [MoPH] expects CHWs to solve every health problem of the community. [HS FGD]

Our officers are tasked to monitor CBHC programme too. They do it but we know that it is so superficial. Frankly, going to villages to monitor CHWs is not feasible for our monitors due to limitation of time and logistics, and security situation. [HM FGD]

Some respondents criticized the inadequate role of BPHS in promoting local governance. Though community shuras are functional next to the most of the BPHS health facilities, the respondent found the BPHS is not supportive in raising awareness of communities on their roles and responsibilities and how to carry out an oversight of health care services. Respondents also emphasized that the BPHS is managed centrally with a minor role to the provincial health directorates and local communities. This centralized health system, per se, presents an important obstacle to the process of decentralization.

Despite the BPHS is a centralized strategy, it is being managed in a very centralized way. [DP IDI]

Family Health Houses (FHH) have also been used as a solution to service provision in white areas in Afghanistan. The FHH model was designed to increase access to RMNCH services with the express goal to reduce morbidity and mortality (49). The pilot project was implemented first in Bamyan, Daikundi and Faryab provinces through NGOs, and later on expanded to include areas of Herat (49). To date, there are approximately 150 such houses operating with funding through UNFPA. FHHs are lower level health facilities compared to basic health centres (9).

The majority of respondents were generally positive towards FHHs. However, some respondents suggested not to rush in scaling up the model before understanding the effectiveness of the facility on mothers and children health.

The assessment of FHH was commissioned by the same organisation who financially and technically supports the FHHs. I would recommend assessing the efficiency, effectiveness, and cost of the model by a third party before making any final judgement. [DP IDI]

4.1.5 Health Financing

The National Health Accounts 2017 (51) reports that the current health expenditure (CHE) in 2017 is approximately USD 2.4 billion, accounting for 11.9% of gross domestic product (GDP). The highest proportion of the health expenditure comes from household out of pocket (OOP) expenditures, accounting for 75.5% of CHE. The second largest health expenditure is from donors, which represents 19.4% of CHE. The expenditure on health from government domestic revenue is accounting for 5.1% of CHE. Additionally, health expenditure pushes 13.9% of households into poverty, with an overall poverty rate of 54% in the country. Furthermore, 31.9% of CHE is spent on infectious and parasitic diseases; about 28.7% on reproductive health services and diseases; 5.4% on nutrition programmes 4.9% on vaccine preventable diseases which includes immunisation programmes; 20.2% on non-communicable diseases; 2.4% on injuries; and 11.44% on non-specified diseases (51).

Health resources decreased by 10% overall from 2018 to 2019 (US\$576 million to US\$515 million), with greater drops in off-budget resources (17%) than on-budget (5%). Worryingly, committed budgets have declined by 29% in 2021 though these are only projections at present. Taken together, health resources per capita has decreased from US\$19 in 2018 to US\$16.7 in 2019 with a projected decrease from US\$17.4 in 2020 to US\$12.1 in 2021 (52).

Development partners with the largest off-budget investments during 2018 and 2019 (combined) include USAID (US\$101.7 million), Canadian Aid (US\$33.3 million), Global Fund (US\$31.1 million), GAVI (US\$87.7 million), EU (US\$24.7 million), UNICEF (US\$24.2 million), JICA (US\$20.7 million), Italian Cooperation (US\$18.2 million), Germany (US\$17.6 million), and WHO (US\$13.5 million).

In 2018 and 2019, the majority of off-budget health resources were allocated to immunisation (US\$237 million), followed by RMNCAH (US\$75 million), communicable diseases (US\$62 million), whole sector investments (US\$56 million), nutrition (US\$56 million), and non-communicable diseases (NCDs), and injuries (\$9 million). Except for nutrition, which shows an increase of 3 percentage points, results indicate an overall decline in the level of off-budget health resources in 2019 (52).

MoPH's development budget in 2018 constitutes the largest share of on-budget health resources at US\$128 million (38%). Most activities under the development budget includes construction of hospitals as well as MoPH health directorate expenses at the sub-national level. RMNCAH and non-communicable diseases and injuries constitute the second and third largest share of on-budget resources at US\$84 million (26%) and US\$54.7 million (17%) respectively. The share of on and off-budget resources in 2018 remain relatively equal across RMNCAH,

communicable diseases, and nutrition. However, stark variances in levels of budgeted resources are evident in other health priority areas. Immunisation and whole sector are entirely funded through off-budget programmes while development and non-communicable diseases through on-budget(52).

On the other hand, though reliable data are lacking, Covid-19 has been estimated to be infecting millions of Afghans. The pandemic has pushed Afghanistan's economy into negative growth. It has opened a fiscal hole of more than US\$800 million in 2020. Donors have responded with some 1.5 billion USD in Covid19-response aid, but only a small portion (in the order of 20 per cent) represents new money – the rest comes from front-loading, repurposing and accelerating aid already in the pipeline, along with 'borrowing' some aid from future years. As a result, Covid-19 is diverting existing aid resources away from medium-term development priorities (53).

4.1.5.1 Pay for Performance (P4P)

During the Presidential Summit in June 2017, H.E. the President of Islamic Republic of Afghanistan provided strong guidance to the health sector to shift from “narrow contract management” to “broader performance management” to bring about accelerated improvement in health outcomes. The MoPH and development partners acted on this shortly after, implementing the new approach P4P approach under the Sehatmandi project.

P4P is a common health financing strategic purchasing tools (54) and is an example of a programme which operates at the health system level with the aim of improving the quality and use of health services to enhance population health outcomes. P4P involves the payment of financial rewards to health workers and sometimes to health facilities based on their achievement of pre-specified performance targets (55).

The MoPH under the P4P has identified priority services for which the SPs receive a fixed amount based on set targets for each province. Achievement of the minimum level of services is a must, and performance below the minimum level will trigger disciplinary actions which could lead to termination of the contract and exclusion from subsequent bidding process. The payment, however, is made on the actual numbers achieved and verified by the TPM report. The P4P is provided for each of the following eleven indicators: antenatal visits (all visits), postnatal visits (all visits), institutional deliveries excluding C-Section, penta-3 for children under one year, TT2+ for women of reproductive age, couple years of protection, number of sputum smear (+) TB cases treated, growth monitoring of under 2-year children and IYCF counselling for pregnant and lactating women, under five children morbidities, Caesarean Section (C-Section), and major surgeries excluding C-Section (21).

Respondents in the present study appreciated the P4P approach and found it a timely shift from an input-based payment to an output and outcome-based payment. However, the majority of respondents expressed their concern about the design and implementation of P4P stating that the current P4P is exclusively a sanction-based programme rather than an incentive-based programme. Respondents also believed that a fair contract shares risks between two parties equitably; yet, the MoPH under the current contracts have transferred the risks to the SPs and SPs have transferred most of the risks to health care workers.

We do not know which clinic is doing a good performance and which one is doing a bad performance. We try our best in our clinic, but at the end the day they due to the bad performance of other clinics, they tell us that our salaries are deducted. We do not know what is happening. [HCW IDI]

Imagine if we have an outstanding performance. You know what? The NGO will get a reward. But if the performance is scored low, it is us to make up for the lost. Believe me, since the start of the P4P programme, we have not received full salary. [HCW IDI]

Respondents also highlighted other important challenges such as delays in verification of reports, difficulties in the identification of households in the community from facility registers due to incorrect names and addresses, and the unrealistic baselines set for some indicators.

If we work 24 hours including Fridays, we can achieve the targets. The baselines are too high to achieve it. [HW IDI]

Some respondents stated that the P4P programme limits health care worker to only reach performance targets. This could distract the health workers from providing quality care for non-measured services.

We sometimes hear from the field that the P4P has raised the risk of offering the services to patients based on meeting performance targets which can lead the inclusion of selected patients and exclusion of others. [PM IDI]

Some respondents reported on the likelihood of unintended consequences of the P4P programme.

There is a chance of over-reporting in P4P indicators, while none-P4P indicators may be ignored or not focused. Also, it may push the staff to reach the targets unethically for example do the C-section for a woman unnecessarily. [Consultative Workshop]

4.1.5.2 Off-budget health facilities

Out of 3667 health facilities at the primary health care level in Afghanistan, 1065 health facilities are established through an off-budget approach and the rest (2319) are financed by Sehatmandi, MoPH (56). Most of the off-budget health facilities are funded by HSS/GAVI, UNFPA, UNICEF, and WHO. None of the off-budget facilities have committed funding beyond 2020.

Some respondents had a strong view on the establishment of off-budget health facilities. They related the current situation to the one pre 2003 when there was no standard package, and the type of health facilities and services were quite fragmented. Respondents explained that though the BPHS has defined the types of health facilities, development partners have been supporting new types of facilities such as FFH, SC+, and CHC+.

I have been involved in the implementation of the BPHS since 2003. MoPH did not allow establishing non-standard health facilities for a long time. Unfortunately, in the last 5 years the situation is so much changed. When

donors have money, they come up with a new implementation model and they easily call it a pilot test. I believe, instead, the BPHS could have been strengthened with the money they spent on those plans. While the current BPHS does not have sufficient drugs and medical equipment and the staff do not receive proper training, they establish new types of health facilities which are not in the framework of BPHS [HM IDI]

On the other hand, some respondents found the recent developments quite essential for strengthening the health system overall. Referring to these as “innovative interventions”, they felt the developments enabled more equitable delivery of BPHS services to mothers and children in rural areas.

The BPHS has gaps in terms of expanding the services to deep rural and isolated areas. What development partners are doing is in coordination with the MoPH. The recent initiatives should be appreciated. [PM IDI]

4.2 Inputs and Service Delivery

According to BSC data, overall health system performance in Afghanistan has not improved from 2011/12 (composite score of 55.0) to 2020 (55.5). None of the MoPH-SM provinces outperformed the national median in 2020, and six of the contracting out provinces surpassed national medians including Baghlan, Herat, Jawzjan, Kunduz, Saripul, and Wardak. (see data in **Annex 2**).

Majority of the respondents expressed their concerns regarding the inflexibility of BPHS in terms of staffing, type of services and amount and type of drugs recommended by the package.

We really need flexibility in terms of staffing, drugs, supplies and type of services in the BPHS. If we need an additional midwife in a BHC based on a felt need, the BPHS should allow us to hire a midwife. If we need to establish a CHC for a smaller population size than what is defined in the BPHS, flexibility should be there. [HM, IDI]

Below is a review of trends and respondent perspectives on specific components of BPHS inputs and service delivery.

Drugs and Supplies: The Pharmaceuticals and Vaccines Availability Index rose dropped overall, though there was much variation between the provinces. The national median dropped from 76.6 in 2011/12 to 68.8 in 2020. All three SM provinces as well as contracting out provinces (save five) experienced declines over this period (**Annex 4**).

Facility Infrastructure: The Revised Infrastructure Index grew marginally from a national median score of 55.6 in 2011/12 to 55.8 in 2020. Gains were observed in two of three SM provinces with Panjsher ranking highest (87.4 in 2020). In contrast, there was more variation in scores of the contracting out provinces with fourteen provinces experiencing declines over this time. The Equipment Functionality Index improved over this period nationally (74.5 to 81.1) and was generally high in most provinces. All three SM and most of the CO provinces experienced gains in in this index. The Laboratory Functionality Index rose overall from 2011/12 to 2020, and the national median score grew from 66.3 to 78.0. Panjshir and Parwan

of the SM provinces and all but ten CO provinces had increases, though levels varied (**Appendix**).

Study respondents corroborated these findings by expressing their concerns with shortage of inputs such as staff, drugs, and type of services in BPHS health facilities. They also stated that some equipment used in health facilities are out of order and the implementing NGOs reluctant to procure new equipment given they say they do not have budget for it.

The clinic does not have drugs after the second week of the month. We know it that it is not the fault of doctors. It is the NGOs that they do not provide drugs. We plan to complain to Provincial Council members. [HS FGD]

When we ask the NGO to provide us equipment, they say that the project is awarded based on the least cost selection method and they cannot afford purchasing new equipment. [HCW IDI]

Information Systems: The HMIS has been considered a strength of BPHS in its thoroughness and ability to provide routine health service statistics in Afghanistan (57).

The HMIS Use Index declined from 75.1 to 70.0 nationally from 2011/12 to 2020. Among SM provinces, scores were similar to national levels but dropped in Kapisa and remained stagnant for others. In CO provinces, seventeen provinces experienced declines and thirteen improved; Helmand fared worst off (29.3) while Wardak performed best (92.0) (**Annex 4**).

Respondents felt the HMIS is generally working well but challenges remain.

There has been a big investment on HMIS. The good thing is that it is working for all BPHS health facilities. But it has still some problems. There are sometimes delays in reporting, and sometimes one cannot trust the accuracy of data. [HM, IDI]

Workforce: A strong, well-trained, compassionate and easily accessible health workforce is pivotal to ensuring an optimal health care experience of patients and families. According to the BSC, the Staffing Index (measuring staff meeting minimum guidelines) is low overall but increased slightly from 25.4 to 29.0 from 2011/12 to 2020. In SM provinces, the increase was more pronounced rising by 45.0 points in Kapisa, 53.4 points in Panjshir and 18.5 points in Parwan. Among the CO provinces, ten provinces experienced declines. The national median for the Provider Knowledge Score declined 64.4 to 54.8 and all SM provinces and most CO provinces also experienced these marginal drops. The Health Worker Satisfaction Index declined slightly from 2011/12 to 2020 (64.5 to 59.8). The SM provinces and contracting out provinces remained at similar levels over time. Similarly, the Health Worker Motivation Index also remained similar across provinces with national scores declining marginally from 69.3 to 66.7 (**Annex 4**).

One of challenges of delivering primary health care services in Afghanistan is the cultural reluctance by women to seek care from male health care providers. This combined with relatively low levels of education for women and relatively fewer women in the health care workforce make for a difficult environment for women in Afghanistan seeking primary health care. One strength of the BPHS is the successful deployment of female health workers in remote areas to increase acceptance of health care utilization among women(19). Health care

practitioners have corroborated these findings, and reported improvements in coverage and usage with increases in female staff members (11). Respondents in our study support this as well.

CME has been such a wonderful programme. I remember 2005 when we had to bring midwives from Tajikistan. We have a sufficient number of midwives now and most of them are working in rural areas. [PM IDI]

One means by which this improvement was achieved was the MoPH's official endorsement by the National Midwife Education and Accreditation, which allowed expansion of community-midwife training into a nationwide programme(12). The Community Midwifery Education (CME) programme was added to the BPHS, and it helped to address the shortage of midwives in rural and hard-to-reach areas. The CME also served to engage the community with planning, priority setting and implementation (9). The CME was instrumental in increasing the number of female health providers (10).

Respondents were positive in terms of the overall situation of staffing in BPHS health facilities. Some concerns were shared regarding the shortage of female doctors in rural areas, lack of a back-up mechanism for a midwife in most of the health facilities when the midwife take her annual leave or cannot come to the health facility due to personal reasons. Some respondents suggested the inclusion of NGOs health care workers on a formal payroll of MoPH so that they can be assured of pension and other benefits in the future. Respondents also suggested the MoPH to assess the CME programme and reallocate the resources to the underserved areas. They expressed their concerns that the private sector trains midwives without appropriate planning and assessing of the market demand. The respondents indicated that in some provinces, midwives have not been recruited due to the low market demand, while in other provinces, the need for midwives are quite high.

Midwives are trained by private sector parallel to the MoPH. A large number of midwives are unemployed. The plan should be revisited. [Consultative Workshop]

Health care workers should receive short term training programmes to achieve performance standards. However, majority of respondents reported they have not received any short-term training programme in the past year. There was a disconnection between performance and personal development.

We have not been provided with even a single training programme in the past two years. We always ask the office [NGO] to train us on some essential areas. They say that training is no longer part of their plan. [Consultative Workshop]

Referral and ambulances: A strong referral system are critical to patients receiving timely and effective care. It has been noted that BPHS has several gaps in its referral mechanism including (1) a lack of clear policies, procedures and guidelines on the referral process, (2) facilities that lack resources as outlined by the BPHS standards, (3) a lack of formal communication and transport mechanisms, (4) lack of relationships between referring and receiving health facilities, and (5) inadequate referral system monitoring capacity, and insufficient opportunity to provide feedback (58).

Respondents also made observations on the BPHS referral system, finding the system unrealistic, especially in rural and inaccessible areas. Long distances between the BPHS health facilities, the absence of ambulances in most of the BPHS health facilities, the inaccessibility to transportation means, and high transportation costs posed a notable challenge to patients/clients

Our CHC does not have an ambulance. When our patients, especially women are referred to another clinic, we do not know how to manage it. Believe me, we did see mothers lost their lives on the way to a clinic due to inaccessibility to an ambulance or a car. [HS FGD]

Respondents reported the ambulances used in health facilities are always rented. They stated that the rented cars cannot provide emergency services during referral and argued that purchasing real ambulances is more cost-effective than rented cars. Respondents recommended to provide ambulances to all CHCs and those BHCs that have a high number of patients on daily basis.

I do not know why they [NGOs] do not purchase ambulances. The cost of a three-year rented car equals a new brand ambulance. For God's sake, this is insane to transfer an emergency case by a common car. [HCW IDI]

Some respondents complained that there is no administration budget allocated for the BPHS health facilities. They argued an administration cost planned for a health facility on monthly basis can allow the health facilities to improve the quality of care without waiting for the bureaucratic processes to receive inputs from NGO headquarters or provincial offices.

An administration budget for clinics would be a great deal. The facility can purchase emergency drugs in case of shortage of drugs in the clinic. The clinic also can address a lot of other small challenges they encounter on daily basis such as replacing broken glasses and repairing basic equipment. [HCW IDI]

Access: Access is about 'enabling a patient in need to receive the right care, from the right provider, at the right time, in the right place, dependent on context' (59). Measure of access should include all domains of access – availability, affordability, and acceptability (60) – not simply physical access to health facilities. Access to health care is an ongoing challenge in Afghanistan and specific issues related to costs (either transport or services), travel time, geographic location, and insecurity are well documented in the literature (7,10,15,60–64). Afghanistan Health Survey (AHS) 2018 reported inaccessibility by 17.9% of respondents as a barrier to seeking services; and of those who did not seek care for health complaints, 53.7% cited costs as the major factor (61). Household out-of-pocket expenditures on health (75%) constitute a major barrier to accessing healthcare in Afghanistan and it has posed a large financial burden, especially for the poorest households. Evidence indicates the poorest have higher health expenditures in Afghanistan than the wealthiest (62,63). A recent study conducted in three provinces (Badghis, Bamyan, Kandahar) highlights that, in spite of socio-demographic and geographic variations, the main reasons for limiting accessibility to institutional delivery is distance, a lack of transport, and high transport cost in Afghanistan(64).

Several respondents stressed these challenges.

In some villages, there is no car available. When a patient is in a bad condition people have to carry the patient on shoulders to a clinic. If the clinic is so far from the patient's house, there is no other way to help. Sometimes, we use a donkey or a horse to take a patient to a clinic, but for mothers who are due to delivery or for other emergency patients, it is impossible to use an animal. [HS FGD]

People are poor and they cannot afford the cost of transportation to a clinic. [HS FGD]

Availability of PHC Effective Services: Effective services exist among the presence of competent and motivated providers at a health facility when patients seek care (40). Motivation reflects provider autonomy, intrinsic motivation, remunerative motivation, supportive supervision, and level of burnout. Competence captures levels of knowledge and skill of providers, and the level of effort they expend on care provision. As shown earlier, according to the BSC, the Provider Knowledge Score and Health Worker Motivation Index remain subpar in Afghanistan (national median in 2020 are 54.8, 66.7, respectively) and have declined since 2011/2012 (**Annex 4**). Severe efforts are needed in this area.

Respondents suggested that health worker motivation might be low since they are frequently not paid on time and are under-appreciated by superiors. Moreover, trainings and opportunities for continuing skill development have dwindled in recent years.

When you are working in a rural health facility and under many difficulties, you expect at least a thank you note from your supervisors and MoPH. They even do not send our salaries on time. [HCW IDI]

I feel I am illiterate since I have been working in this clinic. I have not received any training so far. My colleagues tell me that it was good in the past that regular training courses were provided to the staff. [HCW IDI]

Facility Management: The delivery of effective health services necessitates strong management at the facility level to ensure that human resources, finances, and hardware needs are met and are working efficiently (40). At the national level, Health Facility Management Functionality Index scores did not change between 2011/12 and 2020 (medians core of 50) and overall levels are subpar. Two of the three SM provinces had scores above the national median in 2020 (Kapisa, Panjshir); while fourteen of CO provinces declined scores over this time, and sixteen increased (**Annex 4**).

Some respondents reported that they lacked the required technical, operational and financial skills required to manage clinics, particularly among lower level facilities. Moreover, trainings are not available.

We have several problems. The major one is that most of us are not trained on how to manage our clinic. Secondly, if something is broken, we have to wait for weeks to repair it or to get a new one; there is no admin cost allocated for our clinics. [HCW FGD]

4.3 Output and Outcome

4.3.1 Health Status (Mortality and Cause of Death)

Neonatal and infant mortality rate have steadily declined from 2000 onward in Afghanistan, while adolescent mortality rate has risen (**Annex 4**). According to modeled estimates, maternal mortality rate in Afghanistan has been declining in the past two decades (1,450 deaths per 100,000 live births in 2000 to 638 deaths in 2017). Despite this improved survival among mothers and their babies, current mortality rates remain alarmingly high and much work remains. Increasing mortality among adolescents is alarming and suggest a missed population that requires immediate intervention.

According to estimates from the Global Burden of Disease Study (65), the top cause of death in Afghanistan is ischemic heart disease causing 102.52 deaths per 100,000 Afghans in 2017. The second most common cause of death is neonatal disorders affecting 83.77 per 100,000 Afghans. These are followed by stroke, congenital defects, road injuries, meningitis, diarrheal diseases, diabetes, and maternal disorders, in decreasing proportions (**Annex 4**). Cause of death for younger Afghans is largely attributed to communicable, maternal, neonatal, and nutritional diseases; while older Afghans (50 years+) die more frequently from non-communicable diseases (see age-stratified analyses in the **Annex 4**).

While the BPHS has evolved since its introduction in 2003 to cover not only core areas but also emerging health priorities (discussed below), some study respondents noted that the determinants of health are completely invisible in BPHS. Respondents emphasized on the role of several external factors such as water and sanitation, environment, education, family's economy, and the relationship of people with their family and friends in influencing the health of individuals and communities, and that these should be considered directly or indirectly in the BPHS.

The BPHS unfortunately does not emphasis on the determinant of health. We need not only inter-sectoral coordination at the policy level but also close and effective coordination at the implementation level. [PM IDI]

4.3.2 Reproductive, Maternal, Neonatal, Child Health (RMNCH)

Maternal and child health has generally improved in Afghanistan over the past 2 decades. Progress has generally been impressive from 2003 and 2010/11 but has stagnated since then. Below we discuss findings by key interventions; for brevity, data and analysis are provided in the **Annex 4**. It should be noted that though we report data from surveys such as the Multi Indicator Cluster Survey (MICS) 2003, MICS 2010/11 and AHS 2018, health service coverage levels capture service accessed, but not necessarily “effective” or quality-adjusted coverage.

At the national level, contraceptive use has risen from 10.3% in 2003 to 21.2% in 2010-11, though it decreased to 18.9% in 2018. Nonetheless, contraceptive utilization remains low in Afghanistan. About 14.6% of women received four or more antenatal care (ANC) consultations in 2010/11, and this grew to 20.9% in 2018. Though earlier surveys had limited information on post-natal care (PNC), in 2018, PNC for mothers was 37.4% and 19.3% for newborns. Skilled birth attendance (SBA) in Afghanistan has improved notably from 38.6% in 2010/11 to 58.8% in 2018 at the national level, with over 60% coverage in most provinces in 2018. Acute respiratory infection (ARI) and diarrhea prevalence among under-5-year-olds have both

declined. In 2003, ARI prevalence was 19% and stayed at this level in 2010/11 before dropping to 10.7% in 2018. Diarrhea prevalence declined steadily from 29.7% in 2003 to 22.9% in 2010/11, to 18.1% in 2018. Care-seeking for ARI increased overall in Afghanistan from 2003 to 2018, though significant provincial variation exists. Use of oral rehydration therapy (ORT) including oral rehydration salts (ORS) or home-made fluid was 69.2% in 2003, falling to 63.5% in 2010 and 57% in 2018. See all data by province in the **Annex 4**.

Evidence shows that the majority of maternal deaths in Afghanistan occur because of hemorrhage, obstructed labor, and sepsis/infection (66) which are problems that can be improved with access to appropriate health services. However, there are only 38 CHCs+ and 88 district hospitals (out of 3667 BPHS health facilities) that can manage complications of pregnancy (67). This means only 3.4% of BPHS health facilities can provide the required services to women who encounter life-threatening problems. This situation is shocking and has presented a high risk of morbidity and mortality for pregnant women and newborns.

Accordingly, respondents express their concern on the BPHS limitations in providing services, especially in terms of pregnancy-related complications and newborn care. SCs, BHCs and CHCs do not have sufficient capacity, neither in the form of staff and knowledge nor in terms of equipment and supplies in managing complications of pregnancy and newborns. Respondents also stated that the large proportion of home deliveries [over 40%] has placed the life of mothers and neonates at a high risk of morbidity and death, while the BPHS health facilities do not have further capacity to increase a demand for RMNCH services. Respondents also expressed their concern on the low utilization of family planning services in BPHS health facilities.

We know that the BPHS focus is generally on RMNCH services. However, in practical terms, we have extensive limitations in BPHS in providing critical services to mothers and newborns. The BPHS, in lower level, cannot help a mother with complication at all. The referral system is also ineffective. We continuously receive reports from rural areas that pregnant women die on the way to a district or provincial hospital due to the distance. [PM IDI]

Some respondents also proposed to transform BHCs and CHCs to primary health care facilities with an efficient maternity home that could manage the delivery complications, in addition to other high priority services.

Maternal and child health is the focus of our health policy not only for now but also at least for the next 10 years. However, unfortunately, many BPHS facilities cannot offer the required services. Having a health facility without a maternity home to take care of complicated cases is equal to not having it for people. The BPHS is no longer capable of further preventing or reducing maternal and child deaths. [PM IDI]

4.3.3 Immunisation

The MoPH with the collaboration of development partners (WHO and UNICEF) initiated the National Expanded Programme for Immunisation (NEPI), for the management and implementation of immunisation services in the country. The BPHS implementers are

responsible to provide EPI services (fixed centres, outreach programmes, mobile services), while the *NEPI* supplies vaccines and consumables in each province.

According to household survey data (**Annex 4**), measles vaccine coverage appears to have declined from 76% in 2003 to 55.5% in 2010/11, and then risen again to 64% in 2018. While DPT3 and BCG vaccination coverage have steadily risen over this same period. DPT3 was accessed by 30.1% of children in 2003, 40.2% in 2010/11 and 60.8% in 2018. BCG coverage was generally higher beginning at 59.8% in 2003, increasing to 64.2% in 2010/11 and to 78% in 2018.

Respondents highlighted the lack of good progress in the routine EPI coverage since 2006. Some respondents stressed that poor performance of service providers in terms of outreach and mobile activities has resulted in low, and in some areas, no coverage. Further, the respondents stated that service providers have low technical capacity and they do not comply with the EPI strategies and standards. Respondents criticized service providers' irregular monitoring and supervision, inaccurate reporting, poor culture of data use, and more focus on supply side and less on demand side.

There is no planning, no transportation, no sufficient fuel, no repeating budget for motorbike, and no per diam in services providers. Also, there is late payment for mobile and outreach activities. [HM FGD]

Other respondents expressed their concern over the current ineffective EPI strategies, and requested a fundamental reform of the strategies. Respondents believed that the EPI programme is too vertical and the role of the MoPH as the lead of the programme seems to not be predominant. They emphasized that the programme ownership must be given to the government and the transparency of the programme should be ensured.

The service providers are provided only with the salary of vaccinators. The rest such as vaccines and supplies come from vertical sources. Let me tell you that it is a failed approach and unfortunately the government is continuing with it. Is anybody there to at least study how much money is wasted and misused every year? [HM FGD]

4.3.4 Malaria

Malaria is a major endemic vector borne disease in Afghanistan; the nation boasts the world's third-highest malaria burden. The 2019 World Malaria Report states that 28 652 489 Afghans are at risk of malaria, 831 091 (95%CI=633 000, 1 068 000) incident malaria cases and 383 malaria related deaths (95%CI=140, 670) (68).

Diagnosis and treatment of malaria has been integrated into the BPHS and there are an initiative for Community Based Management of Malaria (CBMM) through application of rapid diagnostic test (RDT) at community and low level health facilities (BHC, SHC, MHT and HP). Between 2003 and 2015 majority of cases were diagnosed clinically (71%) or by microscopy (29%). By implementation of CBMM clinical cases drop down to 1% based on 2019 data and the confirmation is increased to 99% at all levels. However, the CBMM approach is implemented vertically through BPHS implementers contracted with UNDP and funded by Global Fund. Likewise, based on the national malaria strategic plan (69), free distribution of

Long Lasting Insecticidal Nets (LLINs) to households through house to house campaign and to pregnant women through BPHS facilities is envisaged. However, the distribution of the LLINs is being done vertically thorough UNDP/GFAMT additional contracts to BPHS implementing organisations.

Integration of CBMM and LLINs into the BPHS package will make the system efficient. Having several contracts in one time from different donors is a headache. Also, it is generally expensive as a standalone contract. [HM IDI]

NGOs conduct some advocacy, IEC [information, education, communication] and community mobilization activities by the support of Global Fund grant. It is important to integrate these types of activities into the BPHS. [HM FGD]

4.3.5 Tuberculosis

Tuberculosis (TB) continues to be a public health challenge in Afghanistan. In 2016, 65,000 cases of TB leading to an estimated 11,000 deaths were reported, along with 2,500 multi-drug resistant tuberculosis (MDR TB) reported cases. In 2017, 47,406 cases of TB were detected and treated out of 392,272 unconfirmed cases. Among new incident TB cases, 20.5% were in children, and 56% were women. Roughly, 70.6% were in the productive age group (15-64 years), and 52.3% of women were in the reproductive age group (15-44 years) (70).

According to the WHO programme “Stop Tuberculosis”, TB medicines and diagnostics are made available free of charge throughout Afghanistan. TB has also been integrated into the BPHS. Though National TB Programme (NTP) provides strategic guidance to BPHS to have them implement TB policies/guidelines, almost 30% of TB cases of all forms and 80% of MDR-TB cases are missing. The analysis from NTP shows a large number of presumptive TB patients are missed in BHCs and SHCs. In addition, the proportion of presumptive TB patient’s identification is very low in all health facilities and it has led to missed opportunities.

It would be best to setting up sputum/smear transportation system. The BPHS should collect sputum samples from health facilities such as BHCs and SHCs and transport it to upper level for TB diagnosis. Also, active household contact screening for all registered DS-TB [drug-susceptible tuberculosis] cases through home visiting for all forms of TB registered cases, and conduction of community awareness campaign for community key people such as mullahs, schools, health shura and others are important steps to be taken under the BPHS. [HM FGD]

4.3.6 HIV/AIDS and other Diseases

Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) are a growing problem in Afghanistan. Though prevalence of HIV among the general population is low, it is higher in vulnerable populations and national authorities recognize HIV control as a major public health priority. In 2017, the number of Afghans living with HIV was estimated to be 5,900, of which 23.7% were women and an additional 3.4% were children (71). In 2019, there were an estimate 11,000 Afghans living with HIV, of which 27% knew their status.

Between 2010 and 2019, according to data from UNAIDS, there was 116% increase in new HIV cases 103% increase in AIDs-related deaths (71).

Despite the increasing burden of HIV/AIDs in Afghanistan, several respondents felt that the amount of resources allocated to these conditions is disproportionate to the absolute burden of the disease in Afghanistan. Furthermore, that many other diseases such as leishmaniasis and rabies are neglected under the BPHS despite being major public health issues in the country. Respondents criticized the MoPH for inappropriate policies.

The country isn't threatened by HIV but by diseases such as hepatitis and leishmaniasis. We are aware that millions of dollars are spent on HIV prevention and control, while limited attention is paid to these important problems. [HM IDI]

4.3.7 Covid-19

The novel coronavirus (COVID-19) pandemic continues to devastate the world since early 2020 (72). In Afghanistan, COVID-19 cases began rising in March and grew into the month of June. The daily new confirmed number of deaths due to COVID-19 appears to have declined from their peak in July 2020. It is important to note that due to limited testing and challenges in attributing cause of death to COVID-19, this may not be an accurate account of the true number of COVID-related deaths (73).

Afghanistan's COVID-19 response has faced several setbacks and posed new challenges. Border restrictions have impeded economic and resource flow, while low public awareness of COVID-19 combined with low health literacy, cultural norms of shaking hands, existence of multi-family households, and gatherings at still-open mosques continue to aggravate the existing crisis. Afghanistan has very limited capacity of beds in isolation centres, only one central public health laboratory conducting diagnostic testing for COVID-19, and a shortage of healthcare workers (72). According to John Hopkins University models, Covid-19 might impact service delivery in Afghanistan significantly, leaving 843,300 children without oral antibiotics for the treatment of pneumonia, 958,600 children without DPT vaccinations, 141,500 women without access to facility-based deliveries, and 494,500 fewer women receiving family planning services. Consequently, child mortality in Afghanistan could increase by 18 percent and maternal mortality by 14 percent over the next year.

In order to minimize the impact of Covid-19 on routine health services, the MoPH has taken some steps including developing a plan for delivery of basic health services, strengthening partnership with health service providers and enhancing the community-based programme. Further, services providers are allocated extra funds (10 percent of total contract value) to respond to immediate needs such as medicine and personal protection equipment (74).

4.3.8 Public Nutrition

Nutrition in Afghanistan has improved over the last two decades; however, several challenges remain. Child stunting dropped from 60% in 2004 to below 40% by 2018, yet still, almost one in every two children in Afghanistan are stunted. Child wasting or severe acute malnutrition (SAM) among children also dropped from a high of 18.2% in 2004 to 5.1% in 2018 (**Annex 4**).

According to the Afghanistan Nutrition Cluster (2019), by the end of 2018 more than 50% of the provinces in the country recorded levels of Global Acute Malnutrition exceeding the critical threshold of 15% of children under 5 years of age. Underweight women of reproductive age (BMI < 18.5) declined from 20.9 in 2004 to 9.2 in 2013 (**Annex 4**).

The BPHS facilities provide management of SAM in ambulatory regime, and CHCs+ offer inpatient care for SAM with medical complications. Growth monitoring and breast-feeding counseling has been enhanced recently with the recruitment, training, and deployment of a nutrition counsellor at BPHS facilities (47).

Respondents stated that some of the nutrition activities listed in BPHS were not fully carried out by BPHS due to a lack of technical capacity, dearth of financial resources and procurement of supplies for SAM and moderate acute malnutrition (MAM) treatment being off-budget as well as not being on the essential medicines list. Therefore, for those activities not being carried out in BPHS, other stakeholders provide technical and financial support. For instance, UNICEF procures SAM supply, Vit-A and non-consumable supply, WFP provides MAM supply, nutrition cluster conducts small scale surveys and WHO supports surveillance. In some cases, the BPHS activities were influenced by vertical projects and majority of BPHS nutrition activities were covered by supporting partners.

Though other partners are supporting nutrition in BPHS health facilities, we should think how to integrate all activities into the BPHS. Vertical projects are not sustainable. [HM FGI]

4.3.9 Non-communicable Diseases

NCDs are traditionally termed “lifestyle diseases” due to their origins in human behaviours including diet, physical inactivity, and tobacco use. However, more recently, these behaviours are recognized as being heavily influenced by social, political, and economic trends of a nation (e.g. national economic performance, urbanization, population aging) (75). In Afghanistan, the burden of NCDs is on the rise. According to GBD data, NCDs are the leading cause of mortality in Afghanistan since 2000 (65). In 2017, the top four NCDs across all ages were congenital defects (responsible for 3,798 DALYs per 100,000 population), ischemic heart disease (2,949 DALYs), stroke (1,432 DALYs) and diabetes (917 DALYs). Among children <5 years, congenital defects, SIDS, chronic kidney disease, ileus & obstruction and epilepsy were most common. Children 5-14 years suffered most from congenital defects, asthma, conduct disorder, dermatitis and headache disorders. While leading NCDs among adults 15-49 years were ischemic heart disease, drug use disorders, stroke, headache disorders and lower back pain (data in **Annex 4**).

As a long-neglected, understudied, and underfunded group of conditions, NCDs in Afghanistan require renewed focus and targeted strategies before pandemic proportions are reached. Surprisingly, very few study respondents discussed NCDs in the context of BPHS. Those who did note the topic acknowledged that NCDs are a crucial public health problem but admitted that the BPHS is silent on it. Here respondents were concerned that thousands of Afghans travel abroad to seek healthcare for NCDs, yet NCDs could be easily prevented or managed in the initial stages and quality interventions are introduced in the BPHS. It was also acknowledged that a novel framework for managing NCDs in Afghanistan is urgently needed;

one that considers not only NCD outcomes but also the lifestyle risk factors and Afghanistan's social, political and economic context.

4.3.10 Mental Health

Mental health disorders are common across all age groups in Afghanistan (see data in **Annex 4**). Depression is the leading mental disorder in Afghanistan causing 528.3 DALY's per 100,000 population (all-ages); this rate increased 4.11% from 2010. Anxiety disorders are second most common, followed by intellectual disabilities, conduct disorders, bipolar disorder, other mental disorders, schizophrenia, autism spectrum, eating disorders and ADHD. Among children < 5 years, intellectual disorders are the most common causes of DALYs, while depressive and anxiety disorders are the most common among adolescents and adults age 15 years to 70 + years (65) (**Annex 4**).

Mental health was included in the first tier of BPHS in 2010. According to the Mental Health Department, 65% of the BHCs have at least one member trained in basic counseling and 71% of CHCs have one person with advanced psychosocial training. Respondents felt that, though mental health services in primary health care is manageable, the lack of mental health training programmes for health facilities and CHWs, shortage of psychosocial counsellors/clinical psychologist and psychiatrist/mental health focal point in DHs, unavailability of psychotropic medicine in BPHS facilities, and weak referral mechanism pose significant challenges for the programme's success

The common and severe mental disorder are easy to manage in primary health care level. Early identification and management of mental health cases in BPHS can result in preventing mental disability. We need to well plan, especially in terms of workforce for mental health to improve the services in the BPHS clinics [HM FGD]

4.3.11 Disability

The Model Disability Survey of Afghanistan 2019 (MDSA) suggests that disability prevalence has increased in Afghanistan since 2005, for both children and adults with mental disorders as a leading cause (**Annex 4**). Among other factors, Afghanistan's perilous context and conditions for health care including the ongoing violence and conflicts, land mines, birth defects, and malnutrition, may have contributed to an increase in severe disability prevalence from 2.7% (2005) to 13.9% (2019) among Afghan adults aged 18 and above (76). This suggests that currently, almost 2.5 million adults in Afghanistan have severe disabilities. Even more alarming is that another 65 percent of adults have either mild or moderate disabilities. Top functional disabilities among Afghan adults are extreme problems with applying for and getting a job (27.4%), getting a formal or informal education (25.5%), using public or private transportation (21.8%), engaging in vigorous activities (21.8%), engaging in local or national politics or Civil Society Organisations (CSOs) (21.7%), walking one kilometer (18.8%), voting in the last election (18.4%), pain in day-to-day life (15.6%), getting to where one wants to go (11.9%), and walking 100 meters (11.9%). Among children aged 2-17 years, 6.6% suffer from mild disability, 7.1% have moderate disability, and 3.5% have severe disability. Children's top functional disabilities include having pain (5.7%), being part of community activities (5.2%),

changes in plans or routine (4.6%), getting things done as required at school (4.5%), completing a task (4.0%), biting, kicking, and hitting others (3.8%), feeling worried, nervous or anxious (3.6%), having too much energy (3.6%), problems learning to do new things (3.4%), and getting clean and dressed (3.2%) (data in **Annex 4**).

The MDSA suggests that interventions for children and adults with disabilities in Afghanistan require a multi sectorial and urgent approach (76). Respondents in this study stated that the disability and rehabilitation services are not clearly mentioned in the contract of BPHS services providers. They complained that the disability and rehabilitation indicators are neither included in the P4P scheme nor in the quality indicators list for BPHS implementers.

Disability and Rehabilitation staffs has not listed in the essential staff list of BPHS health services providers. No-Professional staff hired as Disability and Rehabilitation staff [Physiotherapists and Orthopedic Technologists] in the majority Districts Hospitals. [HM IDI]

4.3.12 Drug Demand Reduction

Drugs Demand Reduction (DDR): Drug addiction is a major public health problem in Afghanistan. Almost 2.5 million people are addicted to different type of drugs across the country, mostly in rural areas. Currently, the MoPH has established over 4000 beds in Kabul and other provinces to provide curative services to addict patients. Some respondents suggested integrating DDR programme with the BPHS. They also expected the P4P to consider DDR as one of the key targets of the approach.

The BPHS should be revised to ensure DDR management is considered at the BPHS level. The number of addict patient are much more than the capacity of the current hospitals. [HM IDI]

4.3.13 Quality of Care

Concerns regarding the quality of healthcare (QoC) provided in Afghanistan have been raised since the inception of the BPHS (77,78). Although access to health services improved notably since 2003, quality has not followed suit (79). Literature suggests that low drug quality, lack of qualified or available staff, and a poor quality of treatments and services being offered are key challenges for QoC (80). Additionally, it has been reported that selecting least-cost SPs, low overall funding for BPHS and EPHS, implementation challenges, high staff turnover and limited value placed on quality at the facility level undermine efforts to improve care quality (17,54,78,80, 81,82).

As an overall composite of QoC, the Healthcare Access and Quality Index of the Global Burden of Disease group scored Afghanistan low at 26% and ranked it amongst the worst performing at 191/195 countries (47,82). According to BSC data (analysis in **Annex 4**), the Client Satisfaction and Perceived Quality of Care Index declined nationally from 77.2 in 2011/12 to 70.7 in 2020. Variation across provinces is limited and declining scores are observed in most including all three SM provinces. Contrarily, the national median of the Client Background and Physical Assessment Index rose from 73.8 to 89.9 over the same period. Majority of provinces fare well in this indicator including all SM provinces. Afghanistan has lower performance in

the Client Counselling Index which, despite a national improvement from 30.0 to 49.9 from 2011/12 to 2020, still has suboptimal levels. Wide variation is noted across provinces, though all SM provinces improved in this indicator since 2011/12. Afghanistan's performance in Time Spent with Client is generally disheartening relative to other QoC indicators; the national median in 2011/12 was 16.1 and this dropped to 7.6 in 2020. Scores in most provinces including all three SM provinces declined over time (**Annex 4**). Several respondents in this study corroborated the literature and data trends.

Sometimes people cannot trust the treatment of the clinic. They prefer to go to a private clinic if they have money. [HS FGD]

You have to wait for a long time in the clinic to be seen by the doctor. He spent a few minutes and sometimes a minute on checking the patient and then he gives a prescription that is not available in the clinic. [HS FGD]

MoPH launched the National Strategy for Improving Quality in Health Care in 2011, which provides a standardized definition of quality in Afghanistan's context, defines strategic objectives, presents a detailed 5-year operational plan, outlines a measurement and data collection strategy, and allows for routine assessment of quality performance (83); evidently much work remains towards improved QoC in Afghanistan.

4.3.14 Equity

Equitable reach of life-saving health services is a key mandate of the BPHS. Yet, survey data shows that access to several essential interventions is unequal across the country (**Annex 4**). Particularly, family planning, antenatal care and skilled birth attendance is far worse for the most disadvantaged populations including those in rural areas, least educated and the poorest (**Annex 4**). Literature supports these data as well and notes the wide variation in service provision across provinces, with particular low coverage in impoverished, rural and conflict areas (9). Pervasive challenges include fewer health workers in rural compared to urban areas, and a lack of transport, ineffective infrastructure, insecurity, cultural barriers and dangerous weather in areas further hinders access to basic health services (10,11).

The MoPH has implemented several community-based outreach programmes to improve coverage, particularly in remote areas (9), including the introduction and promotion of CHW, HPs, and mobile health clinics (10,34,84,85). Additionally, service providing NGOs have designed and implemented context-specific innovations to scale service reach to varying success (9). The removal of user fees for primary care services in 2008 was another successful means of increasing equity and was found to increase access to the BPHS without hindering quality (10,86,87). Under Sehatmandi, it's been found that SPs are not fully incentivised to ensure equity (21) and this requires immediate revision.

Respondents in our study corroborated the literature and suggested that BPHS is not equitable given the geography, climate, insecurity and cultural diversity of the country. Some of the respondents proposed that the MoPH develop at least four different types of BPHS to serve easy & secure, hard-to-reach & secure, easy & insecure, and hard-to-reach & insecure settings.

The BPHS is a standard document. I wish we had also a standard geography, and I wish we had security in all parts of the country. There should be another

version of BPHS to provide services to insecure and difficult areas. [HCW, IDI15]

Many respondents reported that there are still white areas at which populations experience no access to basic health services. They believed that people living in isolated rural areas are more likely to report limited access to health services. Travel to reach a primary care provider remains expensive and burdensome for them. As a result, Afghans in these areas may substitute primary care providers for traditional treatment, or simply may decide to forego care.

The BPHS is unable to offer services to very deep rural areas where most of the maternal and neonatal deaths occur. [Consultative Workshop]

Respondents felt that equity could be improved by developing better access to rural areas (building road networks), training and deploying more female workers for outreach, revising CBHC to expand outreach services, re-designing roles and responsibilities of CHWs (overworked, poor accountability), scaling family health houses and reducing OOP expenditures, particularly among disadvantaged families.

4.3.15 Efficiency

Efficient use of health resources can increase access to quality health services and improve population health. Competing health priorities, dwindling donor funds and limited government share of total health expenditure, are some factors that underpin Afghanistan's efforts to improve spending efficiency or making more efficient use of available resources (8,23,85).

In a 2016 analysis conducted by the MoPH, inefficiencies were identified as a priority area in increasing the fiscal space for health in Afghanistan (88,89). The analysis evaluated direct inputs and outputs and used econometric models to determine efficiency separately for CHCs, BHCs, SHCs and DHs. Expenditure data was collected from the expenditure management information system (EMIS), while data on outputs was collected from the HMIS. The Data Envelopment Analysis (DEA) approach was used and estimated efficiency scores ranged from 0 to 1, with a score of 1 indicating full efficiency. Results show that CHCs are the most efficient, with an average score of 90%, followed by BHCs at 79%, and finally SHCs at 73% (88). This suggests that there is more room for efficiency gains in BHCs and SHCs, with limited scope of improvement for CHCs. For DHs, there were 22 out of the total 56 hospitals with efficiency scores of 100%, meaning that 39% of hospitals were technically efficient (89).

CHCs are likely more efficient than BHCs and SHCs because they offer more services including immunisation, basic curative care, and inpatient care (88). It was found that if all SHCs performed efficiently, savings could be USD\$2.49 million, and if all BHCs and SHCs improved efficiency, savings could reach USD\$7.14 million. Efficiency of CHCs and SHCs could be improved by investing in supportive staff, while in BHCs, increased capital expenditure increased efficiency and reduce costs (88). DHs were more homogeneous, likely resulting from DHs' provision of a standardized package of services and financing from donors who use the intended population as the main means of estimating budget (89). Despite their high average efficiency score, DHs can still be improved as unit costs vary considerably from hospital to hospital, even when controlling for variables such as location. Case mix was found to be associated with efficiency in DHs, with efficiency being lower in the hospitals which had the

more severely ill patients. Another possible factor that explains DHs' efficiency is the proportion of supporting staff out of all staff, as the higher this proportion is, the lower the associated efficiency (89).

Study respondents suggested the distribution of health facilities is not proportional to population size and disease burden; additional efficiency gains can be made if facilities were adequately redistributed.

The MoPH should find a way to redistribute some of the BPHS health facilities. Some health facilities have a small size of the population in its catchment area. Therefore, the utilisation of services is so low. They can improve the efficiency of the overall health system performance if they rationally distribute the facilities. [HM IDI]

Moving forward, health facility efficiency monitoring and benchmarking should occur regularly, at minimum, annually or bi-annually using data collected by EMIS and HMIS. Data could be used to identify and target poor ranking facilities. As P4P has been in use to reward volume of service provision in Afghanistan for several years already, it can also be used to reward relative efficiency in service delivery.

4.3.16 Gender-based Violence

The Demographic and Health Survey (DHS) conducted in 2015 reported that over half of women and girls have experienced either physical or sexual violence in their lives (66). This violence is likely perpetrated by a member of the family, and the large majority of survivors receive no care or support which could be due to social stigma or lack of safe access to services (90). Gender-based violence (GBV) impacts not only the girls and women who directly experience the violence, but also have long-term psychological and physical impacts on children, as well as negative economic impacts on families and communities, while hindering the country's progress in meeting development goals (91). Some respondents emphasized on the crucial role of the BPHS in GBV response services, such as medical services including clinical management, legal advice, psychosocial counselling, and referral of GBV survivors for temporary shelter, police protection and legal representation.

The country lacks separate facilities for taking care of GBV survivors. Most of GBV survivors do not receive health care due to the absence of GBV services in health facilities. [HM IDI]

The UNFPA's assessment of the state of services available to survivors of GBV in Afghanistan identified a need for a separate facility where victims could be examined and interviewed (90). In 2012, the National Priority Programme provided a six-step process to integration of GVB into secondary and tertiary level health care. These steps include: (i) Development of a concept paper on the health sector's response to GBV, (ii) Development of a country specific model of the health sector's response to GBV, (iii) Building capacity of health service providers to ensure that professional multilevel assistance, safety and confidentiality standards are in place, (iv) Piloting of the model in selected provinces, (v) Revision of the model and full integration of the services into health care sector, and (vi) Monitoring and quality control assurance through continuous capacity building of health professionals. The first four steps have been successfully

completed, and the model of health care response to GBV that has been created is called the Family Protection Centre (FPC)(90).

In the long term, the goal is the integration of GBV services into Afghanistan’s primary health care packages – the BPHS and EPHS. As the MOPH is assessing the design and performance of primary health care in Afghanistan in 2020, there is an opportunity to include the Health Sector Response to GBV into the revised BPHS system (92).

4.3.17 Resilience / Emergency Preparedness

Emergency and disasters disrupt health systems, leaving people with limited access to health services. Therefore, a context-based multi-sectoral plan is required to coordinate and integrate the interventions and activities to sustain and improve the capacity to be prepared and timely respond to emergencies and disasters (93). Study respondents expressed their concern on the lack of an emergency preparedness and response plan with service providers. Respondents stated that BPHS could play an important role in effective health emergency management during response and recovery, but also for risk reduction, including preparedness.

The delivery of an integrated health care services from the BPHS health facilities during emergency and disasters can minimize the associated morbidities and deaths. [HM IDI]

Afghanistan has made some strides in this direction. The USAID Health Sector Resiliency project initiated in 2015 aimed to improve the sustainability and self-reliance of Afghanistan’s health care system (94). Afghanistan’s Strategic National Action Plan for Disaster Risk Reduction (introduced in 2011) outlines the need for an advanced health emergency surveillance system and emergency management of staff and volunteers including health and medical personnel (95). Further efforts in this space should focus on disadvantaged populations such as women who have been found to be more vulnerable to disasters compared to men due to lack of education, lack of health facilities for women, insecurity and poor socio-economic status (96).

4.3.18 Health Promotion

Health promotion is defined as the process of enabling a population to take control over their health and determinants of good health status. By increasing education and awareness of key physical social, environmental, and economic conditions that influence health, individuals are empowered with personal skills and capacities to improve their own health and well-being. The Afghan National Health Promotion Strategy aims to build on five components of health promotion to build “Health for all Afghans”, specifically building healthy public policy, creating supportive environments for health, strengthening community action for health, developing personal skills, and reorienting health services (97). Yet, study respondents felt much work remains in this underdeveloped area in Afghanistan, not only among civilians and their families, but also practitioners and policymakers.

Although access to health services has improved, unfortunately, health practices such as vaccination, seeking ANC and PNC, institutional delivery, using balanced food, performing physical activities, washing hands with soap and water and other key health practices are not satisfactory. [HM IDI]

Many health centres do not have soap, while health personnel contact large numbers of patients, including infants. Instead of treating them, they may transmit the infection to them. [HM IDI]

5 Discussion and Recommendations

5.1 The Basic Package of Health Services

For brevity, the discussion of this report highlights key overarching recommendations as they pertain to BPHS and its implementation in Afghanistan. A detailed set of recommendations emerging from this work and organised in line with the PHCPI framework is presented in **Table 4**.

This study supports existing evidence that the introduction of BPHS has contributed meaningfully to improving survival and health status in Afghanistan. Success factors include the following: PHC services were standardised, cost-effective interventions were introduced, health care workers especially community midwives and nurses were trained and deployed, reporting and monitoring & evaluation mechanisms were established, coordination was strengthened, financial resources were mobilised and physical access to health care services was improved. However, the findings of this study show that the BPHS has not been able to universally cover Afghanistan's population, and much work remains.

The principles of primary health care are *accessibility, community participation, health promotion, appropriate technology and intersectoral cooperation*. Accessibility necessitates that the five types of health care (promotive, preventive, curative, rehabilitative, and supportive/palliative) are universally available to all clients, regardless of geographic location. Effective community participation involves beneficiaries participating in decisions about their own health and in identifying the health needs of their community. Health promotion encompasses knowledge-, practice- and attitude-changing education on overall health, nutrition, sanitation, maternal and child health care, immunisation, prevention, and control of diseases. Appropriate technology ensures that modes of care are cutting-edge and are adapted to the community's social, economic, and cultural development. Intersectoral cooperation recognises that health and well-being is linked across sectors, and posits, at minimum, that both economic and social policies address health in the country. In light of these key principles as studied through the PHCPI conceptual lens, our study reveals that, despite gains, Afghanistan's primary health care is deficient in many important aspects. Several communities across the country still cannot access health care, community participation exists but is poorly understood and executed on, the BPHS package has failed in key areas such as health promotion, use of latest technology is limited, and intersectoral cooperation is under-utilised.

Service integration is a valuable strategy to build a more efficient health care system (98). This study found there are many vertical projects and health interventions in BPHS that are being supported by various sources distinct from Sehatmandi. For example, in one of the provinces, in addition to Sehatmandi, 13 sources of funding/support exist only for immunisation. The HMIS data show that out of 3,667 health facilities, 1,040 health facilities are directly funded by other sources. This approach has at least four major disadvantages. First, most of the off-budget projects are unable to make a commitment beyond 2021; this places the health system

in a precarious situation that may impact sustainability. Second, each service provider is granted several contracts in addition to Sehatmandi contract; this might create inefficiencies in managing service providers. Third, given donors have their requirements, the service providers are under pressure to show results only for what they are paid. This could distract service providers from focusing on important health indicators. Fourth, data suggests that the BPHS might encounter a financial vacuum after 2021. Thus, the MoPH and partners need to recoup inefficient spending; vertical programmes and off-budget projects do not support the notion of efficiency.

5.1.1 Recommendations

- Develop a new package of primary health care services based on the principles of PHC and needs of the population. The next generation PHC should highlight working under two scenarios, (i) easy-to-reach area and (ii) hard-to-reach area.
- Integrate vertical projects and off-budget funding sources as opposed to the traditional project approach.
- Ensure MoPH, development partners and service providers value and promote the “mission of integration” in all activities for efficiency and sustainability.
- Develop and implement a policy to ensure equitable distribution of resources.

5.2 Contracting

Afghanistan’s BPHS contracting approach has had mixed reviews but many studies have found it to be effective (3,6,14,16–19,25,38,99). Our study concurs that contracting out has been an attractive and effective model for rapidly scaling up health services throughout the country. Yet, we also identified important challenges that require remediation. Contracts granted to SPs are based on the ‘quality- and cost-based selection’ (QCBS) and ‘least-cost selection’ (LCS) methods. In QCBS method, the proposals of service providers are assessed and weighted at 70% for technical and 30% for financial proposals. In LCS, contracts are awarded to the organisations whose financial bid is the lowest. This study found that, in both methods, SPs proposed lower prices to win the contracts. Evidence shows that budget-restricted proposals may result in fewer services offered, poorer quality of existing services, lower team capacity, opting for conventional implementation designs with limited innovation, and inadequate attention to technology and professional development (100).

We also found that SPs were granted multiple contracts under Sehatmandi and have received multiple contracts from off-budget sources. Economies of scale theory suggests that fixed costs can be divided over more units, reducing per unit costs (101). However, when costs spread over more units are not manageable, the ‘economies of scale’ turned into the ‘diseconomies of scale’ and leads to inefficiency. It is notable that most SPs are experiencing ‘diseconomies of scale’, as they deliver health services to multiple sites while each site requires its own administration cost and other resources. Moreover, time and effort of management staff is spread across multiple contracts and multiple sites, leaving less time for supervision and monitoring of services. Ultimately, this results in reduced efficiency and poorer management quality.

This study revealed that, though the MoPH-SM provinces have several advantages over others (e.g. security is relatively good, health care workers especially female staff are available,

monitoring and supervision is straight forward, fewer logistical challenges, continuous technical, financial and political support MoPH and partners), these three provinces are amongst the worst performers in the country and operation costs are high. As an example, these provinces have not been provided drugs and medical supplies in the past 18 months due to significant delays in the procurement of pharmaceuticals. Moreover, the average annual per capita cost of MoPH-SM provinces is more expensive than NGO-run provinces under the Sehatmandi (US\$7.7 vs. US\$6.5) (74). Literature supports this as well. A 2011 study showed that the efficiency of services in MoPH-SM health facilities was 17% lower than the NGO-run health facilities (22).

5.2.1 Recommendations

These findings are alarming and may partially explain low quality of services, inequity in service provision, and the low service coverage of BPHS in Afghanistan. Therefore, this study recommends to:

- Switch the MoPH-SM to contract out approach immediately to improve quality of care and efficiency of services. This will also permit the MoPH to focus on its stewardship role.
- Avoid extending the current contracts of service providers in the next phase of Sehatmandi. The MoPH and partners should embark on a new bidding process with improved rules of the game including ensuring the selection of service providers is based on the capacity of service providers, and not only on the “lowest cost” presented in financial proposals.
- Limit the number of contracts granted to service providers with a greater focus on improving the management and quality of health services. Close coordination is required with off-budget projects to ensure that they abide by the same policy.
- The MoPH and partners might commission an external review of the internal audit systems of service providers to identify any weaknesses and to inform capacity building.
- Additionally, encourage and allow more service providers, especially private sector firms, to participate in the competition process and health service delivery.
- Ensure that BPHS health facilities are supplied with adequate drugs, supplies and equipment, and health care workers are provided with professional development programmes. An option can be the establishment of an effective control mechanism such as the use of technology (mobile phone) to check the availability of inputs in health facilities with health care workers and community shuras on regular basis.

5.3 Payment for Performance (P4P)

The P4P approach has introduced a paradigm shift away from traditional input-based financing methods to output and outcome-based management methods in Afghanistan. Though our study results generally favour the P4P, we identify some methodological and implementation challenges that require redress.

The main objective of P4P is to increase motivation of health workers through incentives and consequently improve health systems performance (102). However, the current design offers incentive to SPs (organisations) without guaranteeing that health care workers receive incentives. In practice, since the introduction of P4P, no health care workers have received

added benefits, compensation or any form of incentive. In fact, the ground reality is quite the contrary. The majority of health care workers in each province have collected a lower salary than in previous years, given the P4P has imposed sanctions on them as a result of low performance of service providers.

Under the P4P, successful performance is defined as (i) the provincial HMIS verification composite score greater than 85% for BPHS, (ii) successful delivery of minimum standard of services (staffing level, availability of drugs and equipment, provision of services other than the P4P services), (iii) quality of care based on balanced scorecard, and (iv) successful changes in performance improvement plan of SPs. All above are verified through the third-party monitoring organisation. Our study purports that, in practice, the process of third-party monitoring is challenging, non-transparent and may lead to inaccurate results. First, the logistics of TPM visiting health facilities and communities located in insecure areas are uncertain; a natural question from study respondents related to how the TPM actually reaches these unreachable areas? Very recently, an MoPH mission discovered that, while no verification monitor had visited a particular province, a report was still produced for the same province. Second, almost all study respondents reported the likelihood of collusions between TPM and SPs during monitoring visits in order to produce/obtain higher performance scores. Third, the cost of verification mechanism in a P4P programme is usually high (103) and funds should be used efficiently and with transparency. A pilot P4P programme implemented in BPHS health facilities of 11 provinces in Afghanistan between 2010 and 2015 found that verification cost was 23% of the total P4P cost (31). Given that TPM and verification of the targeted indicators is the backbone of Afghanistan's P4P approach, these concerns over questionable practices and lack of transparency must not be taken lightly. The MoPH and partners, therefore, should seek options to strengthen monitoring and verification processes to justify costs and to ensure trust in and transparency of results. In Zambia monthly verification was replaced by a risk-based model in which health facilities were assessed based on the expected risk of distorting data (104). In Tanzania, data verification was fully integrated into the systems (105).

This study also revealed that the BSC results can be easily influenced in the field. Additionally, the BSC lacks measures to assess the impact of investment at the population level, instead, it measures only health facilities' and users' experiences (34). Further, the interpretation of the BSC should take into account that results could be impacted by factors beyond the control of those who implement health services (for example security, population preferences, poverty, climate, access to roads and transportation) (106).

5.3.1 Recommendations

- Continue the current P4P. In addition, expand P4P to the management level and cover the staff of provincial health directorates, third-party monitoring organisation, service provider management teams, and central MoPH concerned departments.
- The MoPH and partners should review the BSC to ensure its a useful and reliable tool.
- The TPM might provide a transparent basis for selection of sites. Site selection could be systematically done based on a risk analysis, targeting service providers with weak internal systems and/or previously poor showing in a TPM report.

- The MoPH might identify and investigate outliers among the service providers, when the TPM reports are produced, and further to understand the reasons behind high and/or poor performance, possibly with repeated TPM visits or a fourth party consisting members from TPM, PPHDs, MoPH technical departments and other concerned units.
- The MoPH and partners might find technological solutions that could increase reporting accuracy or process changes that could increase efficiency. Currently, the process is heavily paper-based and inefficient and, therefore, open to error and corruption. The MoPH and partners might commission an external review of data reporting and claims.
- The MoPH and partners might commission qualitative studies conducted by a different organisation (neither TPM nor service providers) on biannually-basis to explore the opinions and behavior of policy makers, health managers, health care workers and community on the process of TPM, P4P, challenges, and key solutions.

Summary recommendations from this report organised in line with the PHCPI conceptual framework are listed in **Table 4**.

Table 4: Recommendations for improving PHC in Afghanistan

System	Governance & leadership	<ul style="list-style-type: none"> - Develop a new package of primary health care services based on the principles of PHC and needs of the population. The next generation PHC should highlight working under two scenarios, (i) easy-to-reach area and (ii) hard-to-reach area. - Ensure MoPH, development partners and service providers value and promote the “mission of integration” in all activities for efficiency and sustainability. - Develop and implement a policy to ensure equitable distribution of resources. - Continue and strengthen political support to all MoPH technical departments, Grant and Contract Management Unit (GCMU), Finance Department, Performance Management Office (PMO), Health Management Information System (HMIS), Expenditure Management Information System (EMIS), Monitoring and Evaluation Directorate (M&E) and service providers (SPs). - Conduct thorough appraisal of Integrated Package of Essential Health Services (IPEHS) for Afghan context.
	Oversight & accountability	<ul style="list-style-type: none"> - Review the design of third-party monitoring (TPM) and reshape it according to the reality on the ground. - Ensure the TPM is transparent, accountable, and technically sound. - Use latest and cutting-edge technology in monitoring the BPHS health facilities.

		<ul style="list-style-type: none"> - Strengthen the role of monitoring directorate of MoPH and transfer ownership of BPHS monitoring to them. - Address the complaints of MoPH technical departments, specifically providing them with clear roles, responsibilities, and ownership in providing technical assistance to BPHS and in conducting monitoring and supervision. - Provide more role and responsibilities to Provincial Public Health Directorates (PPHDs). Involve them meaningfully in the procurement of services. Strengthen their role in monitoring of services and ensure service providers are accountable to them. - Re-visit the balanced scorecard to make it more output and outcome oriented.
	Contracting mechanisms	<ul style="list-style-type: none"> - Continue with contracting out mechanism. However, improve monitoring, financial management and procurement processes including service provider's selection approach. Pay attention to the quality of SPs' proposals. - Given the depth of the current challenges, avoid extending the current contracts of NGOs; instead, re-bid the BPHS services with an improved design and financing approach. - Change the MoPH-SM to contracting out mechanism or another effective approach. - Keep the number of contracts limited to each NGO to ensure management efficiency of NGOs and prevent from 'diseconomies of scale'. - Commission an external review of the internal audit systems of NGOs to identify any weaknesses and to inform capacity building. - Encourage new NGOs as well as private sector to participate in bidding processes/BPHS service provision to prevent from oligopoly and ensure meaningful competitions. - Respect NGOs as an essential partner of MoPH and define the relationship of MoPH with NGOs appropriately. - Protect NGOs and their operations from undue interference from external parties.
	Community-based health care (CBHC)	<ul style="list-style-type: none"> - MoPH and relevant partners should provide continuous technical and political support to CBHC programme. - Re-define the roles and responsibilities of community health workers (CHWs) to ensure efficient use of their time and resources. - Community health supervisors should be empowered with adequate knowledge and resources to carry out their roles.

		<ul style="list-style-type: none"> - Integrate local governance into the new PHC package. - Downgrade, upgrade, establish, and or close down BPHS health facilities based on evidence. For example, review new initiatives such as Family Health Houses (FHHs) and integrate into the new package if found effective. - Improve knowledge of community shuras on their scope of work, including their role in increasing community engagement in health activities.
	Health financing	<ul style="list-style-type: none"> - Assess the drivers of out-of-pocket expenditures in BPHS health facilities and address the causes. - Identify new sources of financing including domestic revenue to fill the financial gaps in the upcoming years. - Integrate vertical and off-budget projects and funding sources as much as possible. Assess the feasibility of sector-wide approach to channel the BPHS funding through a single source. - Allocate a separate line of budget to service providers for innovative approaches. - Re-define the design of P4P to make it applicable in the context of Afghanistan such as changing the current sanction-based approach to incentive-based approach for health workers. - Re-set the P4P baselines and targets. - Re-design the current P4P verification mechanism to make it transparent or assign a mechanism to assess the quality of information generated by third-party monitoring (TPM). - Include management staff of NGOs, PHDs, TPM, PMO, GCMU, M&E, HMIS and other concerned departments of MoPH in the P4P scheme. - Prevent delays in P4P payments to NGOs and TPM. - TPM should provide a transparent basis for selection of sites. Site selection could be systematically done based on a risk analysis, targeting service providers with weak internal systems and/or previously poor showing in a TPM report. - Review the unintended consequences of P4P regularly and provide timely support to address the challenges. - Identify and investigate outliers among the service providers, when the TPM reports are produced, and further to understand the reasons behind high and/or poor performance, possibly with repeated TPM visits or a fourth party consisting members from TPM, PPHDs, MoPH technical departments and other concerned units.

		<ul style="list-style-type: none"> - Find technological solutions that could increase reporting accuracy or process changes that could increase efficiency. Currently, the process is heavily paper-based and inefficient and, therefore, open to error and corruption. The MoPH and partners might commission an external review of data reporting and claims. - Commission qualitative studies conducted by a different organisation (neither TPM nor service providers) on biannually-basis to explore the opinions and behavior of policy makers, health managers, health care workers and community on the process of P4P, challenges, and key solutions.
Input & Service Delivery	Dugs & supplies	- Ensure that health facilities are supplied with adequate drugs, medical supplies and equipment.
	Facility infrastructure	- Review and consider the inclusion of maintenance of health facilities into the contracts of service providers.
	Information systems	- HMIS data quality and incompleteness challenges should be identified and targeted for improvement.
	Workforce	<ul style="list-style-type: none"> - Reform the staffing pattern of BPHS to address the identified gaps. - Provide required short-term training courses to facility staff to improve knowledge on key issues.
	Referral & ambulance	- Strengthen BPHS referral system. Conduct cost-benefit analysis of using real ambulances versus rented cars to make an evidence-based decision on the use of real ambulance in health facilities.
	Access	<ul style="list-style-type: none"> - Improve overall access of patients to health services by addressing financial, physical and other barriers. - Improve access of mothers and newborns to the critical care services. Manage the complications of pregnancy in BPHS facilities.
	Availability of effective PHC services	- Improving health worker motivation and competence should be key focus areas in revised PHC system.
	Health facility management	- Service providers and/or managers should be able to access technical, operational, and financial skill trainings for effective management of their clinics.
Output and Outcomes	Reproductive, Maternal, Neonatal, Child Health (RMNCH)	- RMNCH is still the priority of the country. Focus on the most impactful interventions. Review the leading causes of maternal and child morbidities and mortalities and design the new PHC package accordingly.
	Immunisation	- Give the ownership of EPI programme to MoPH. Integrate the services into the BPHS. Finance the activities through one source. Improve coordination between key stakeholders. Identify and tackle main drivers of current challenges. Unify the reporting mechanism and improve quality of data. Reduce the

		number of stakeholders. Define the role and responsibilities of all key stakeholders and make every stakeholder accountable.
	Malaria & tuberculosis	- Include Malaria and tuberculosis key missing interventions into the new PHC package. Integrate the vertical interventions into the package. Channel the funding through a single source to service providers.
	Covid-19, HIV/AIDs and other diseases	- Further assess the impact of COVID-19 pandemic on the financing of primary health care services and find key solutions. - Ensure BPHS facilities have enough capability to manage COVID-19 cases. - HIV/AIDs receive tremendous resources while other important diseases are largely neglected in BPHS (e.g. leishmaniasis and rabies); financial and human resources should be aligned with public health urgency of diseases.
	Public nutrition	- Coordinate and integrate public nutrition activities into the BPHS to prevent fragmentation and to ensure efficiency of services.
	NCDs, mental health & disability	- Support the full package of mental health and disability interventions defined in the BPHS. Provide political support to the programmes. - Design a novel framework for managing NCDs in Afghanistan and provide political and financial support to it.
	Drug demand reduction	- Integrate drug demand reduction into the new PHC package.
	Health promotion	- Integrate health promotion and determinants of health into the new PHC package.
	Quality of care	- Quality of care should be central to the new PHC package.
	Equity	- MoPH should consider at least two different types of BPHS to serve easy to reach and hard to reach settings. - Focus on developing better access to rural areas. - Train and deploy more female workers for outreach - Revise CBHC to expand outreach services. - Re-design roles and responsibilities of CHWs to ensure efficiency and prevent burn out. - Reduce OOP expenditures especially among disadvantaged families.
	Efficiency	- Conduct technical efficiency analysis of health facilities regularly. Strengthen Expenditure Management Information System (EMIS) to provide timely data as needed for efficiency analysis.

		<ul style="list-style-type: none"> - Conduct health facility efficiency monitoring and benchmarking regularly using data collected by EMIS and HMIS. - Use data to identify and target poor ranking (low efficiency) facilities. - Use P4P to reward relative efficiency in service delivery.
	Gender-based violence	<ul style="list-style-type: none"> - Integrate gender-based violence into the new PHC package.
	Resilience & emergency preparedness	<ul style="list-style-type: none"> - Integrate emergency preparedness and response into the new PHC package.

5.4 Study Limitations

The strengths of mixed-methods studies are known, and despite application of this approach for the current study, several limitations should be noted. Due to insecurity and difficult terrain, household surveys and balanced scorecard may have notable coverage gaps and thus estimates may not be nationally representative. While weighting estimates partially overcomes this challenge, inferences must be made with caution. However, selection bias could be present in national or subnational estimates where key geographies and populations such as conflict zones are missing. Information bias resulting from the interviewers, observers, and recall bias may be present in measurement of indicators within surveys. The balanced scorecard data has been criticized for being reductionist in design and flawed in implementation, and thus reliability of estimates have been brought under question (79). Insufficient skills among health staff for implementing data collection and monitoring success of service provision (45) may also threaten validity of survey data estimates. The review of published literature may have been limited since we evaluated articles published in English only; however, grey literature, programmatic documents and direct insights from stakeholders were assessed in English and local languages (as needed) thus we do not feel important insights were missed. Given the short timeline for this assessment, we were unable to directly interview patients/clients. Nonetheless, the participation of health shura members (n=85) on behalf of community and patients and the large number of participants representing diverse stakeholder groups and institutions in this qualitative assessment (n=284) is impressive and is a major strength of this project. We comfortably reached information saturation during data collection and thus all critical insights were likely included.

5.5 Future Research

Findings from this rapid mixed-methods assessment of PHC in Afghanistan have revealed many striking findings that may be worthy of further exploration. The efficiency of existing health facility structures in Afghanistan (e.g. CHC, BHC) should be examined using current data, ideally post- P4P implementation, to understand if and how efficiencies may have changed since 2018. An in-depth and current analysis of BPHS packages of care and costs of implementation should be conducted. A thorough assessment of IPEHS, its genesis, evolution and gaps in response to needs in Afghanistan should be conducted to determine its utility in the new PHC design for the country. Rigorous external evaluations of HMIS data quality and

completeness should be conducted to understand where and how to intervene to improve this vital data system. Regular external and completely independent qualitative reviews of P4P (success, challenges and solutions) should be conducted on regular basis to explore the valuable opinions and behaviors of policy makers, implementers and beneficiaries.

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Annex 1: Technical Information

Review of BPHS

Table 5: Elements and components of BPHS 2003, 2005 and 2010

Component	Elements in 2003	Elements in 2005	Elements in 2010
Maternal and newborn care	Antenatal care Delivery care Postpartum care Family planning Care of the newborn	No change from 2003	No change from 2003
Child health and immunisation	the Expanded Program on Immunisation (EPI) Integrated Management of Childhood Illness (IMCI)	No change from 2003	No change from 2003
Public nutrition	Micronutrient supplementation Treatment of clinical malnutrition	Prevention of malnutrition Assessment of malnutrition Treatment of malnutrition	Prevention of malnutrition Assessment of malnutrition
Communicable disease treatment and control	Control of tuberculosis Control of malaria	Control of tuberculosis Control of malaria Control of HIV	Control of tuberculosis Control of malaria Prevention of HIV and AIDS
Mental health	Community management of mental health problems Health facility-based treatment of outpatients and inpatients	Mental health education and awareness Case detection Identification and treatment of mental illness	Mental health education and awareness Case identification, diagnosis and treatment
Disability and physical rehabilitation services	Physiotherapy integrated into primary healthcare services Orthopaedic services expanded to hospital level	Disability awareness, prevention, and education Assessment Referrals	Disability awareness, prevention, and education Provision of physical rehabilitation services Case identification, referral and follow-up
Regular supply of essential drugs	All essential drugs required for basic services	Listing of all essential drugs needed	No change from 2005

Source: (9,107)

The Domains of PHCPI's Conceptual Framework

Adopted from the PHCPI site (<https://improvingphc.org/phcpi-conceptual-framework>) (41), the framework reflects a structure similar to the commonly used input-process-output-outcome logic model, indicating logical relationships between constructs. We included a System domain prior to the Inputs domain to indicate the importance of the modifiable PHC system structure as emphasized in the Control Knobs Framework. Additionally, we more clearly defined process as the various critical sub-domains of Service Delivery. The framework exhibits an overall directionality of influence, where the System domain influences the Inputs domain, which affects the complex interplay within the Service Delivery domain. Successful service delivery contributes to effective Outputs, which subsequently affect Outcomes. Additionally, this framework incorporates the health system goals for the Outcomes domain—health status, responsiveness, equity, efficiency, and resilience—as articulated by numerous health systems performance assessment frameworks. We acknowledge that PHC performance lies within a larger health system, which itself lies within wider political, cultural, demographic, and socioeconomic contexts.

(A) System Domain

The System domain is meant to complement the more proximal (i.e., close to an intervention or interaction) Input and Service Delivery domains. Systems contextual factors, while more distal to performance outputs and outcomes, influence the proximate determinants that impact outcomes. System functions enable the provision of services, and thus understanding the systems context is critical to explain determinants of PHC performance. System characteristics include:

Governance & Leadership (A1): This subdomain **includes regularly disseminated policies** that reflect the importance of PHC, policies that promote equity; quality management infrastructure, including licensing and accreditation, standards of care, consistency in standards of care from public to private sector; community engagement and social accountability --including Involvement of private sector, civil society organisations, non-governmental organisations, and other stakeholders in health care planning and governance.

Health Financing (A2): This subdomain addresses the efficacy of health systems to: 1) mobilize adequate funds for health in order to ensure access to PHC in a financially sustainable manner; 2) provide protection from catastrophic financial expenditure on health leading to impoverishment; and 3) ensure equitable and efficient use of resources.

Adjustment to Population Health Needs (A3): This subdomain reflects the need for a system to monitor and adapt to population needs. It includes specific areas such as disease surveillance, priority setting, and innovation and learning.

(B) Inputs Domain

Inputs include sub-domains that are necessary—but not sufficient—for strong performance of PHC. This domain focuses on the crude availability of inputs at the facility level and reflects whether the systems in place to ensure availability of inputs are functioning. Inputs include:

Drugs & Supplies (B1): This measures the availability of essential medicines, vaccines, and commodities (e.g., cotton gauze). It also includes measures of essential equipment, such as scales and thermometers.

Facility Infrastructure (B2): This measures the actual availability of facilities, including numbers of facilities, the mix of facilities (health posts and health centres), and the distribution of facilities, both public and private, throughout the country.

Information Systems (B3): The health information system should be produced reliable, complete, and timely information that allows for the use of data for performance management over time. This sub-domain focuses on the availability of infrastructure for information systems, including things like internet connectivity and information system hardware, such as computers or paper registers.

Workforce (B4): This subdomain reflects the need to have a trained workforce, sufficient numbers of health personnel, and the right mix of staff that is well distributed geographically to promote equitable access for the population.

Funds (B5): This measures the availability of funds at the facility level, looking at the ability to address recurrent and fixed costs incurred at the facility level.

(C) Service Delivery Domain

The Service Delivery domain reflects the intersection of supply components (providers, infrastructure, supplies) and the demand side (patient/population needs, access, utilization). Importantly, our framework includes Starfield's well-established concepts of high quality, people-centred PHC service delivery –first contact accessibility (which is user-oriented, coordination, comprehensiveness, continuity, and safety). The specific sub-domains included are:

Access (C1): This sub-domain measures whether patients have **affordable, timely access to a PHC facility that is geographically convenient** (The Commonwealth Fund, 2014). Facility-level access in LMICs can be assessed by adopting the operational definition used in high-income countries. This basic structural precondition for care (is there a facility with a provider available for care when it is needed by the community?), is a starting point for understanding effective service delivery. However, it should be clearly distinguished from the related, but separate understanding of a user's perspective on accessibility. A facility with a provider can be structurally present, but if the user still experiences barriers to use it, then accessibility is compromised. Thus, both perspectives (structural and user-centred) are necessary.

Availability of Effective PHC Services (C2): This subdomain represents how raw inputs are transformed into actual functioning facilities and workers able to provide PHC services. In this domain, we measure the presence of competent, motivated providers at a health facility when patients seek care. Motivation captures intrinsic and environmental characteristics that affect the behavior and performance of providers in the system, with a particular focus on degree of provider autonomy, level of intrinsic motivation, degree of remunerative motivation,

supportive supervision, and level of burnout. Competence captures technical clinical quality – specifically, the levels of knowledge and skill of providers, demonstrated through diagnostic and treatment accuracy. Competence also captures what providers do during a typical workday and the level of effort they expend on care provision. In many facilities, providers are frequently absent, and even when present are not actively working.

Organisation and Management (C4): The Organisation and Management subdomain reflects that optimal delivery of PHC services requires an overall organisation of team-based care, supportive supervision, population health management, and use of information systems that aid in monitoring services and continually improve quality.

- *Facility management capability and leadership (C4.a)*: Successful delivery of PHC services requires strong management at the facility level in order to ensure that the human resources, finances, and hardware come together at the point of service delivery. Good management is difficult to obtain but can be a translational component that's critical for high functioning systems.
- *Team-based care (C4.b)*: Previous studies have shown that a team-based approach to PHC results in improved management of diabetes, reduced hospitalizations, better patient experience, and reduced provider burnout. A team approach works well when members hold themselves mutually accountable towards a common set of performance goals.
- *Supportive supervision (C4.c)*: In low and middle-income countries, supervision is the mechanism that is used to provide informal training opportunities to health workers. Through supportive supervision, supervisors can help strengthen health worker clinical skills as well as management capacity.
- *Population Health Management (C4.d)*: PHC extends beyond the confines of a clinic or health facility into the community. Community linkages and orientation are vital to the integration of PHC facility-based services with community-based public health and promotion efforts. Proactive outreach and connections, including the utilization of community health workers (CHW) have been shown to promote a wide variety of population health management goals.
- *Information Systems (C4.e)*: In addition to having effective team members, high-functioning PHC systems also have well designed electronic or information systems. Recent studies suggest that well designed electronic health systems can empower and engage patients, improve communication among team members, and improve continuity and coordinated care, all of which are essential to the delivery of PHC.
- *Monitoring & Continuous Quality Improvement (C4.f)*: Finally, an efficient PHC system should have well designed management systems that supervise and engage team members, as well as identify deficits and focus on monitoring and quality improvement.

People-Centred Care (C3): Several core functions are central underpinnings of high-quality care delivery in PHC systems. These factors, defined by Barbara Starfield and colleagues, include first contact accessibility, coordination, continuity, and comprehensiveness. These functions, in addition to safety, presuppose the existence of effective and available PHC services. Through strong organisational management, provider training, information systems,

and community orientation, these basic PHC services can be transformed to provide high quality PHC functions.

- *First contact accessibility* (C3.a): As discussed above, patients have good accessibility to PHC when they perceive they can conveniently access primary health services when and how they need them.
- *Coordination* (C3.b): Coordinated Care is defined as the ‘coordination of patient care throughout the course of treatment and across various sites of care to ensure appropriate follow-up treatment, minimize the risk of error, and prevent complications.
- *Comprehensiveness* (C3.c): Comprehensiveness refers to the notion that a wide range of preventive, promotive, curative and rehabilitative services should be available and appropriately delivered (Starfield, 1994).
- *Continuity* (C3.d): There are at least three types of continuity considered to be important for primary care:
 - Relational continuity – An ongoing therapeutic relationship between a patient and one or more providers (made up of longitudinal continuity with one provider, or continuity with a regular team)
 - Informational continuity – The use of information on past events and personal circumstances to make current care appropriate for each individual
 - Management continuity – The extent to which services delivered by different providers are timely and complementary such that care is experienced as connected and coherent. It can also be thought of as a consistent and coherent approach to the management of a health condition that is responsive to a patient's changing needs (known as flexible continuity, or as a property of care coordination). Examples might include closed information loops about the requested needs, outcomes, and next steps from a vital referral to secondary or tertiary care from primary care.
- *Safety* (C3.e): Safe care determines whether safe practices are in place in communities and facilities and being routinely followed.

(D) Outputs Domain

Since PHCPI hopes to contribute to the Universal Health Coverage (UHC) movement through measurement of effective coverage, we are adopting many of the measures relevant to PHC as prioritized by the UHC Monitoring Framework and the Global Reference List of 100 Core Health Indicators. The PHCPI Conceptual Framework includes both prevention and treatment outputs. The outputs do not rely solely on coverage of key services, but also on effective coverage, meaning quality-adjusted service coverage. Outputs subdomains are:

- Health promotion (D1.a)
- Disease prevention (D1.b);
- RMNCH (D1.c);
- Childhood illness (D1.d);
- Infectious disease (D1.e)
- NCDs and mental health (D1.f); and
- Palliative care (D1.g).

(D) Outcomes Domain

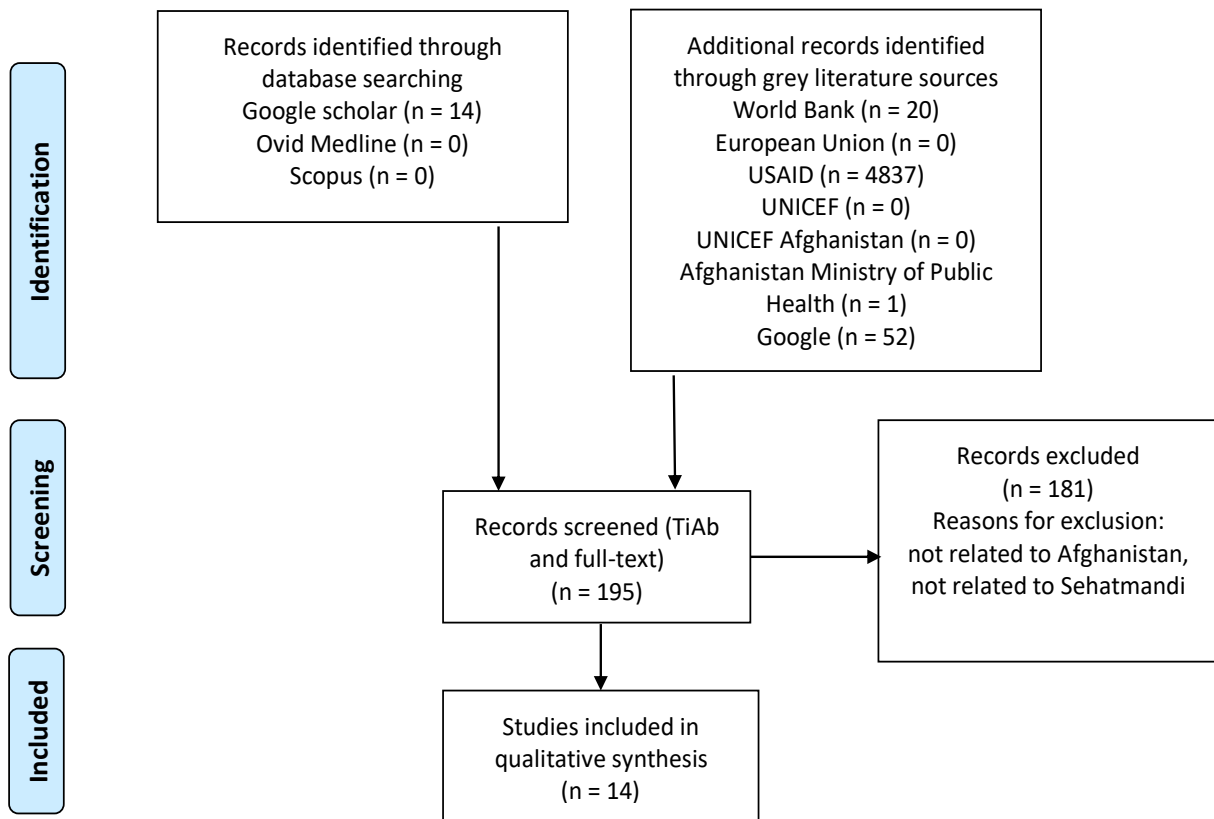
PHC Outcomes are influenced by outputs and the indicators reflect the increasing burden of disease attributed to chronic conditions and people-centred care through user reported outcomes. Outcome subdomains are:

- Health Status (E1): morbidity (E1.a) and mortality (E1.b);
- Responsiveness to People (E2);
- Equity (E3);
- Efficiency (E4); and
- Resilience of Health Systems (E5).

Systematic Scoping Literature Review Methods

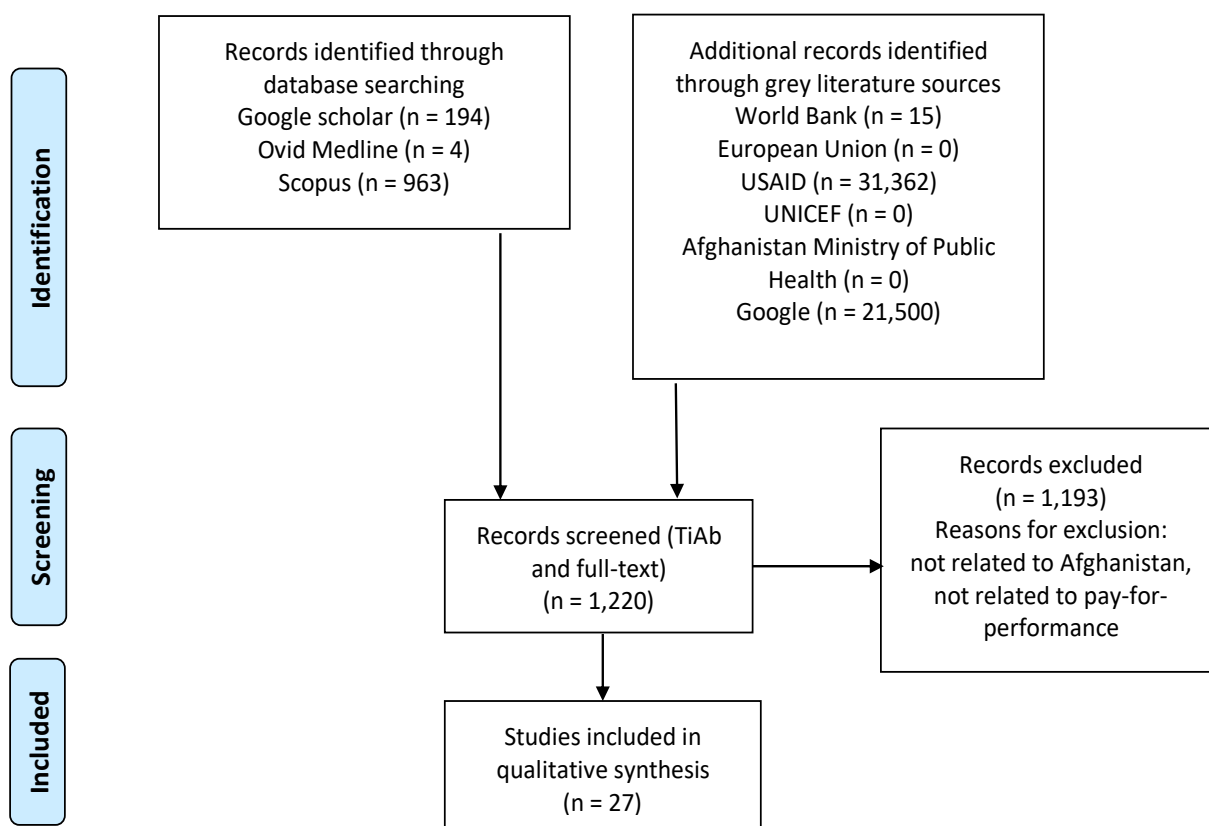
The second search was conducted to find information on the Sehatmandi programme in Afghanistan. The general search strategy was Afghanistan AND Sehatmandi and was modified according to the database or website searched. This search was conducted on September 1, 2020 and resulted in 195 records screened and 14 records included for abstraction. Records were excluded if they were unrelated to Afghanistan or the Sehatmandi programme.

Figure 3: PRISMA Diagram for Sehatmandi programme



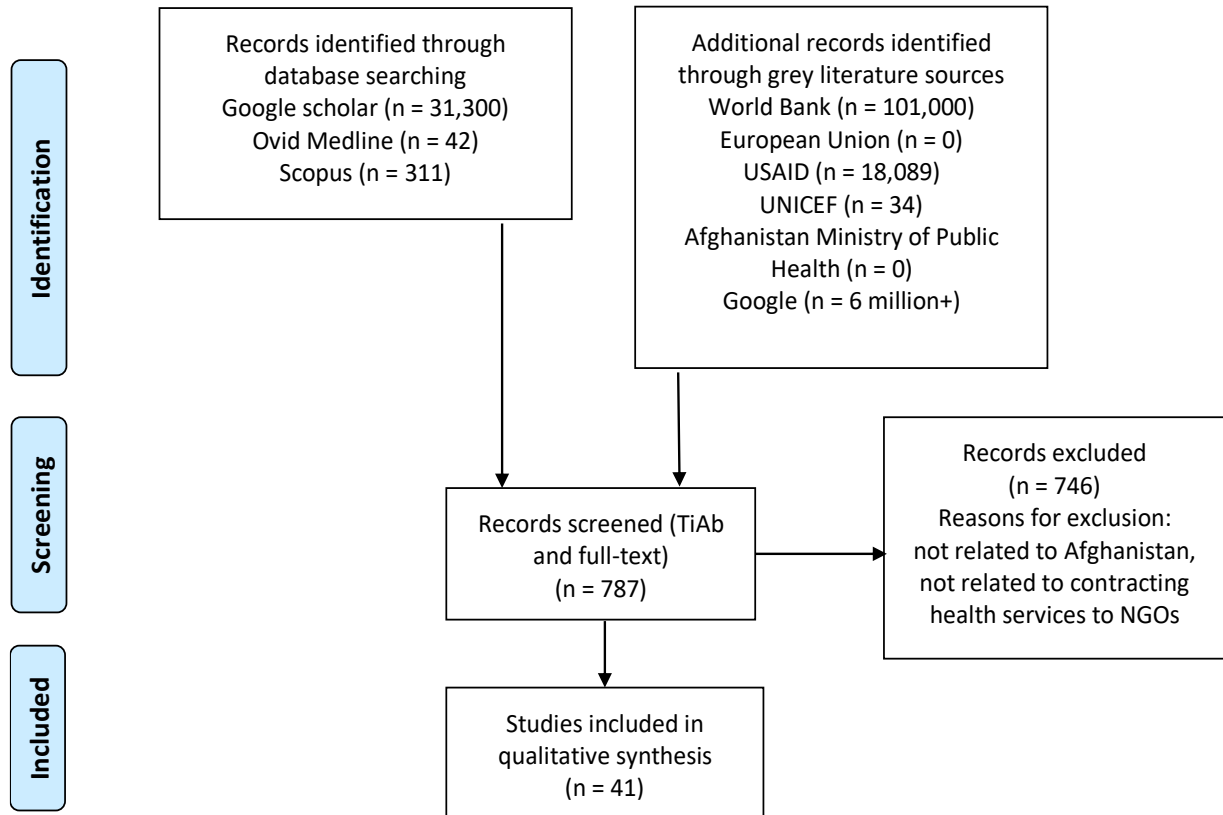
The third search was conducted to find evidence on pay-for-performance in Afghanistan and the general search strategy was Afghanistan AND (P4P OR pay-for-performance). This search was conducted on September 2, 2020 and resulted in 1,220 records screened with 27 included for abstraction. Records were excluded if they were not related to Afghanistan or pay-for-performance programmes.

Figure 4: PRISMA Diagram for Pay-for-Performance



The fourth search was conducted September 2, 2020 and sought to find records on contracting out health services to NGOs in Afghanistan. The general search strategy was: Afghanistan AND contract AND health services AND NGOs. There were 787 records screened, with 41 included for abstraction. Records were excluded if they were not related to Afghanistan or not related to contracting services out to NGOs.

Figure 5: PRISMA Diagram for Contracting Out Health Services to NGOs



Annex 2: Study Tools

Assessment of Design and Performance of Primary Health Care in Afghanistan In-depth Interview

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you choose to participate)

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

My name is (.....) from and I am doing research on the design and implementation of primary health care in Afghanistan. I am going to give you information and invite you to be part of this research. You do not have to decide right now whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them to me or to another researcher.

This research will involve your participation in an interview that will take around one hour.

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. The choice that you make will have no bearing on your job. You may change your mind later and stop participating even if you agreed earlier.

The interview will take place in your office (clinic, place), and no one else will be present during this discussion. The entire discussion will be tape-recorded, but you will not be identified by name on the tape. The information recorded is confidential, and no one else except me and three other people from the research team will have access to the tapes. The tapes will be destroyed after the transcription, in a month.

Thought there is no risk, feel free to share or not share your personal information with me. You do not have to answer any question or take part in the discussion/interview if you feel the questions are too personal or if talking about them makes you uncomfortable.

If you participate in this research you may be asked questions by other people. We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research project will be kept private. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key.

I will give you an opportunity at the end of the interview to review your remarks, and you can ask to modify or remove portions of those, if you do not agree with my notes or if I did not understand you correctly.

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact the following: Dr Ahmad Shah Salehi, 0700040642, salehiahmadshah@gmail.com or Dr Nadia Akseer, nadia.akseer@gmail.com.

Part II: Certificate of Consent

I have been invited to participate in research about the BPHS content, contracting models and p4p. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Print Name of Participant _____

Signature of Participant _____

Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands about the details of this research including their role and rights.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Print Name of Researcher/person taking the consent _____

Signature of Researcher /person taking the consent _____

Date _____

Assessment of Design and Performance of Primary Health Care in Afghanistan

Focus Group Discussion

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you choose to participate)

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

My name is (.....) from and I am doing research on the design and implementation of primary health care in Afghanistan. I am going to give you information and invite you to be part of this research. You do not have to decide right now whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

This research will involve your participation in a group discussion that will take about one and a half hour.

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. The choice that you make will have no bearing on your job. You may change your mind later and stop participating even if you agreed earlier.

If you accept, you will be asked to take part in a discussion with 6-7 other persons with similar experiences. This discussion will be guided by myself.

The discussion will take place in [location of the FGD], and no one else but the people who take part in the discussion and myself will be present during this discussion. The entire discussion will be tape-recorded, but no-one will be identified by name on the tape. The tape will be kept with caution with me. The information recorded is confidential, and no one else except me and three more people from the research team will have access to the tapes. The tapes will be destroyed after transcription, in one month after the interview.

Though there is no risk, feel free to share or not share your personal information with me. You do not have to answer any question or take part in the discussion/interview if you feel the questions are too personal or if talking about them makes you uncomfortable.

I will give you an opportunity at the end of the discussion to review your remarks, and you can ask to modify or remove portions of those, if you do not agree with my notes or if I did not understand you correctly.

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact the following: Ahmad Shah Salehi, 0700040642, salehiahmadshah@gmail.com or Dr Nadia Akseer, nadia.akseer@gmail.com.

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Print Name of Participant _____

Signature of Participant _____

Date _____

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I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Print Name of Researcher/person taking the consent _____

Signature of Researcher /person taking the consent _____

Date _____

Questionnaire
In-depth Interview

Questions to Policy Makers (including development partners)

1. What are the strengths and weaknesses of BPHS?
2. What specific contributions does your organisation have for the BPHS?
3. Do you think the type of the BPHS health facilities from Health Post up to District Hospital can meet the needs of population?
4. What is your opinion regarding Family Health Houses?
5. How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
6. Do you prefer government or NGO to implement the BPHS? Why?
7. Why p4p has been introduced? What are the strengths and weaknesses of p4p programme in Afghanistan?
8. Do you think the BPHS requires revision? If yes, which specific components?
9. Why the Integrated Package of Essential Services (IPHS) have not attracted donor's attention?
10. What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of the population?

Questionnaire
In-depth Interview

Questions to Provincial Health Directors

- 1 How did the NGO in your province get the contract? Please describe the selection process. Are you happy with the process?
- 2 Please describe the specifications of the performance requirements of Sehatmandi project.
- 3 What are the main challenges in terms of planning, supervision, financial management, verification, and reporting of the BPHS contracts?
- 4 What are the strengths of BPHS?
- 5 What are the weaknesses of BPHS?
- 6 Do you think the type of the BPHS health facilities from HP up to DH can meet the needs of population?
- 7 Do you think the BPHS requires revision? If yes, which specific components?
- 8 How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
- 9 Do you prefer government or NGO to implement the BPHS? Why?
- 10 What do you think why p4p has been introduced? Is p4p a good model? Why?
- 11 What are the weaknesses and strengths of p4p?
- 12 What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of population?

Questionnaire
In-depth Interview

Questions to NGO managers

- 1- How did your organisation get the contract? Please describe the selection process.
- 2- Please describe the specifications of the performance requirements of the project.
- 3- What are the main challenges in terms of planning, supervision, financial management, verification, and reporting of the BPHS contracts?
- 4- What are the strengths of BPHS?
- 5- What are the weaknesses of BPHS?
- 6- Do you think the type of the BPHS health facilities from HP up to DH can meet the needs of population?
- 7- Do you think the BPHS requires revision? If yes which specific components?
- 8- How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
- 9- Do you prefer government or NGO to implement the BPHS? Why?
- 10- What do you think why p4p has been introduced? Is p4p a good model? Why?
- 11- Do you think the payment rate for services are enough? Why?
- 12- What are the weaknesses and strengths of p4p?
- 13- What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of population?

Questionnaire

In-depth Interview

Questions to Third Party Organisation

1. What are the arrangements of third-party evaluation in the context of the BPHS?
2. What is the impact of the evaluation of projects through third party on the overall decision of the ministry?
3. What has been the impact of the third-party evaluation on the overall performance of NGOs?
4. What are the strengths, weaknesses and challenges of the third-party evaluation?
5. How do you conduct verification of HMIS data? Is the process of verification practical, especially at the community level? Yes/No, Why?
6. What are your recommendations to improve third party evaluation of Sehatmandi?
7. What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of population?

Questionnaire

In-depth Interview

Questions to health care workers

1. How long have you been in this health facility? How many staff are working in this health facility?
2. What is your impression from the current services being provided by your health facility in terms of quality of care and access?
3. What is your opinion about the overall availability of medicine in your health facility in the past one year? Are the drugs and supplies sufficient to meet the needs of the community? How often does your HF run out of the medicine?
4. How many health care workers are working in your health facility? How many positions are filled in the past one year? What is the rate of turn-over in the past one year in your nearby health facility?
5. How is the relationship between the health facility and community? What mechanism are in place to ensure close coordination with community? How often the health facility meets the community?
6. How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
7. Do you prefer government or NGO to implement the BPHS? Why?
8. What are the strengths, weaknesses and challenges of community verification?
9. What role community shuras can play to improve quality and accessibility of services? What role community shuras can play to help monitoring of health services and community verification?
10. What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of population?

Questionnaire

Focus Group Discussion (FGD)

Policy Makers and Development Partners

11. What are the strengths and weaknesses of BPHS?
12. What specific contributions does your organisation have for the BPHS?
13. Do you think the type of the BPHS health facilities from Health Post up to District Hospital can meet the needs of population?
14. What is your opinion regarding Family Health Houses?
15. How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
16. Do you prefer government or NGO to implement the BPHS? Why?
17. Why p4p has been introduced? What are the strengths and weaknesses of p4p programme in Afghanistan?
18. Do you think the BPHS requires revision? If yes, which specific components?
19. Why the Integrated Package of Essential Services (IPHS) have not attracted donor's attention?
20. What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of the population?

Questionnaire

Focus Group Discussion (FGD)

Technical Units of MoPH

1. What are the strengths and weaknesses of BPHS?
2. Do you think the type of the BPHS health facilities from Health Post up to District Hospital can meet the needs of population?
3. What is your opinion regarding Family Health Houses?
4. How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
5. Do you prefer government or NGO to implement the BPHS? Why?
6. Why p4p has been introduced?
7. What are the strengths and weaknesses of p4p programme in Afghanistan?
8. Do you think the BPHS requires revision? If yes, which specific components?
9. Why the Integrated Package of Essential Services have not attracted donor's attention?
10. What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of the population?

Questionnaire

Focus Group Discussion (FGD)

MoPH Managers and NGOs

- 1 What is the role of your office in managing BPHS?
- 2 What are the strengths and weaknesses of BPHS?
- 3 Do you think the type of the BPHS health facilities from HP up to DH can meet the needs of population?
- 4 Please describe the specifications of the performance requirements of the project. How they were designed and who designed it. Do they require modifications?
- 5 What are the main challenges in terms of planning, supervision, financial management, and reporting of the BPHS contracts?
- 6 Do you think the BPHS requires revision? If yes which specific components?
- 7 Do you prefer the MoPH or NGO to implement the BPHS? Why?
- 8 How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
- 9 What is your opinion about the current design of p4p in Afghanistan health system delivery? What are the strengths and weaknesses of p4p in Afghanistan?
- 10 Do you think the p4p verification mechanism is feasible in Afghanistan context? Why?
- 11 What are your recommendations to improve the overall performance of BPHS, contracting, and p4p to meet the needs of population?

Questionnaire

Focus Group Discussion (FGD)

Doctors and Midwives

- 1- How much are you happy with the current BPHS services?
- 2- What is your opinion about the overall availability of medicine in your health facility in the past one year? (prob: are the drugs and supplies sufficient to meet the needs of the community? How often does your HF run out of the medicine? Do doctors prescribe medicine from private pharmacies?)
- 3- How many health care workers are working in the health facility? How many positions are filled right now? What is the rate of turn-over in the past one year in the health facility? Is there a female health worker?
- 4- How is the relationship between the health facility and community? What mechanism are in place to ensure close coordination with community? How often the health facility meets the community?
- 5- How is the referral mechanism working? Is it possible to refer patients from lower level health facility to higher level health facility (for example from BHC to CHC or DH)? What are the challenges of referral? How the challenges can be addressed?
- 6- Do you prefer government or NGO to implement the BPHS? Why?
- 7- What are the strengths, weaknesses, and challenges of community verification?
- 8- What role community shuras can play to improve quality and accessibility of services?
- 9- What role community shuras can play to help monitoring of health services and community verification?
- 10- How to improve the services? What are your recommendations?

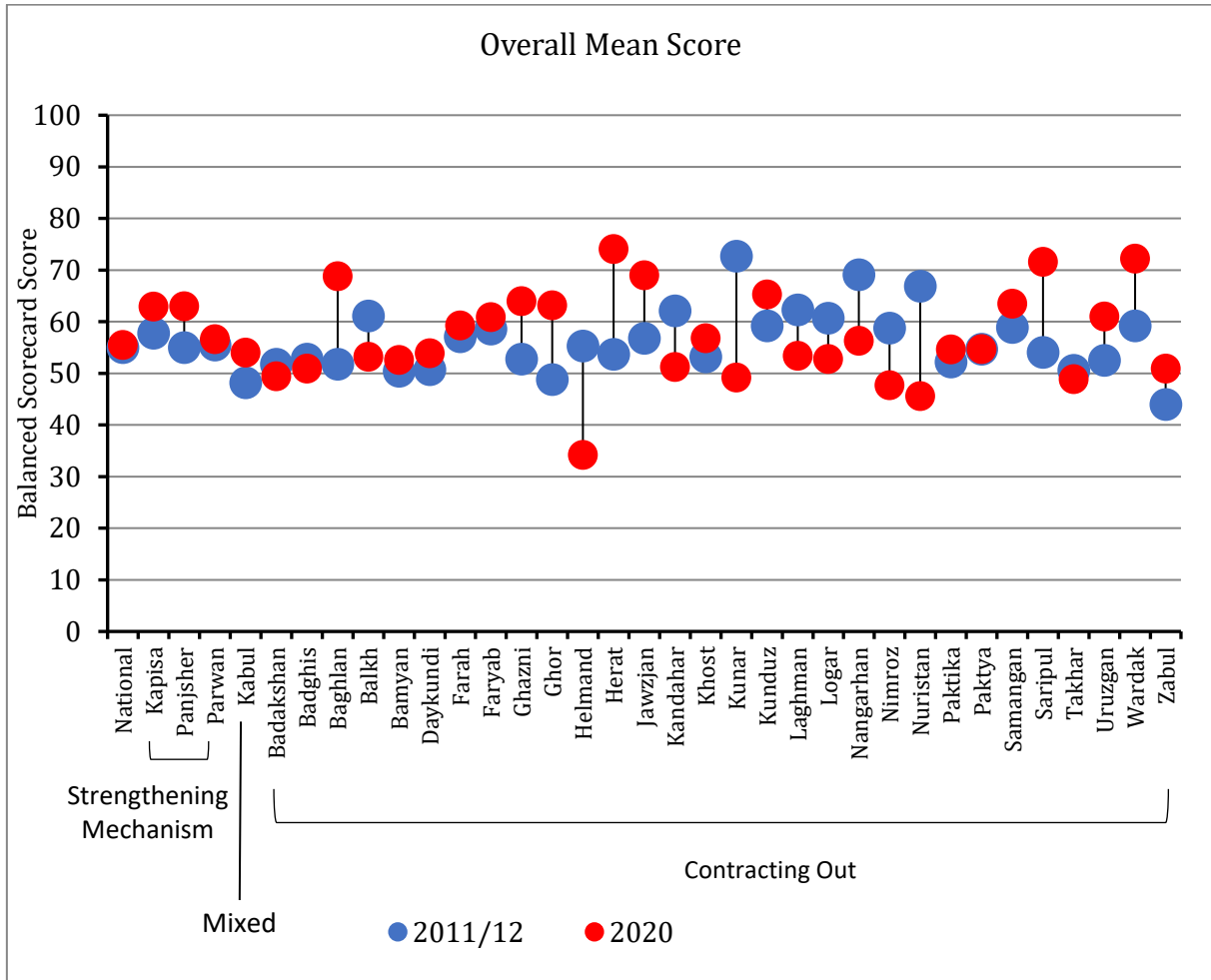
Annex 3: Institutional Review Board Approval



Annex 4: Supplementary Information

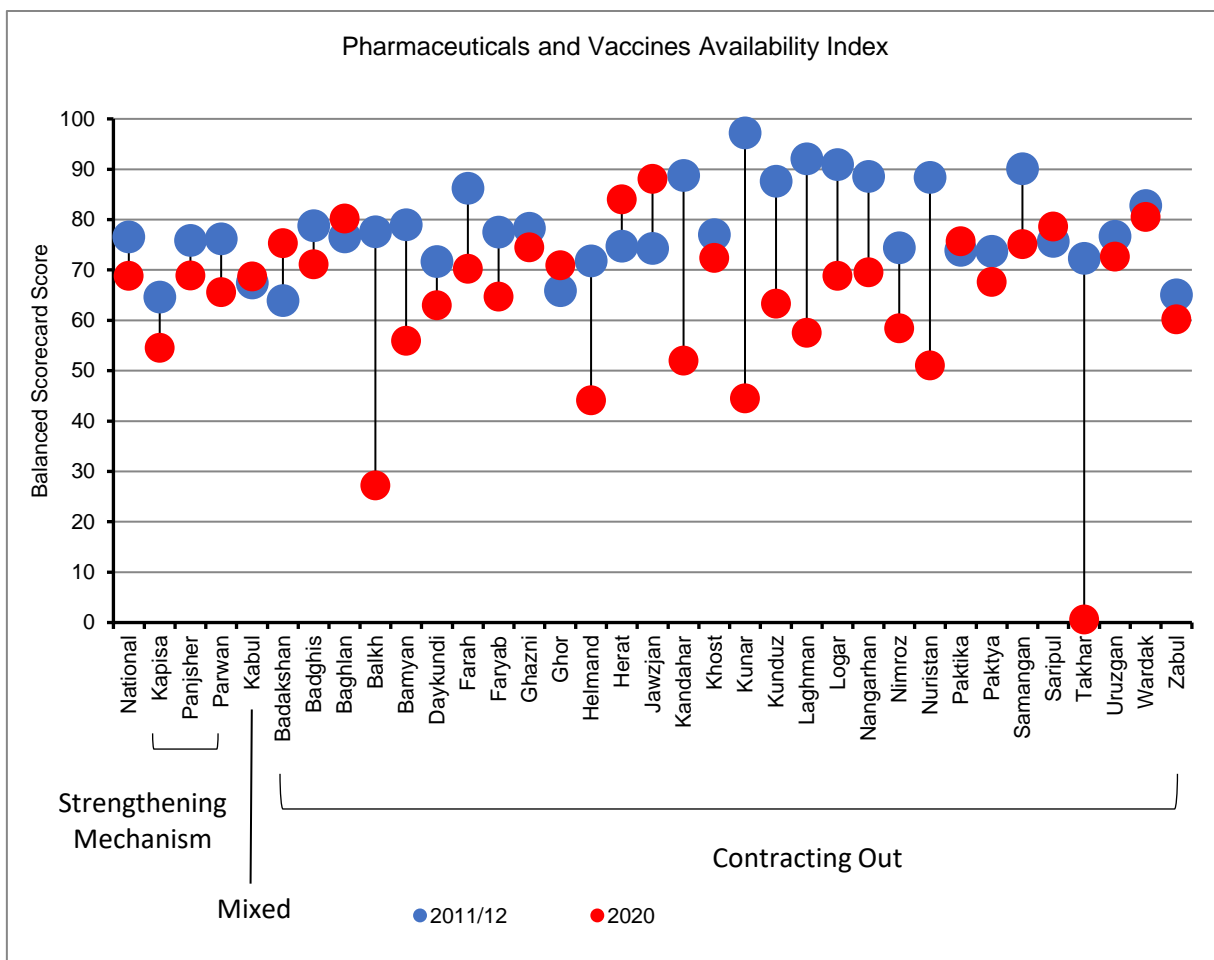
Health Systems Performance

Figure 6: Overall Mean Score by Province 2011/12 and 2020



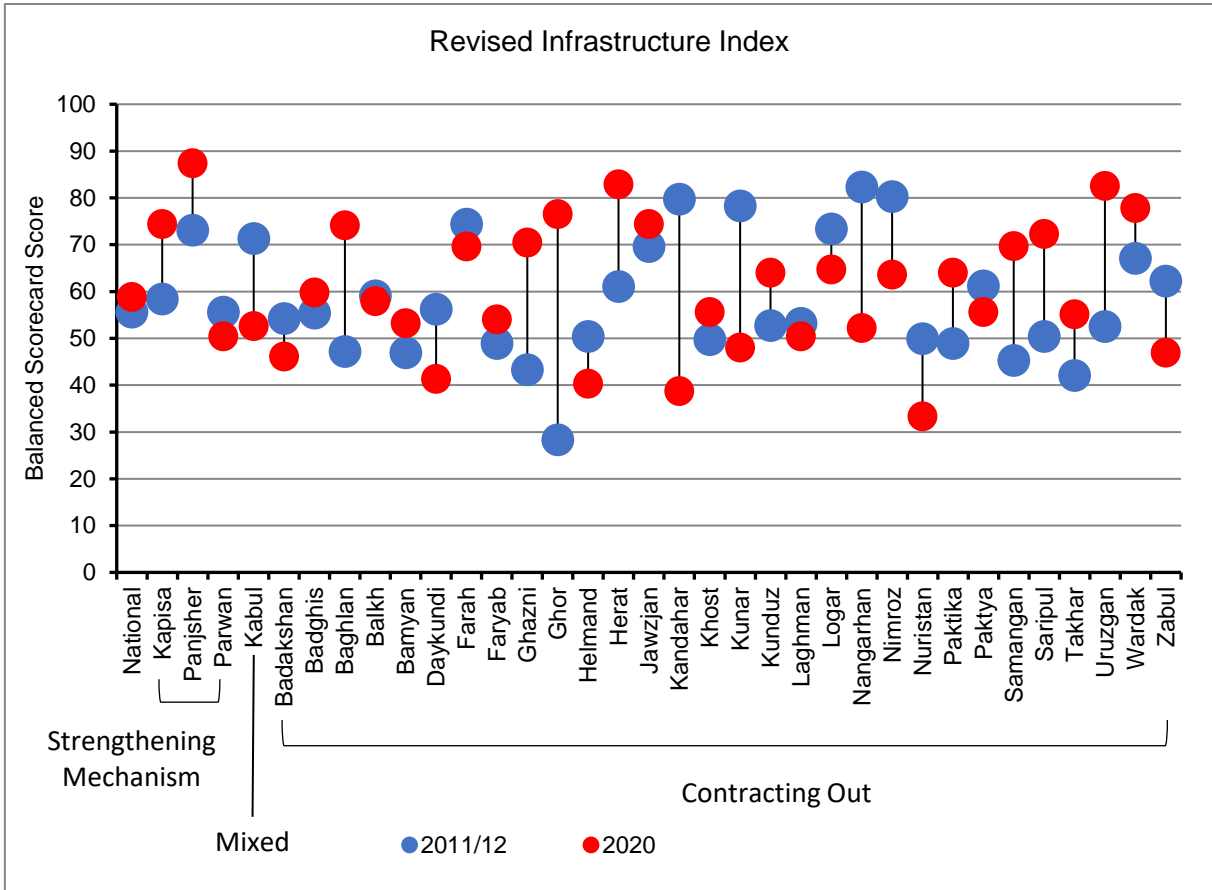
Source: (108,109)

Figure 7: Pharmaceuticals and Vaccines Availability Index by Province 2011/12 and 2020



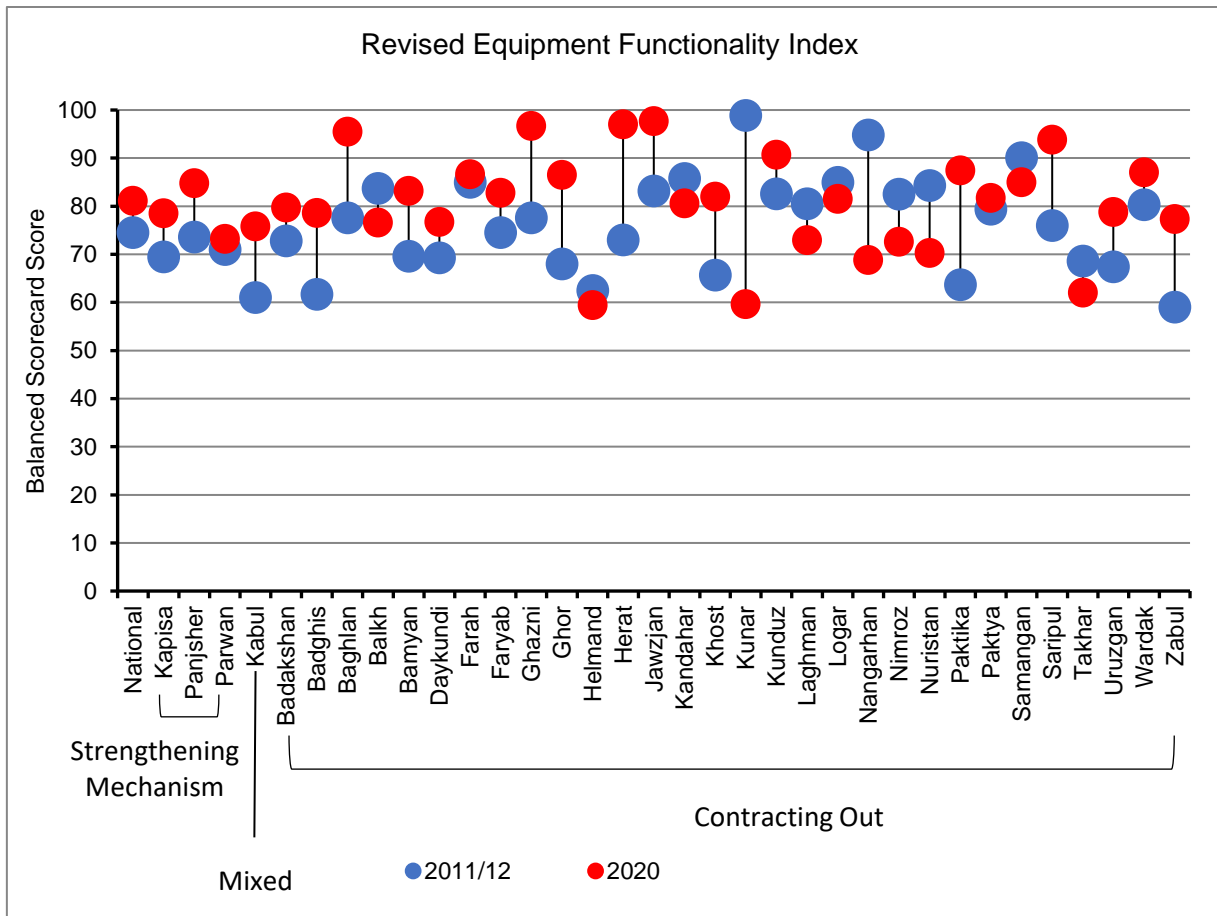
Source: (108,109)

Figure 8: Revised Infrastructure Index by Province 2011/12 and 2020



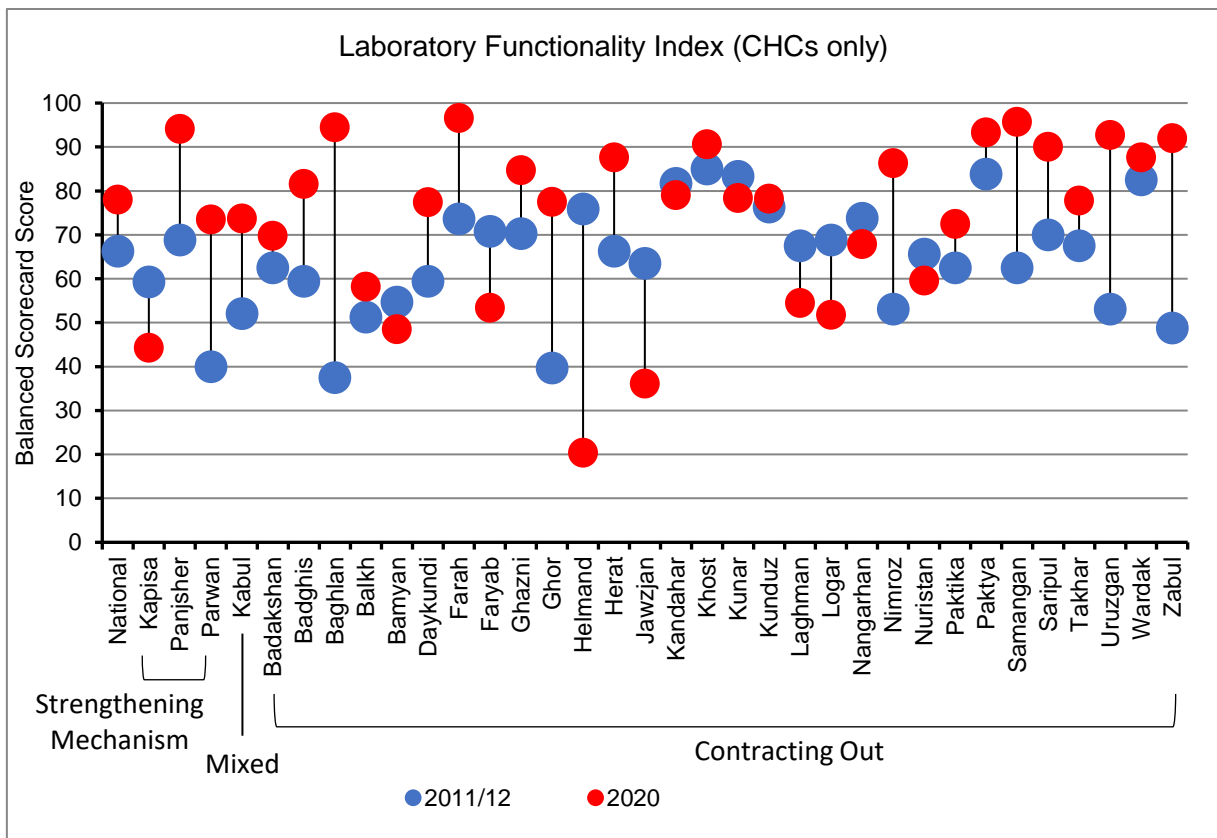
Source: (108,109)

Figure 9: Revised Equipment Functionality Index by Province 2011/12 and 2020



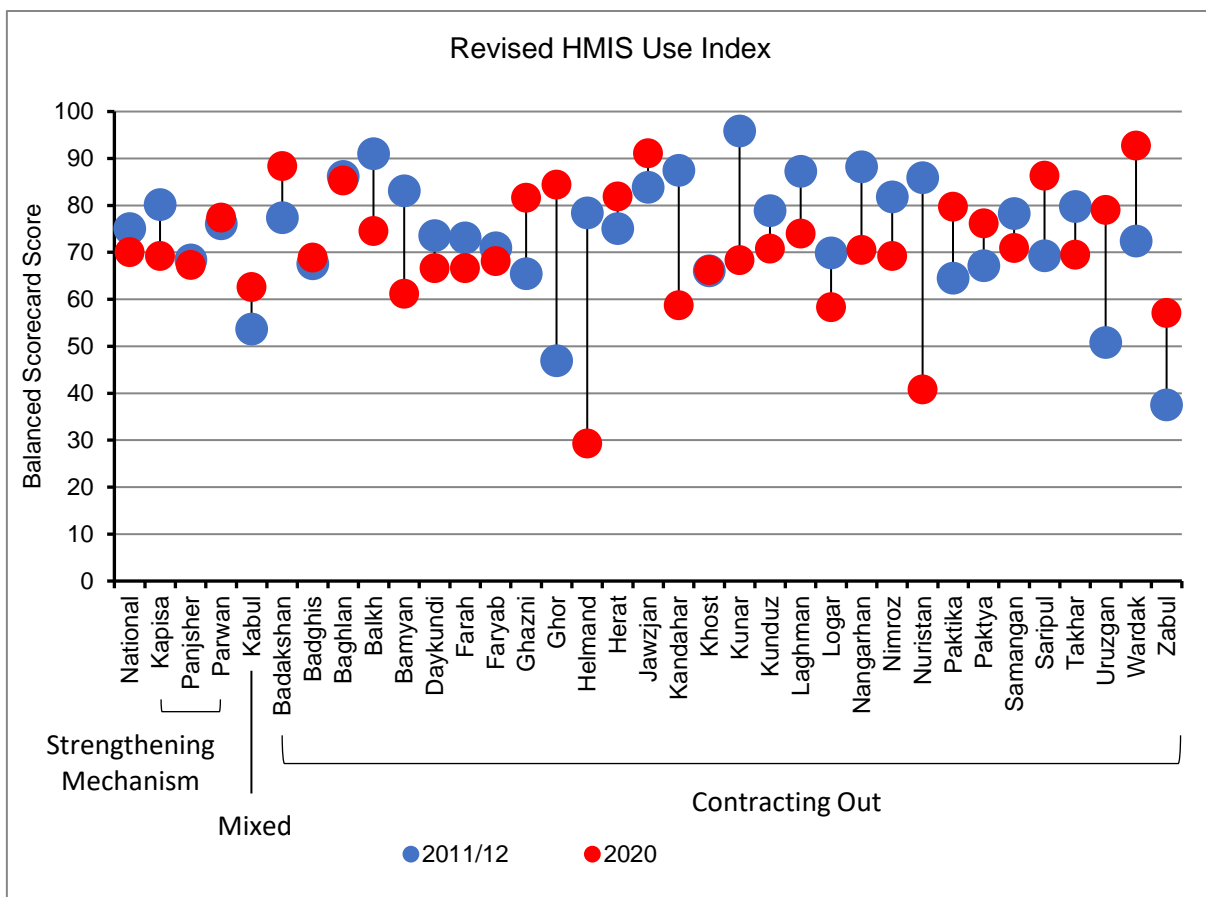
Source: (108,109)

Figure 10: Laboratory Functionality Index by Province 2011/12 and 2020



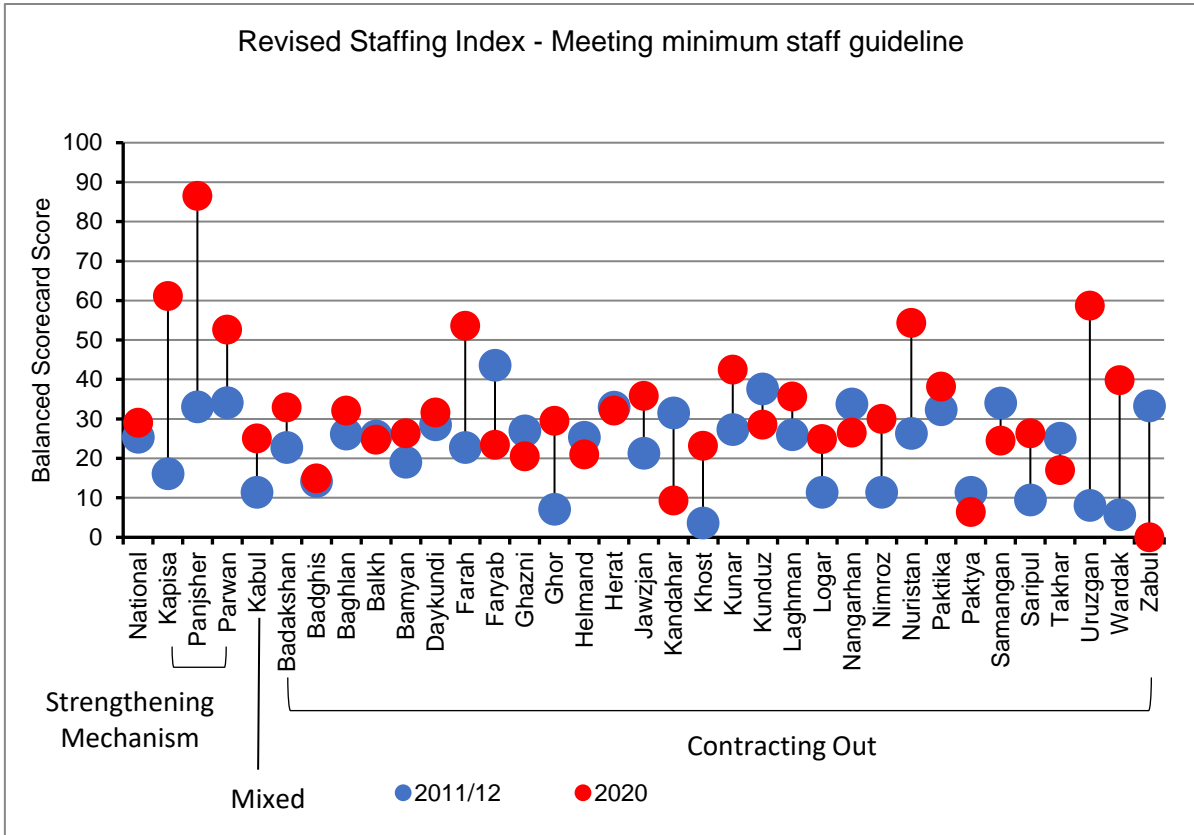
Source: (108,109)

Figure 11: Revised HMIS Use Index by Province 2011/12 and 2020



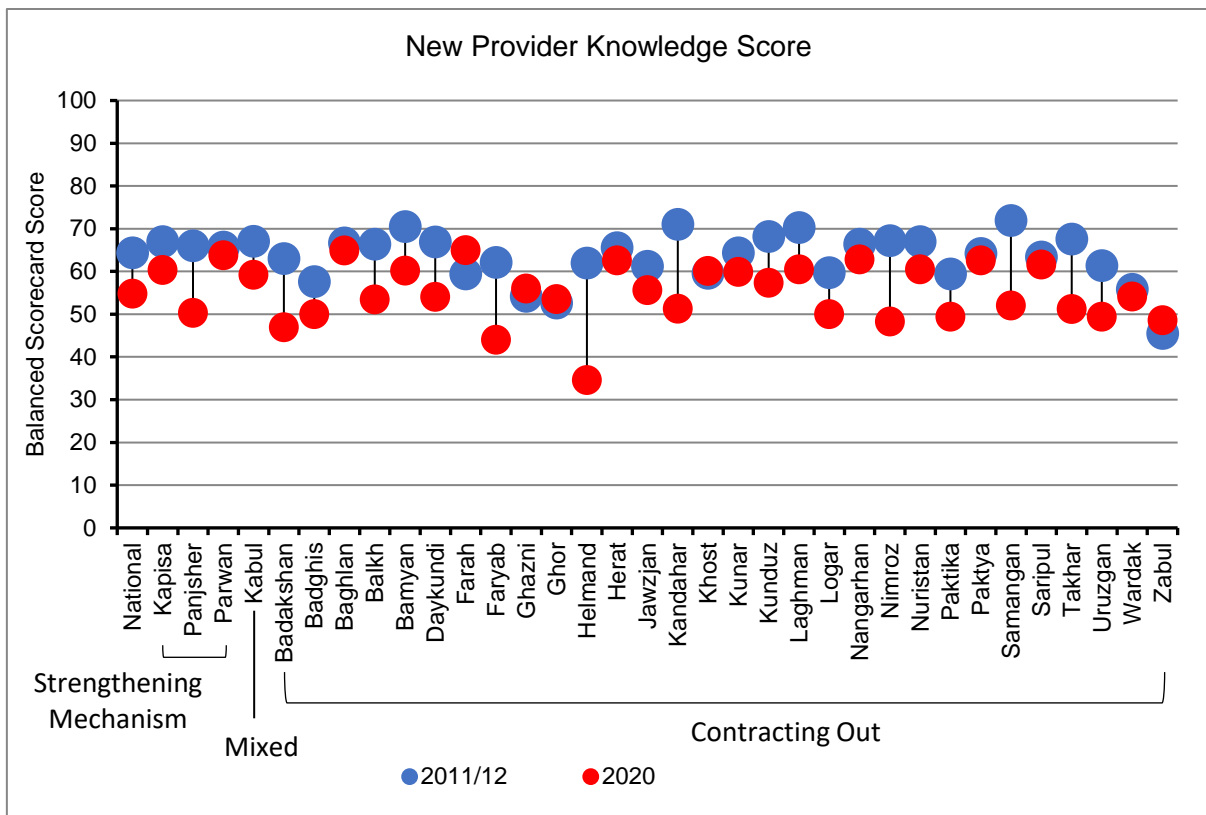
Source: (108,109)

Figure 12: Revised Staffing Index by Province 2011/12 and 2020



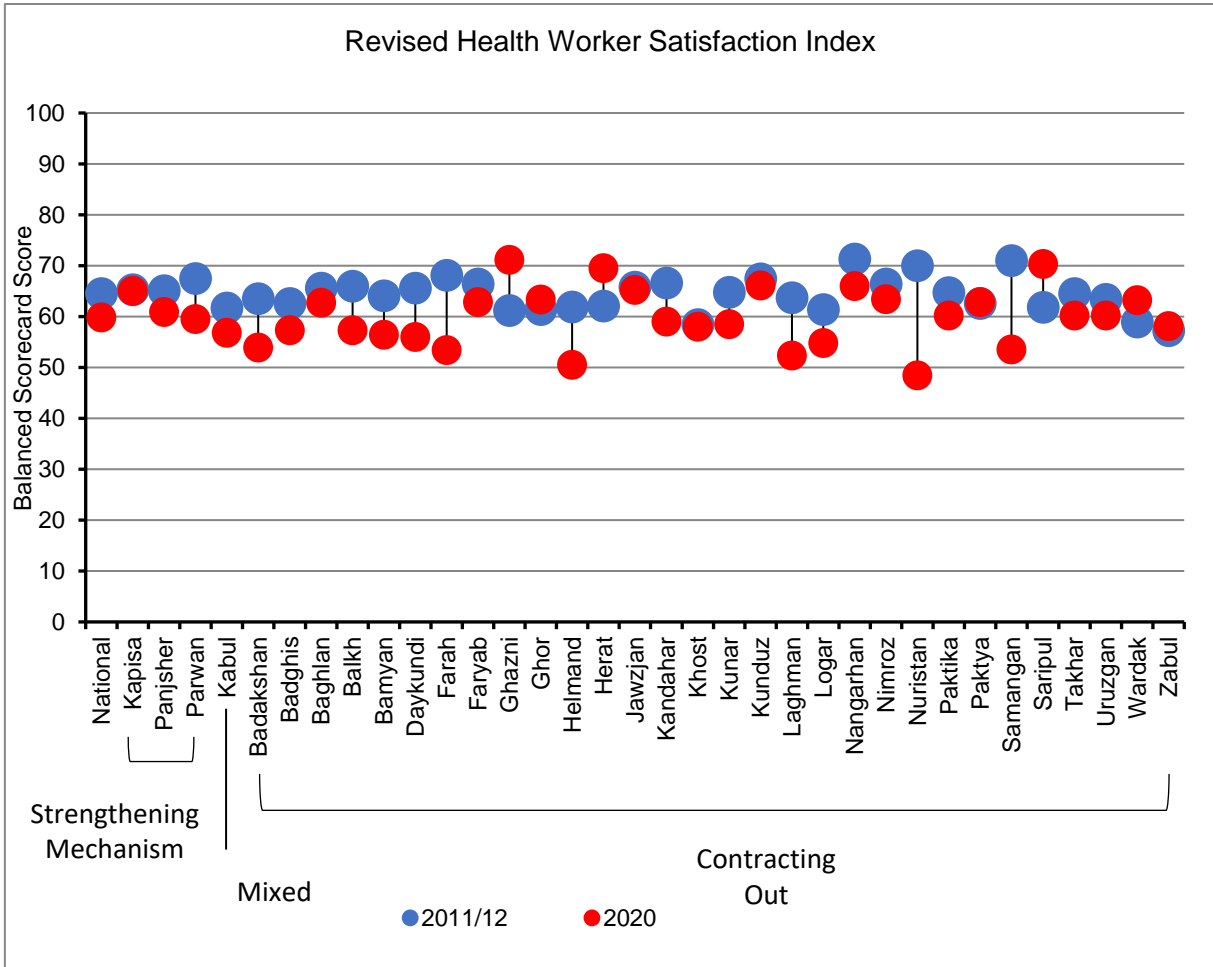
Source: (108,109)

Figure 13: New Provider Knowledge Score by Province 2011/12 and 2020



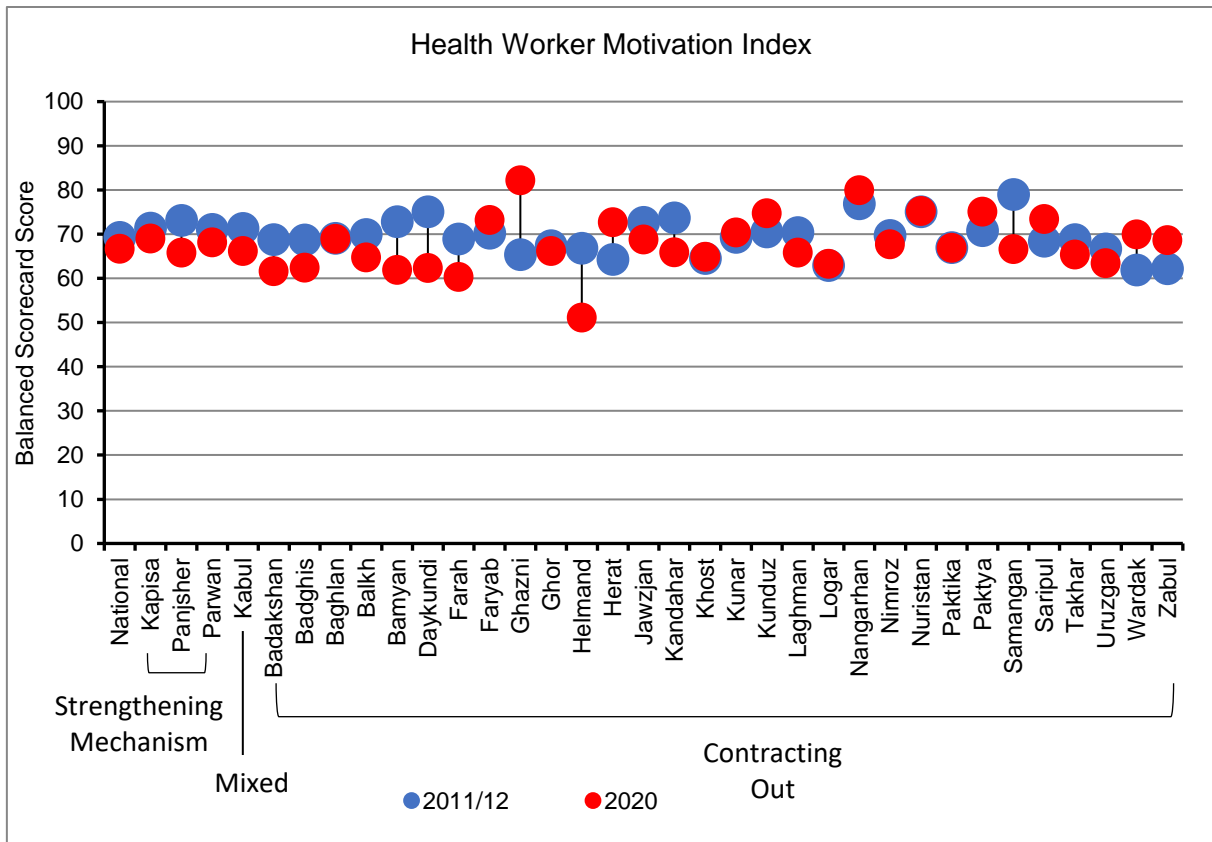
Source: (108,109)

Figure 14: Revised Health Worker Satisfaction Index by Province 2011/12 and 2020



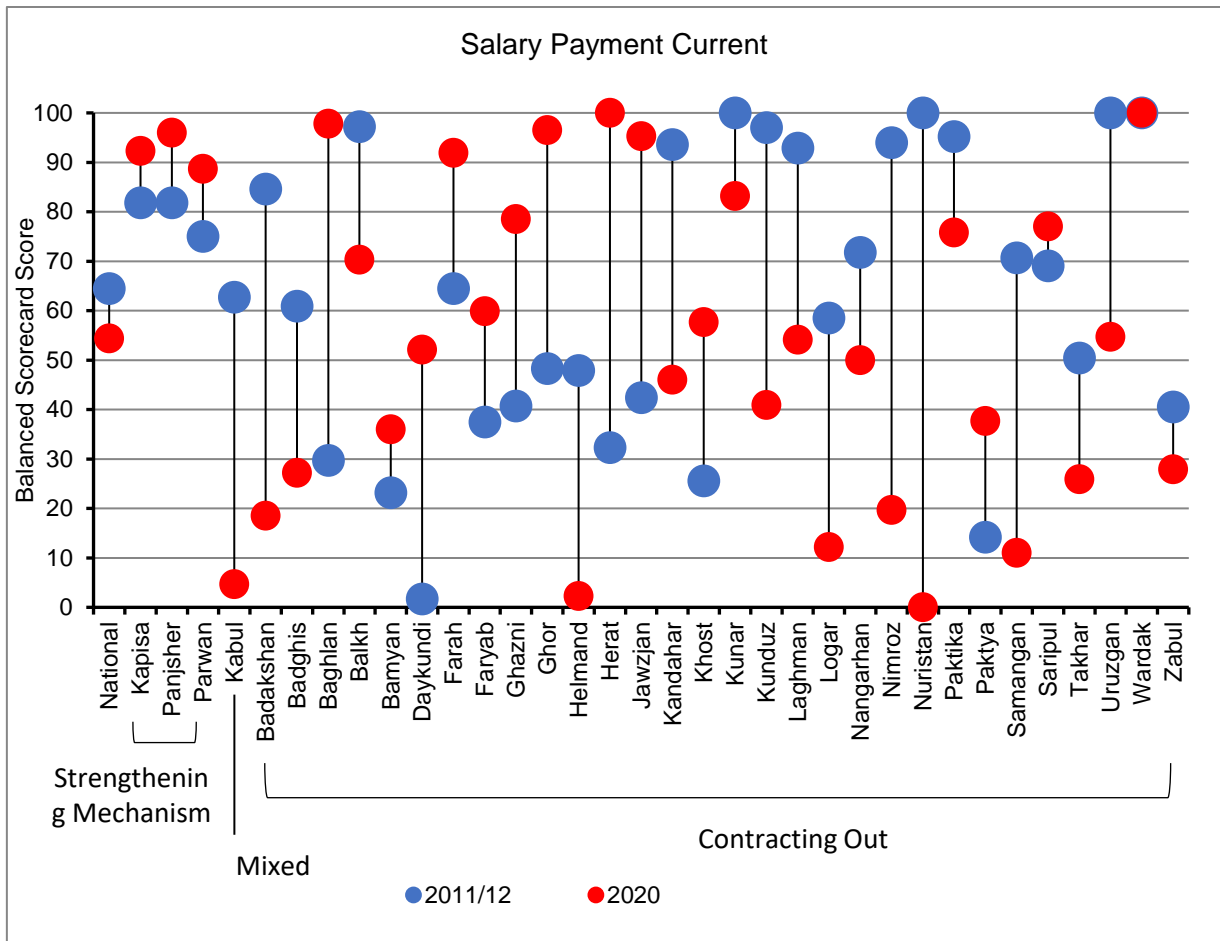
Source: (108,109)

Figure 15: Health Worker Motivation Index by Province 2011/12 and 2020



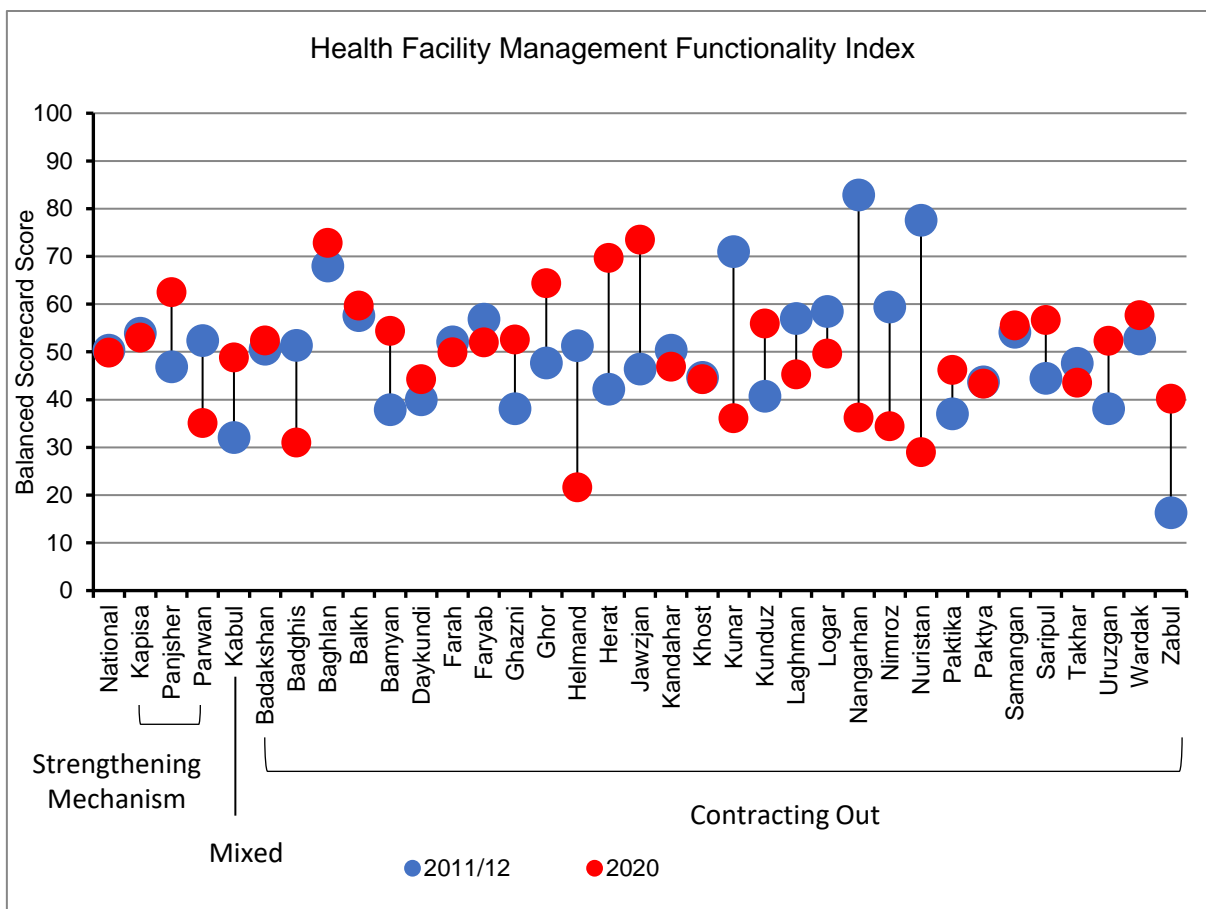
Source: (108,109)

Figure 16: Salary Payment Current by Province 2011/12 and 2020



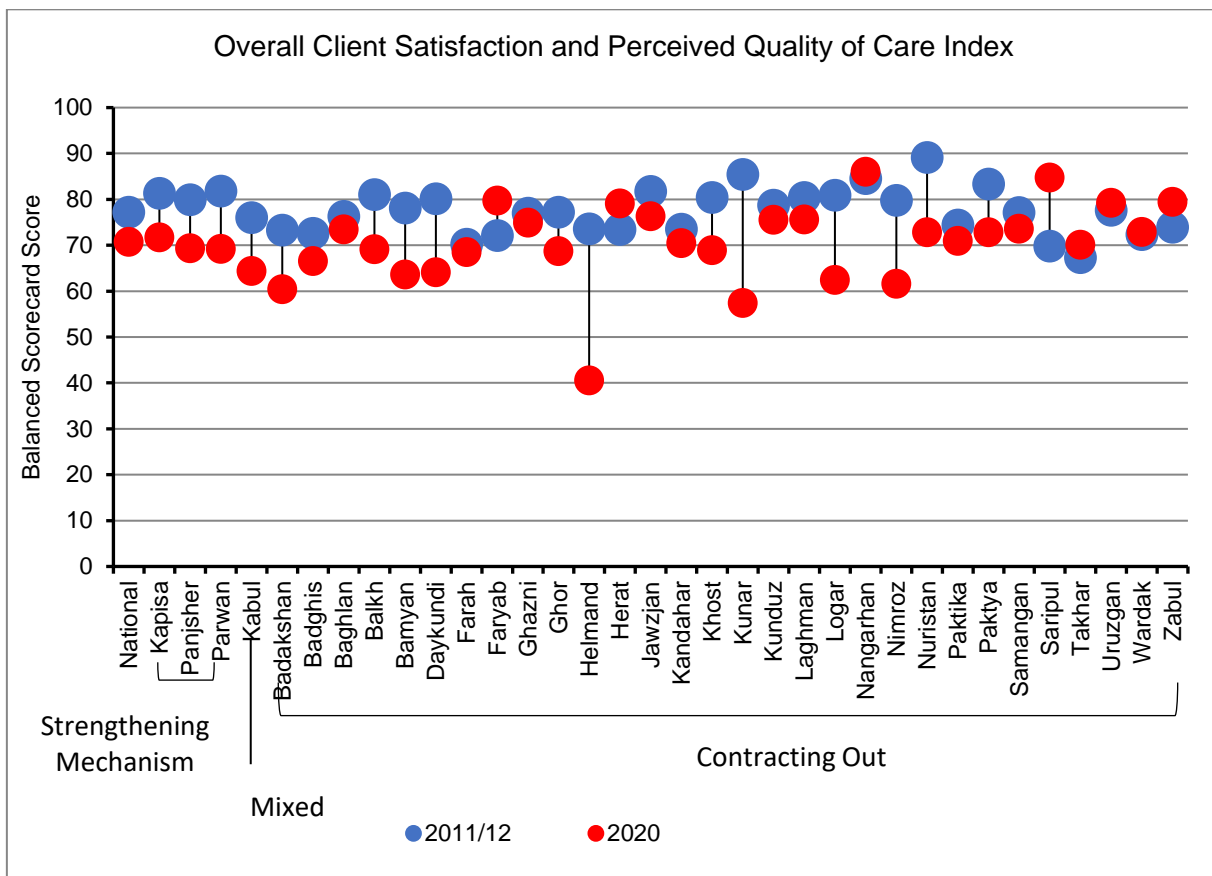
Source: (108,109)

Figure 17: Health Facility Management Functionality Index by Province 2011/12 and 2020



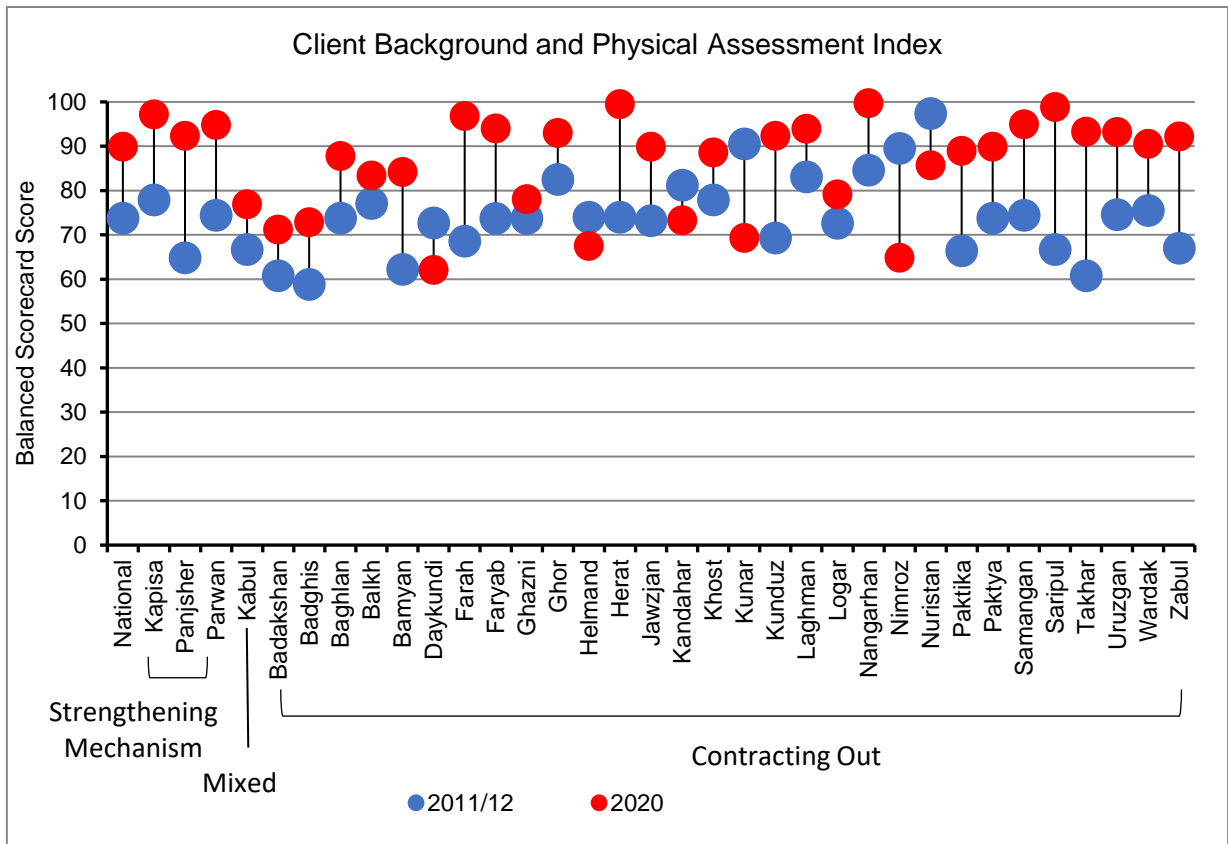
Source: (108,109)

Figure 18: Overall Client Satisfaction and Perceived Quality of Care Index by Province 2011/12 and 2020



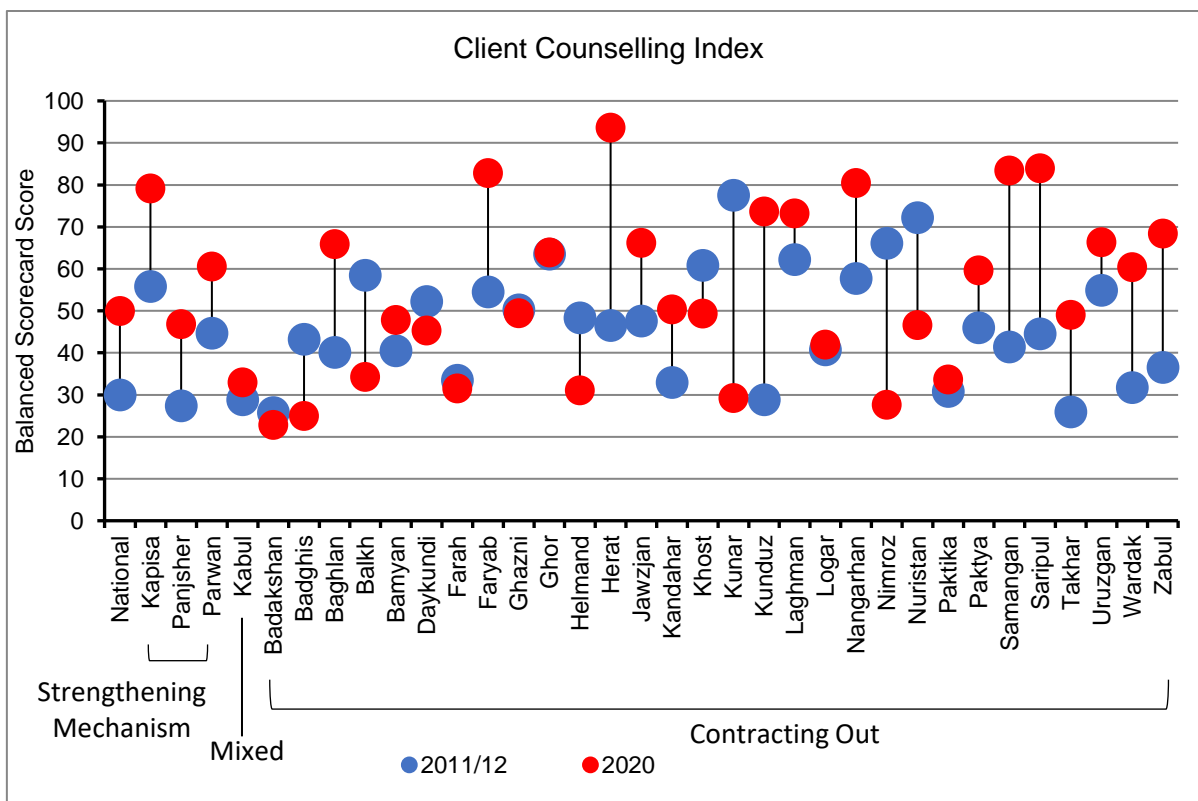
Source: (108,109)

Figure 19: Client Background and Physical Assessment Index by Province 2011/12 and 2020



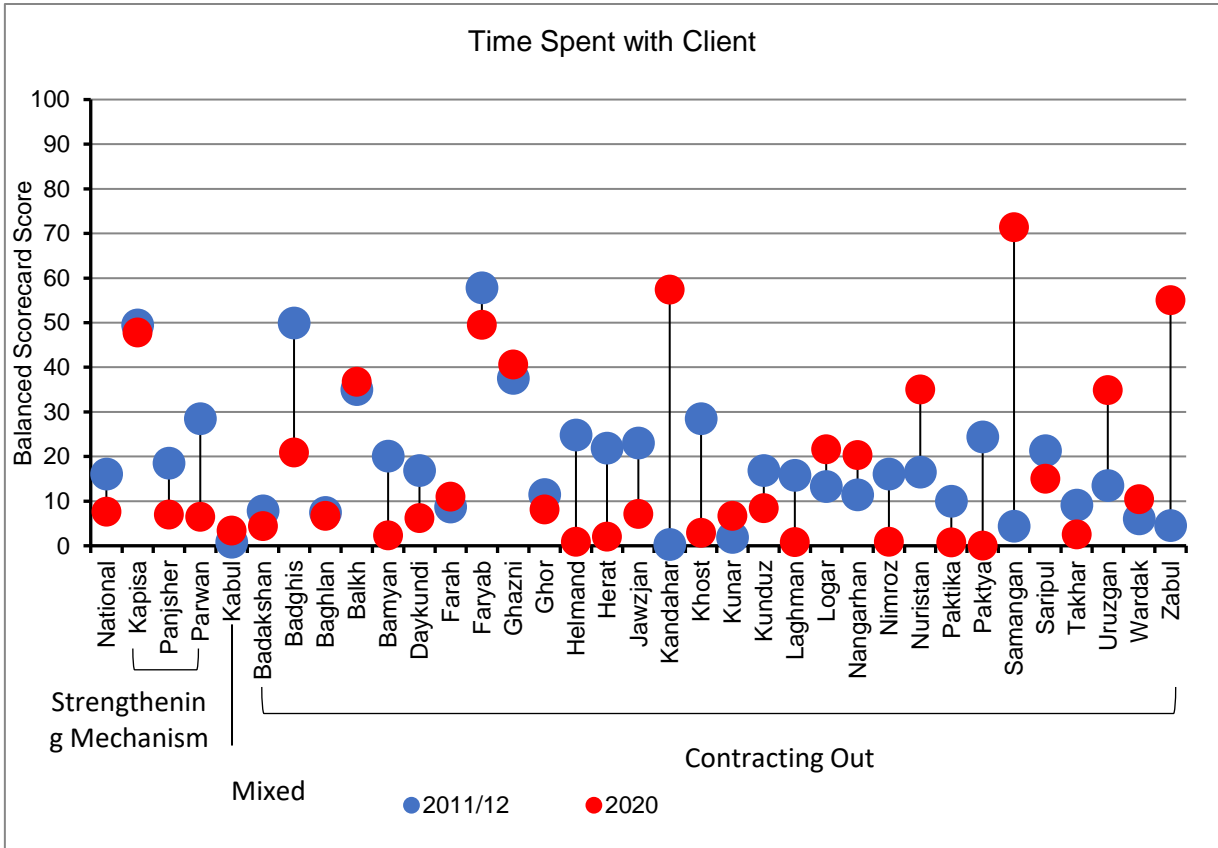
Source: (108,109)

Figure 20: Client Counselling Index by Province 2011/12 and 2020



Source: (108,109)

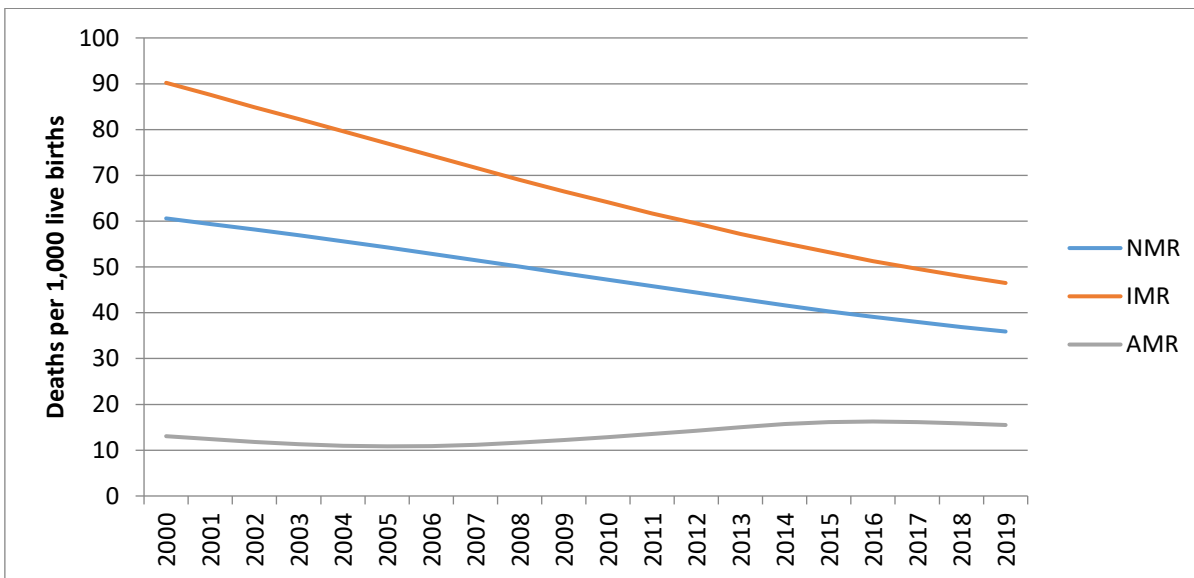
Figure 21: Time Spent with Client by Province 2011/12 and 2020



Source: (108,109)

Health Status (Mortality and Cause of Death)

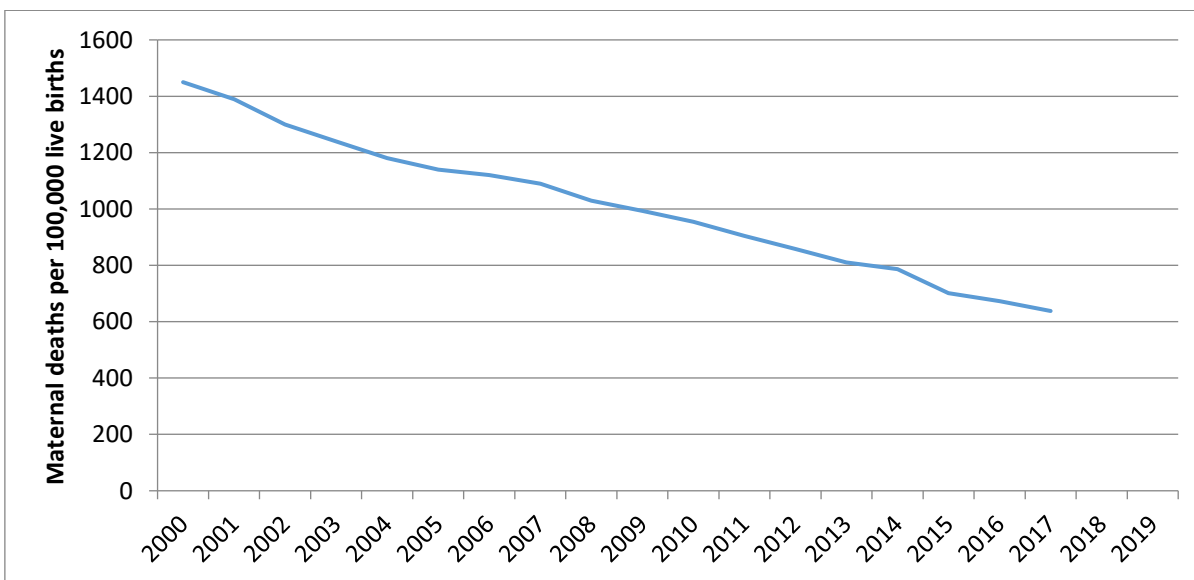
Figure 22: Neonatal, Infant, and Adolescent Mortality Rate



Source: (110)

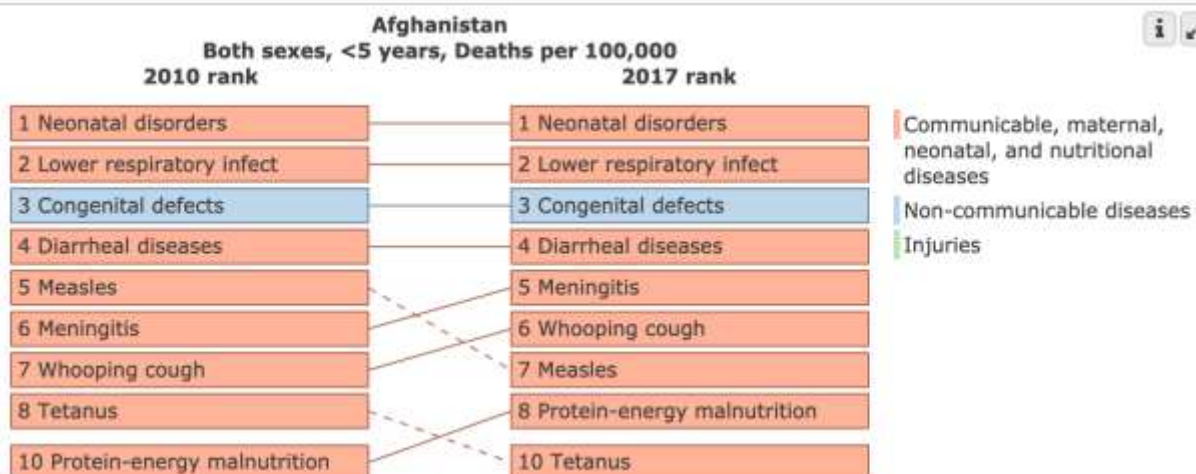
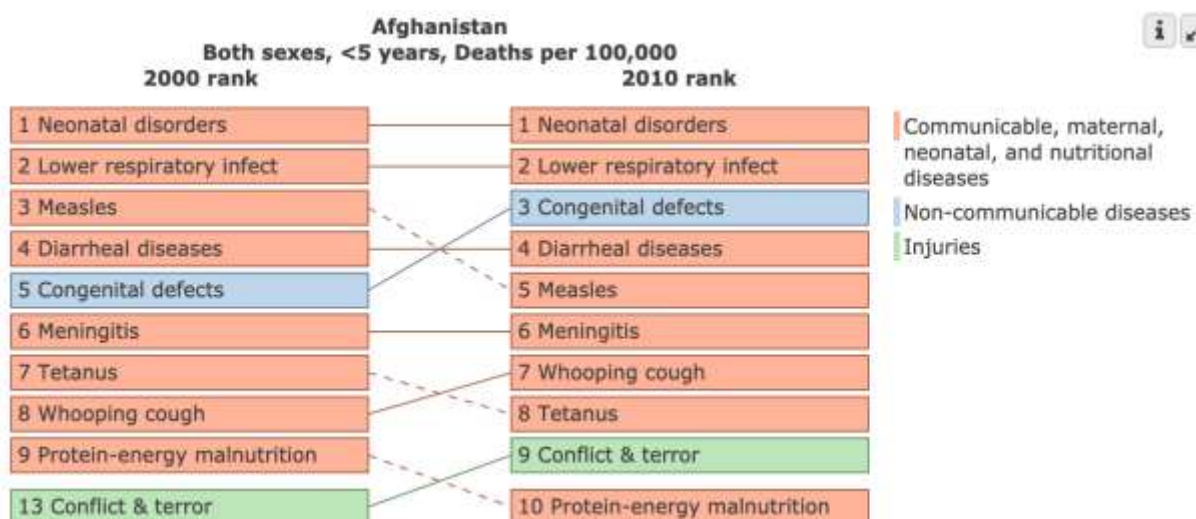
Note: NMR: neonatal mortality rate; IMR: infant mortality rate; AMR: adolescent mortality rate (measured as deaths per 1000 adolescents)

Figure 23: Maternal Mortality Rate



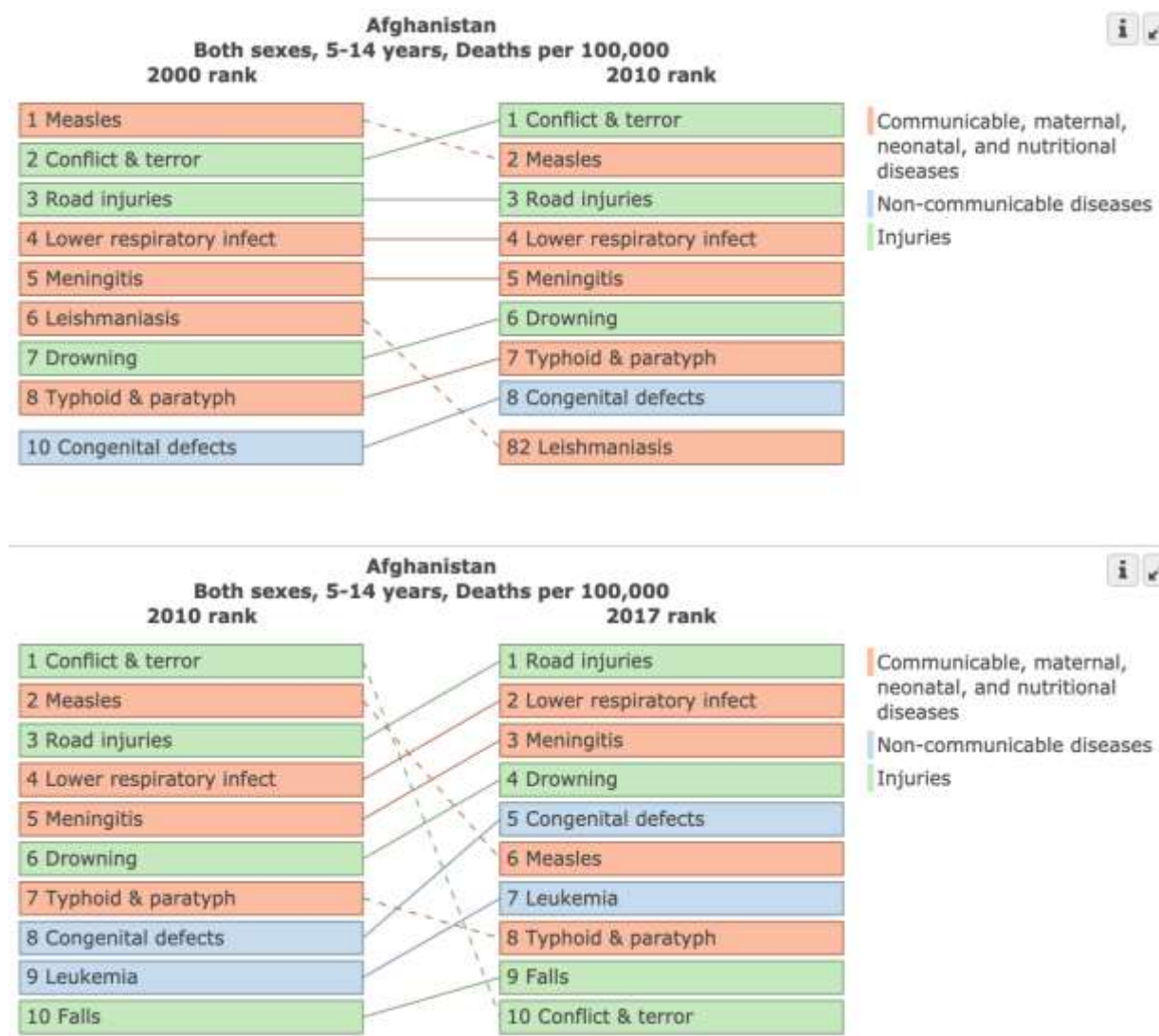
Source: (111)

Figure 25: Top Causes of Death, < 5 years



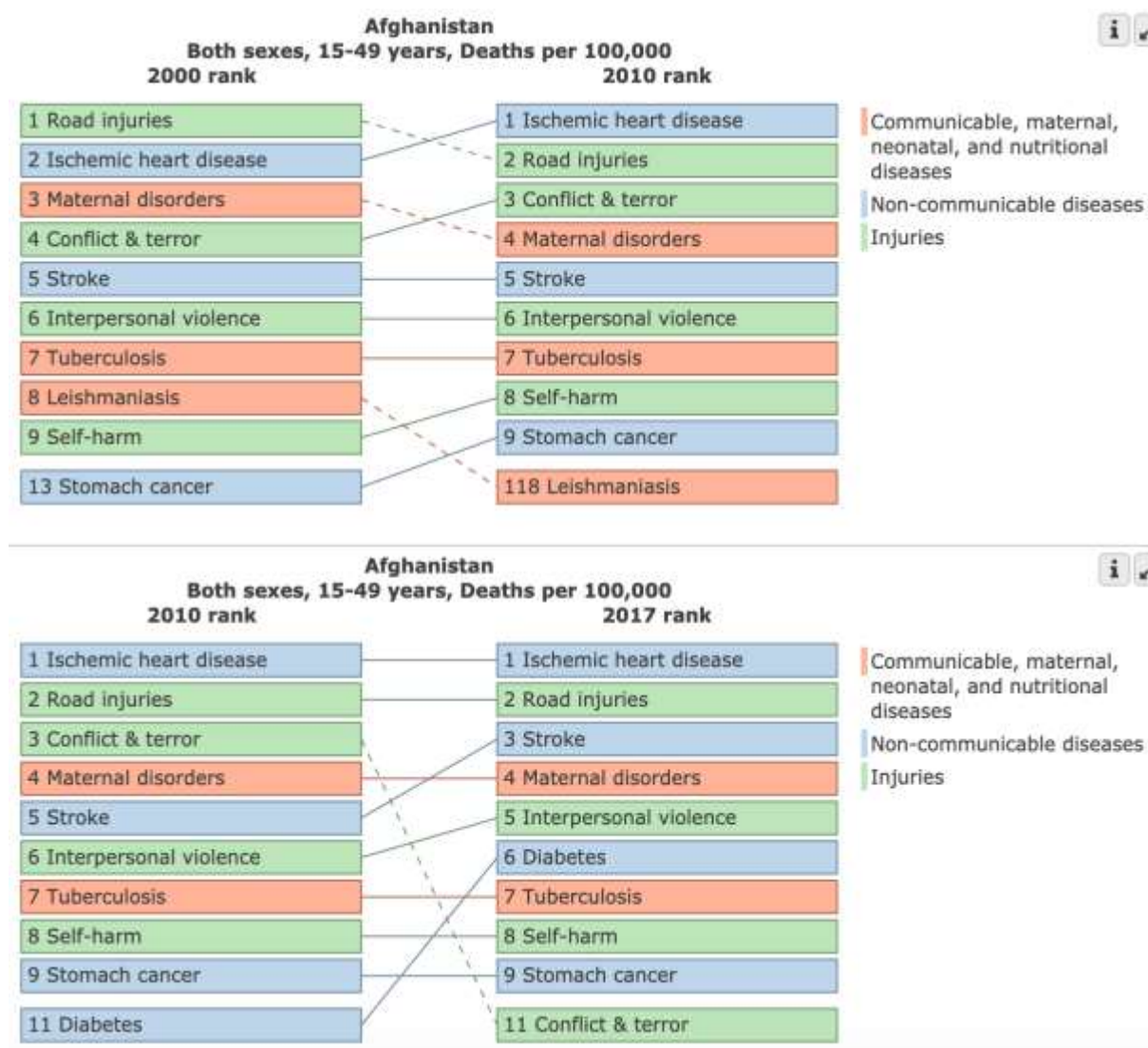
Source: (65)

Figure 26: Top Causes of Death, 5-14 years



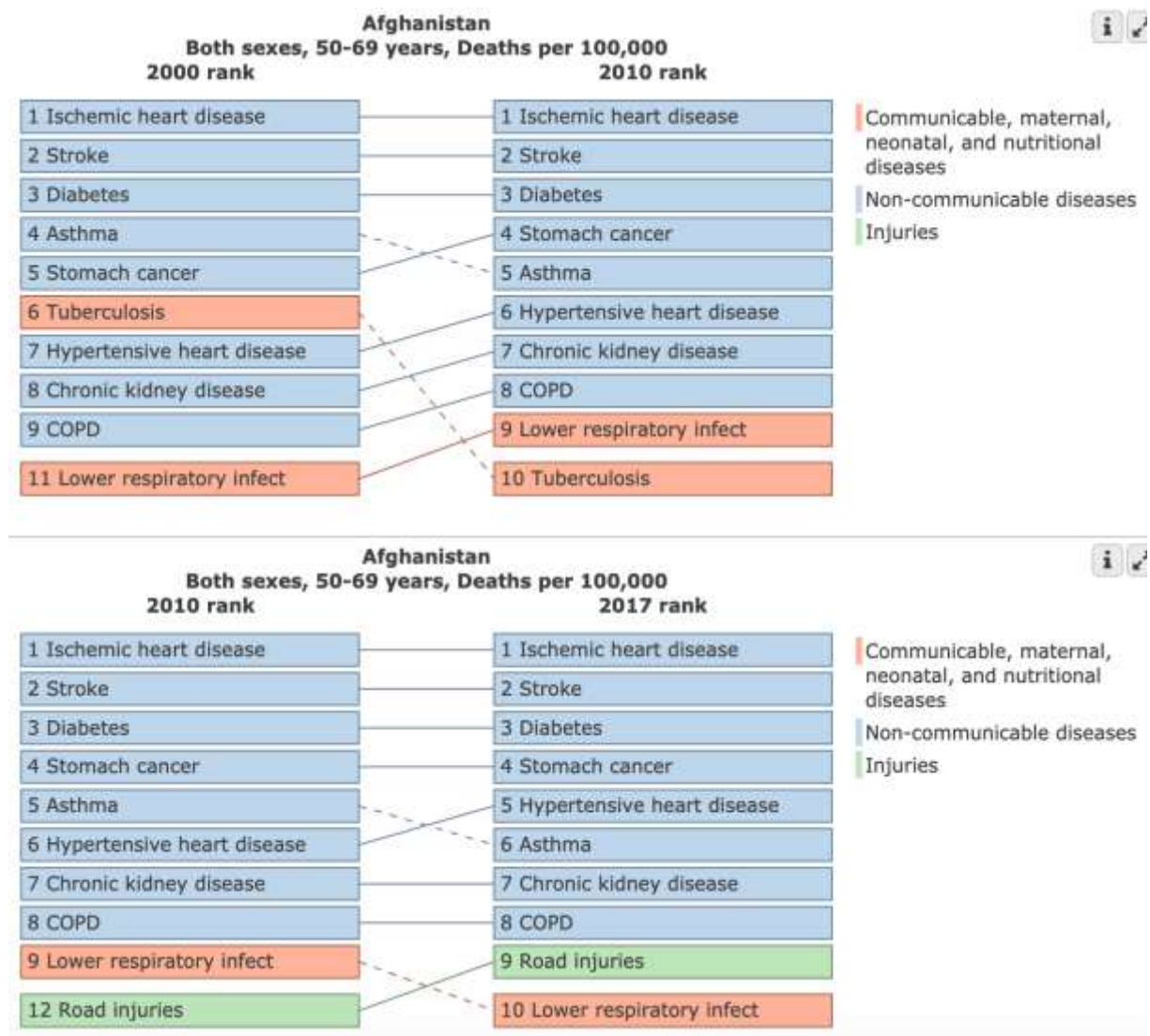
Source: (65)

Figure 27: Top Causes of Death, 15-49 years



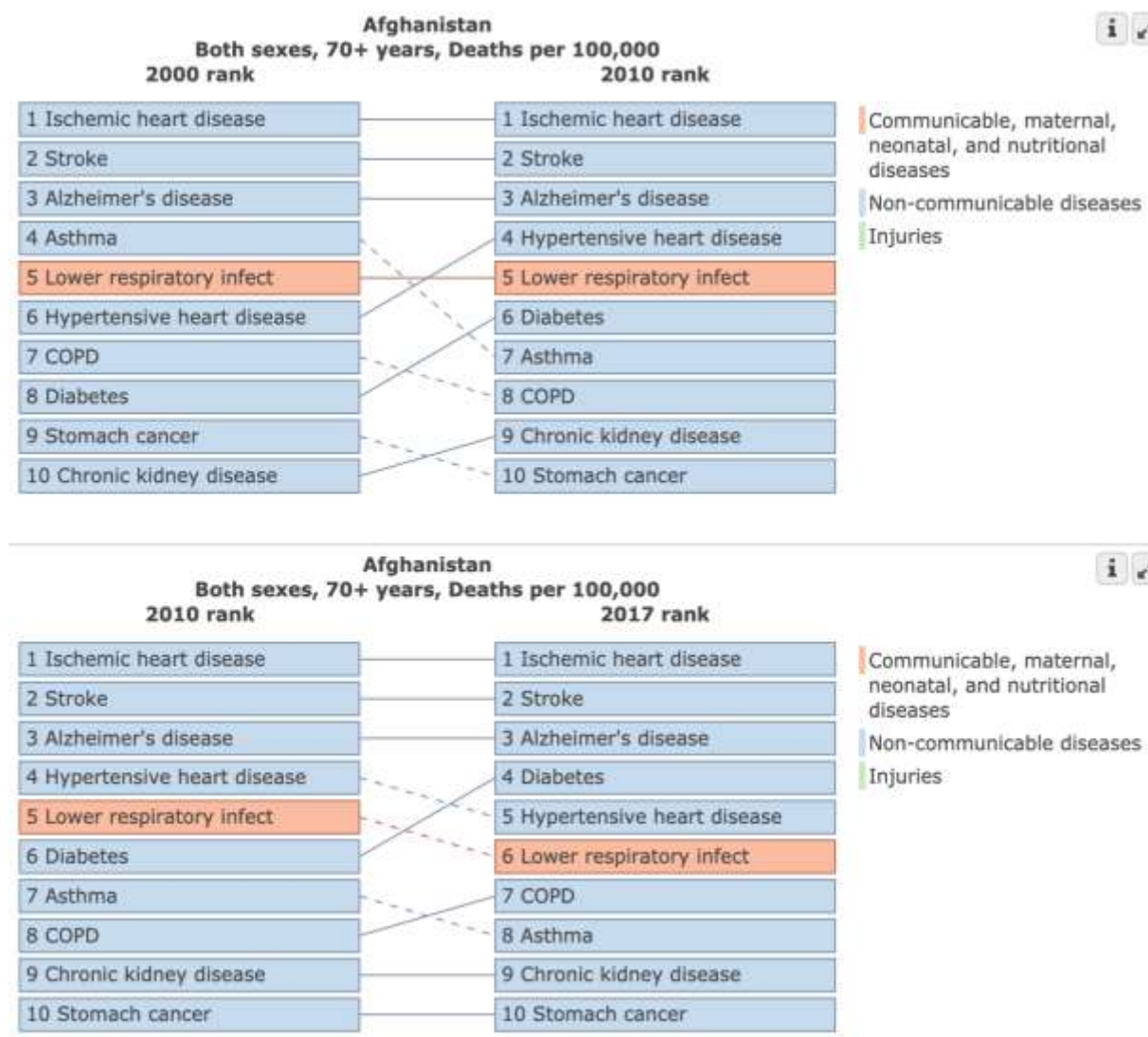
Source: (65)

Figure 28: Top Causes of Death, 50-69 years



Source: (65)

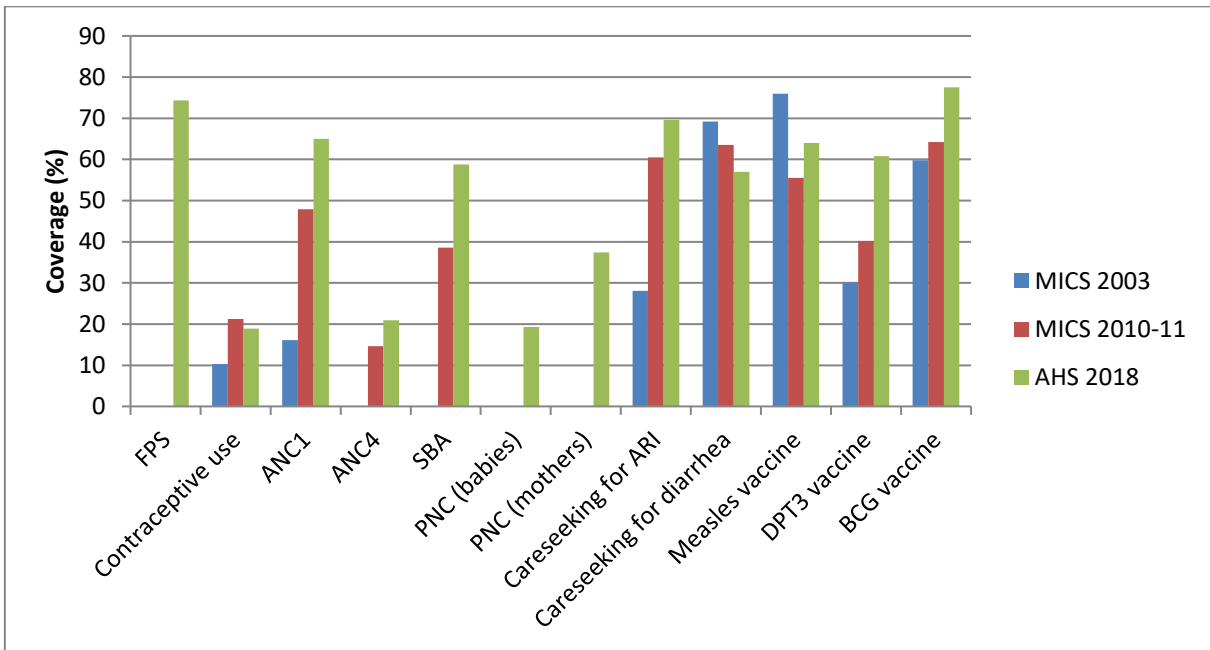
Figure 29: Top Causes of Death, 70+ years



Source: (65)

RMNCH

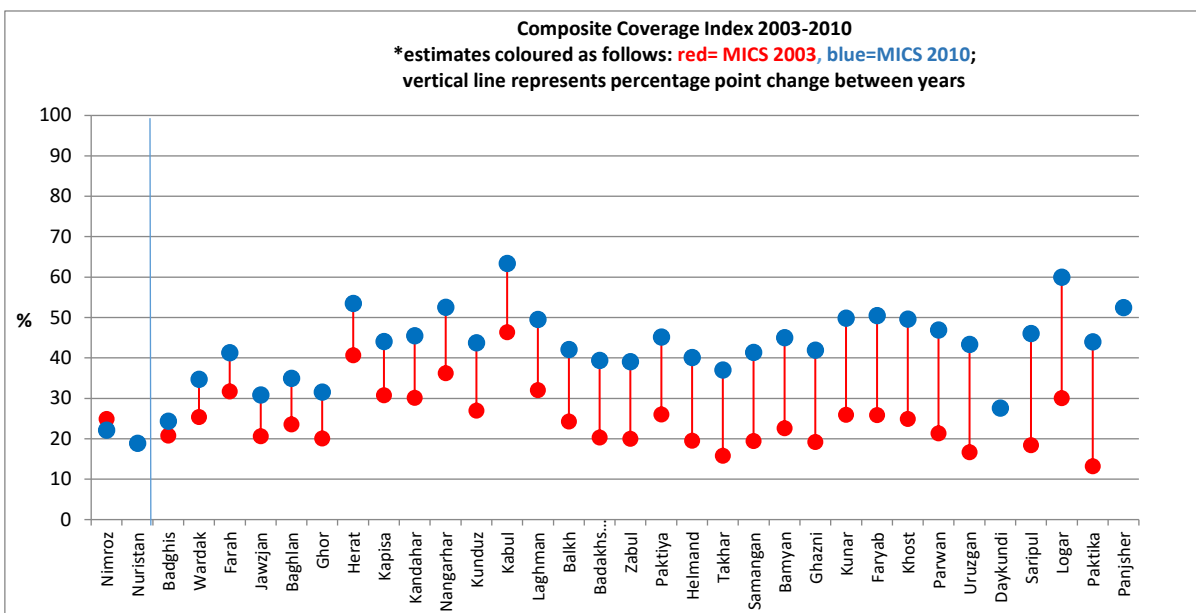
Figure 30: Reproductive, Maternal, Neonatal, Child, and Adolescent Continuum of Care



Source: (61,112,113)

Note: ANC1 in 2003 was defined as ANC by skilled worker. There was no data on how many visits, and thus ANC4 data for this year is unavailable. ARI care-seeking in 2010-11 was defined as care-seeking for suspected pneumonia. 2018 immunisation estimates were based upon mother's report or card record. Care-seeking for diarrhea is defined as oral rehydration therapy (ORT) for diarrhea, which includes oral rehydration salts (ORS) and or a home-made fluid.

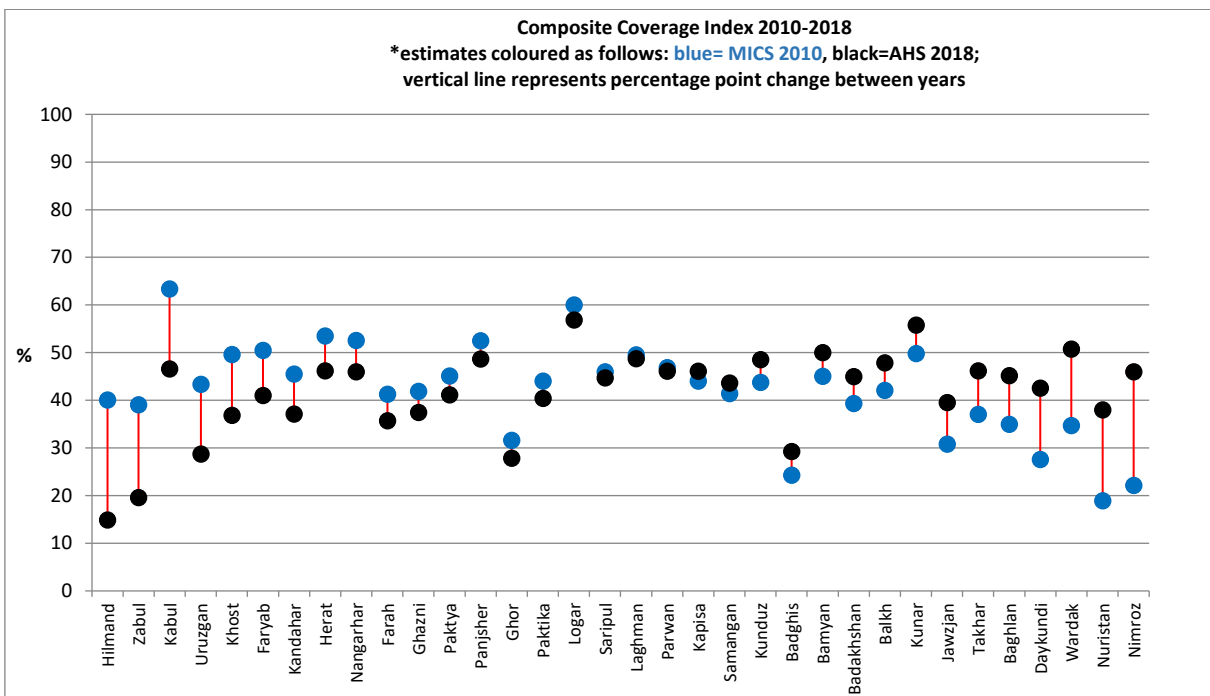
Figure 31: Composite Coverage Index Levels and Change from 2003 to 2010 by Province



Source: (13)

Note: A single point is presented for provinces with an estimate for only that year.

Figure 32: Composite Coverage Index Levels and Change from 2010 to 2018 by Province

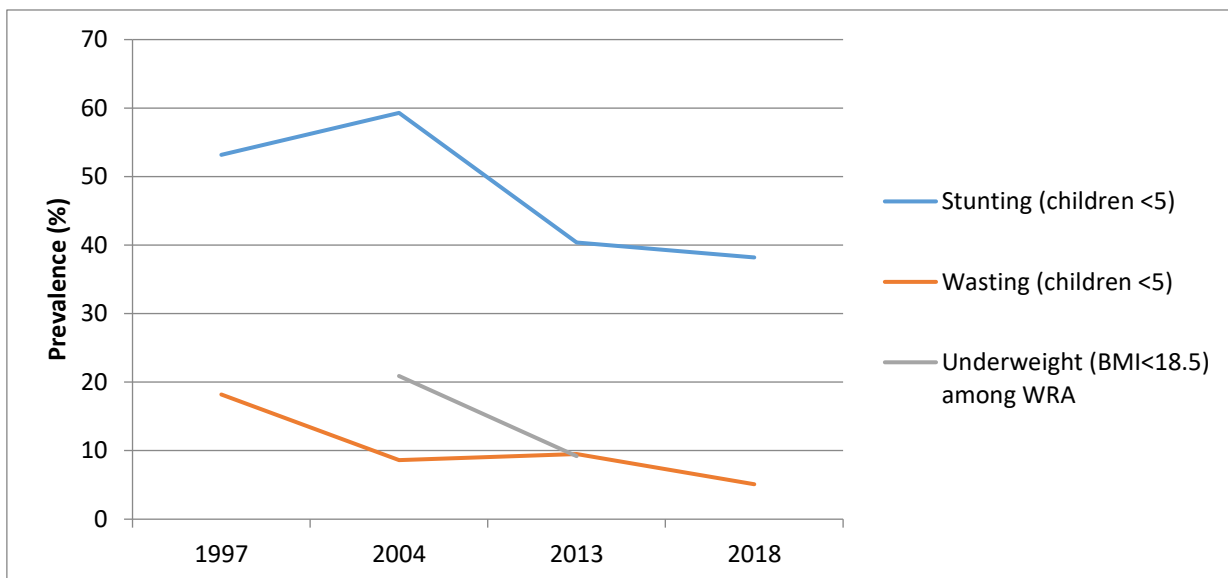


Source: (13)

Note: A single point is presented for provinces with an estimate for only that year.

Public Nutrition

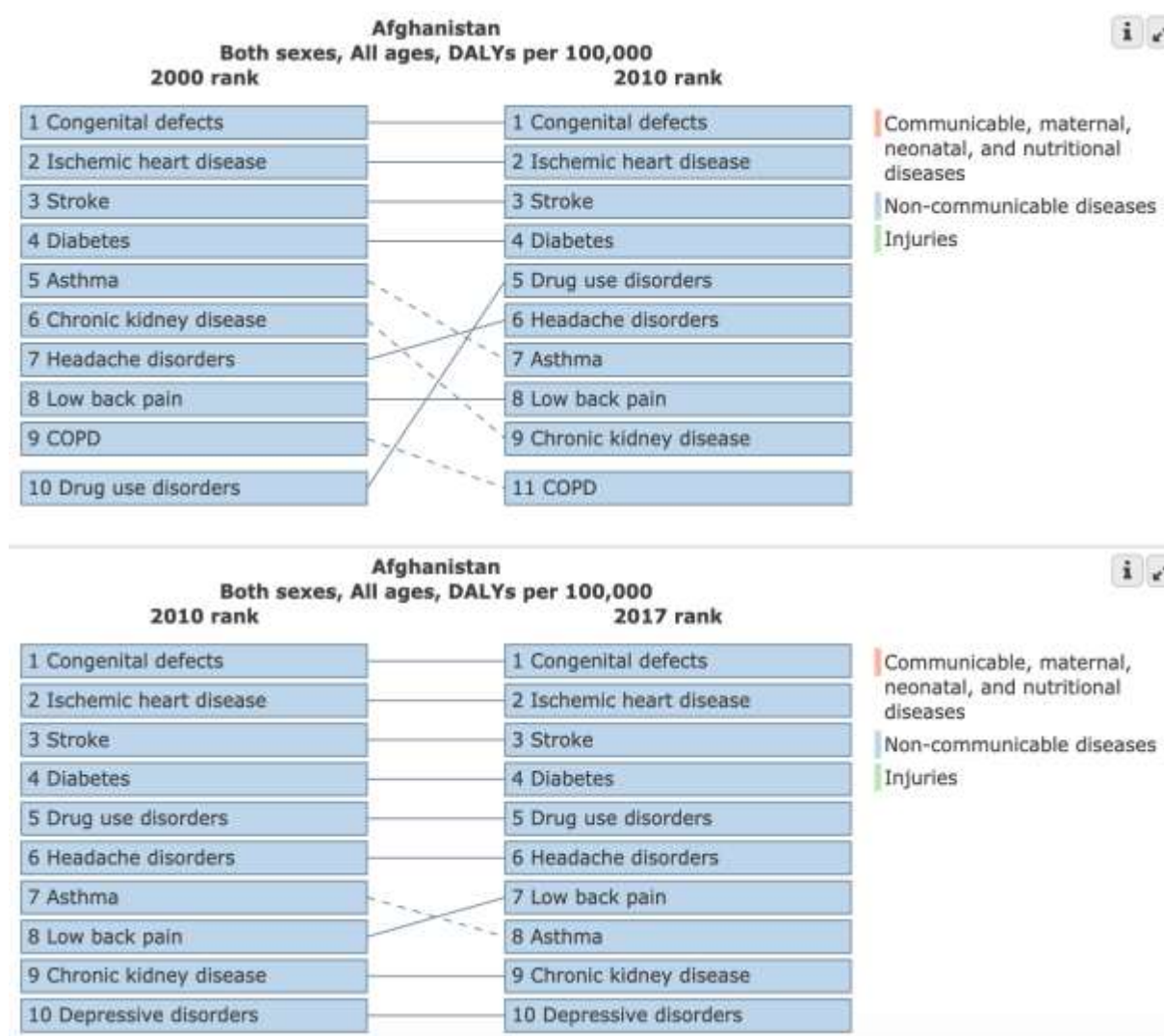
Figure 33: Child Stunting and Wasting (under-5 years old), and Underweight Among Women of Reproductive Age (15-49-year-old)



Source: (114–116)

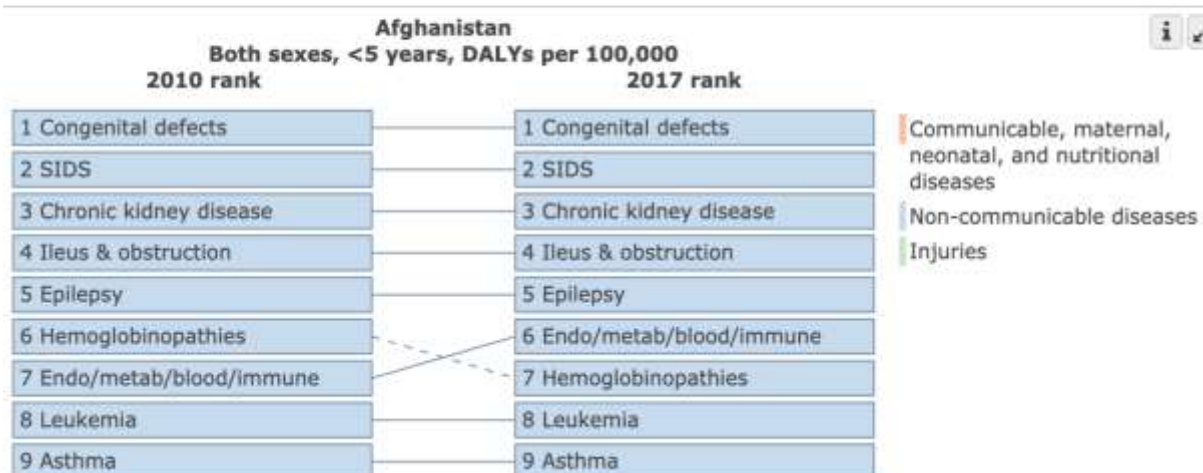
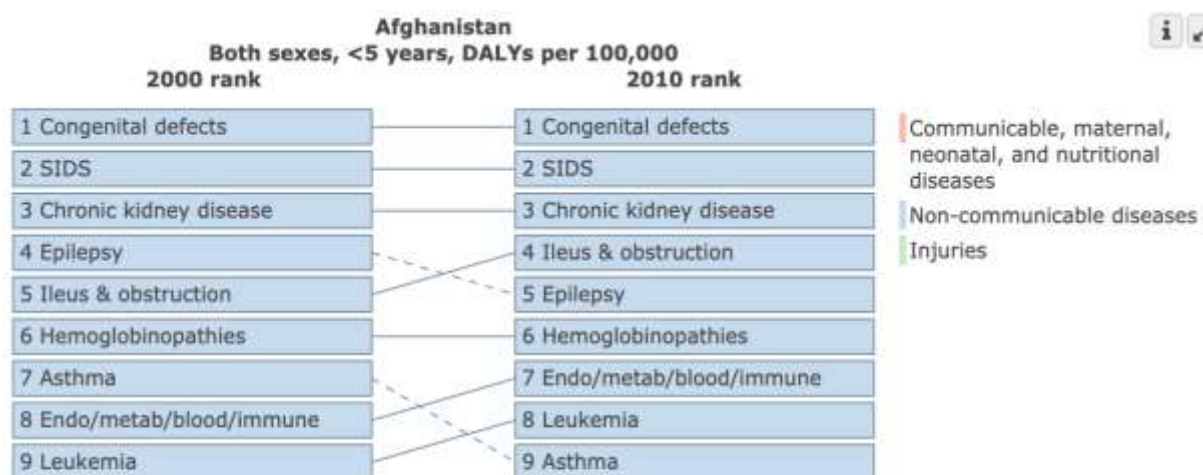
Non-communicable Diseases

Figure 34: Non-Communicable Diseases, All ages



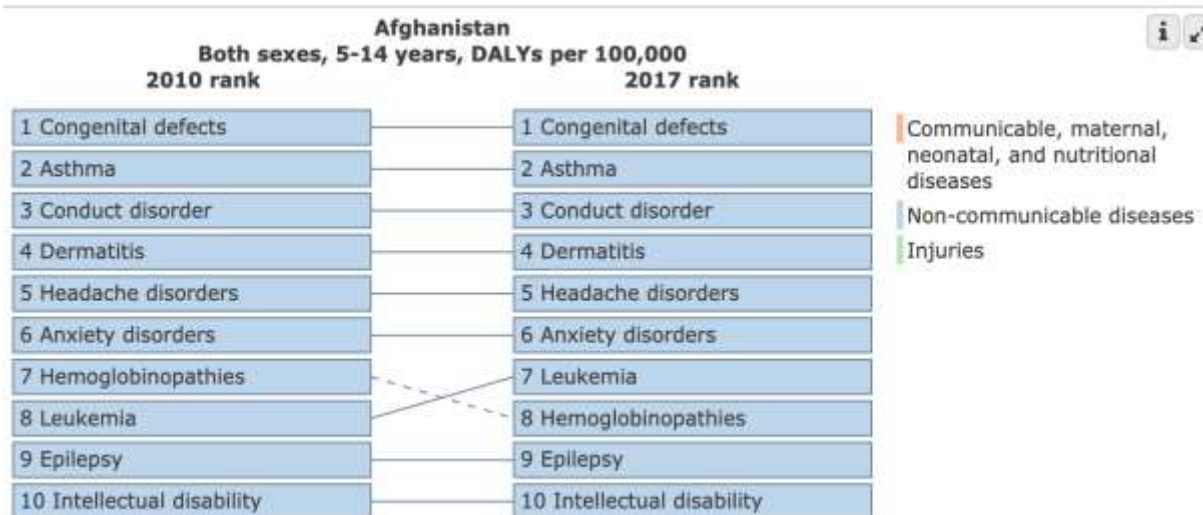
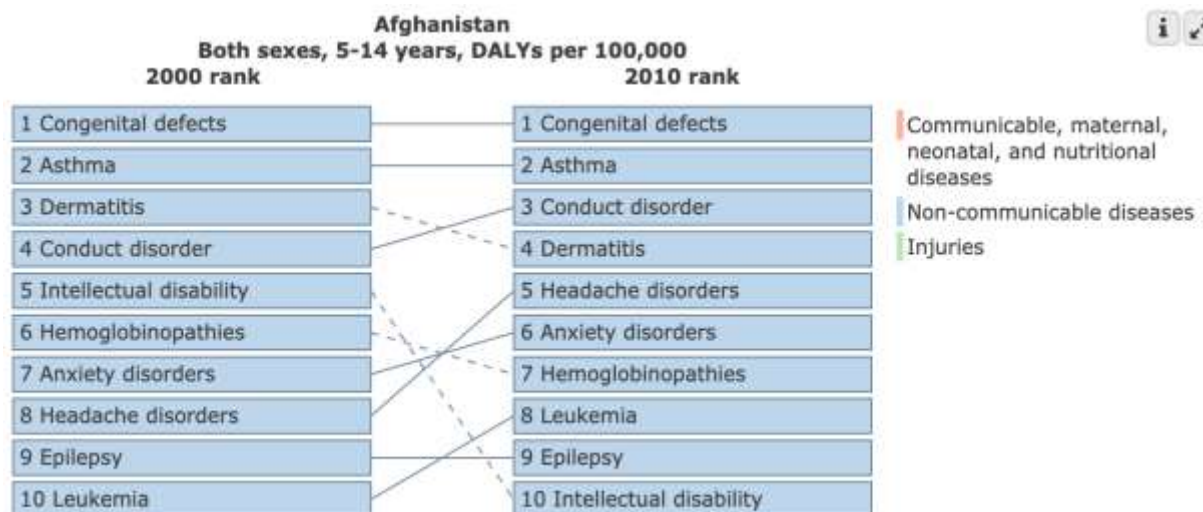
Source: (65)

Figure 35: Non-Communicable Diseases, <5 years



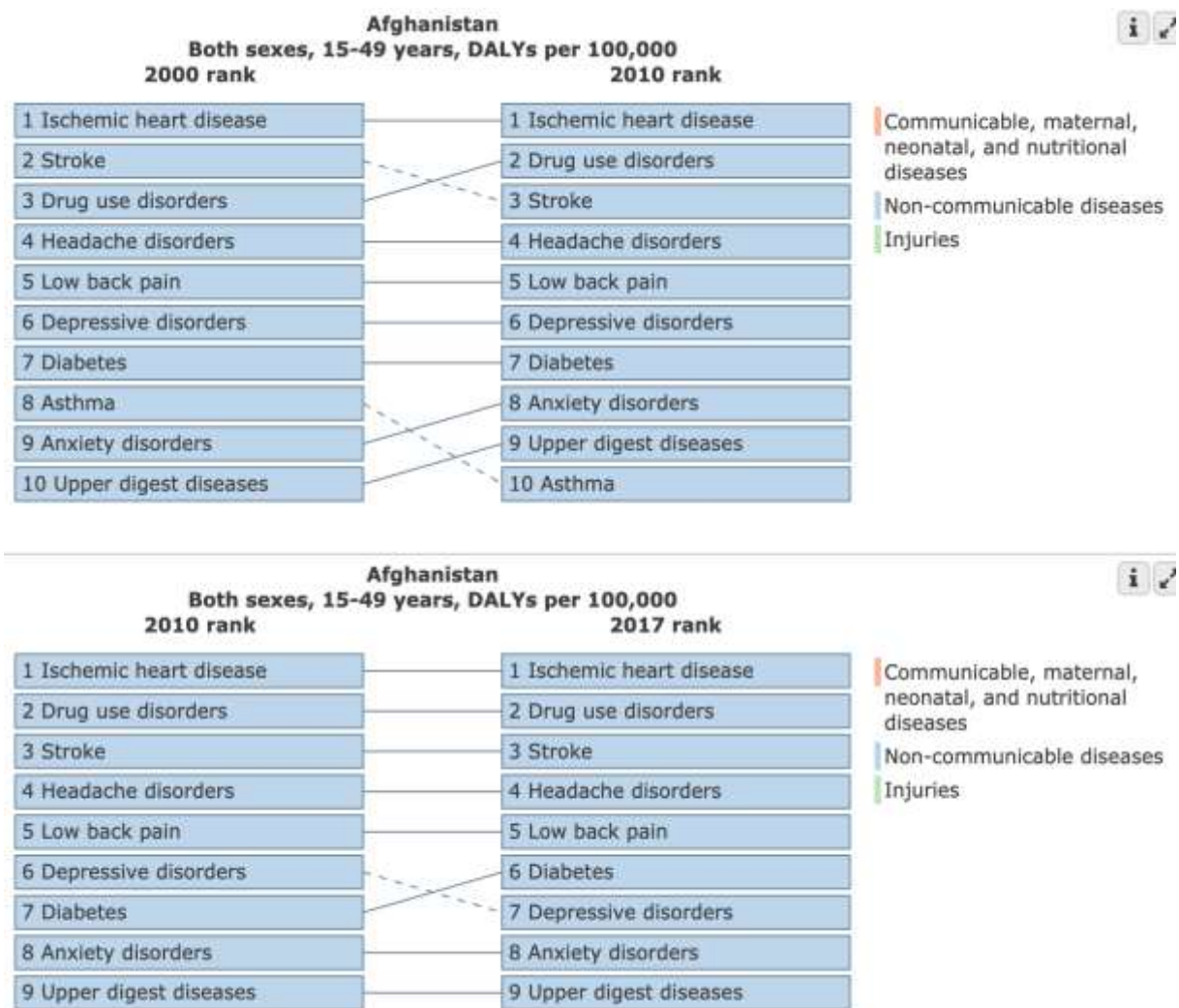
Source: (65)

Figure 36: Non-Communicable Diseases, 5-14 years



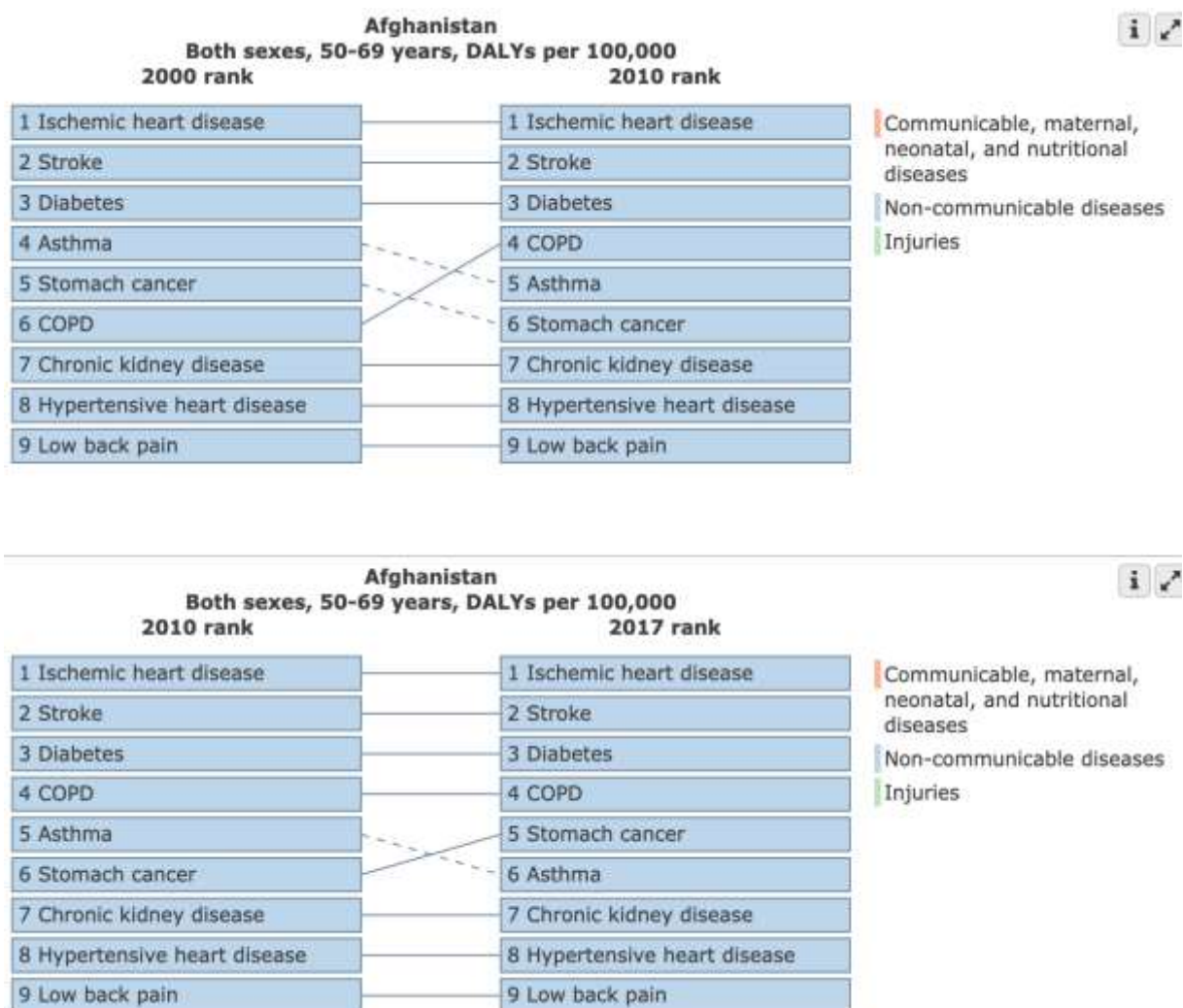
Source: (65)

Figure 37: Non-Communicable Diseases, 15-49 years



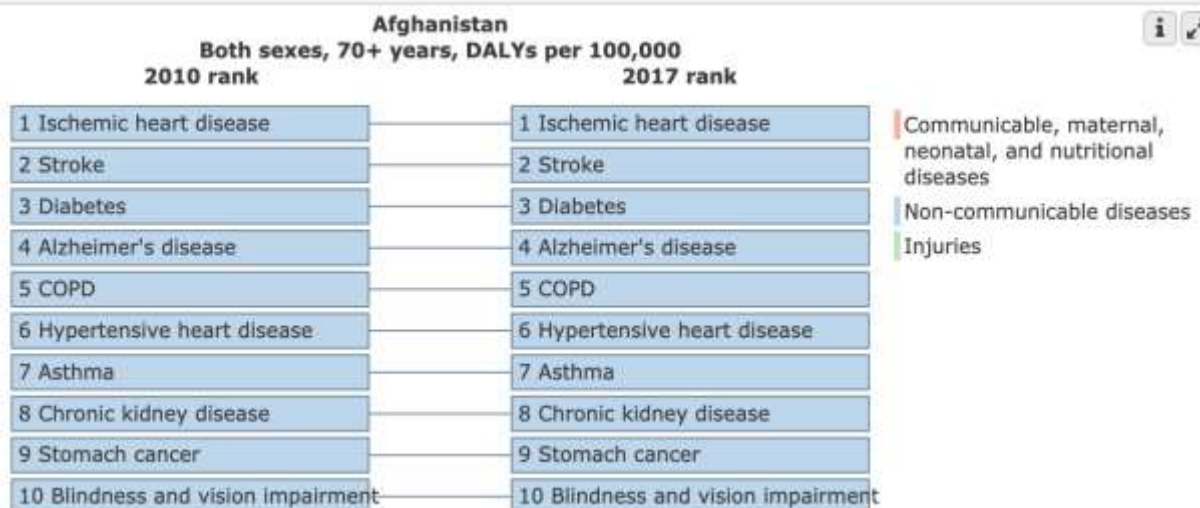
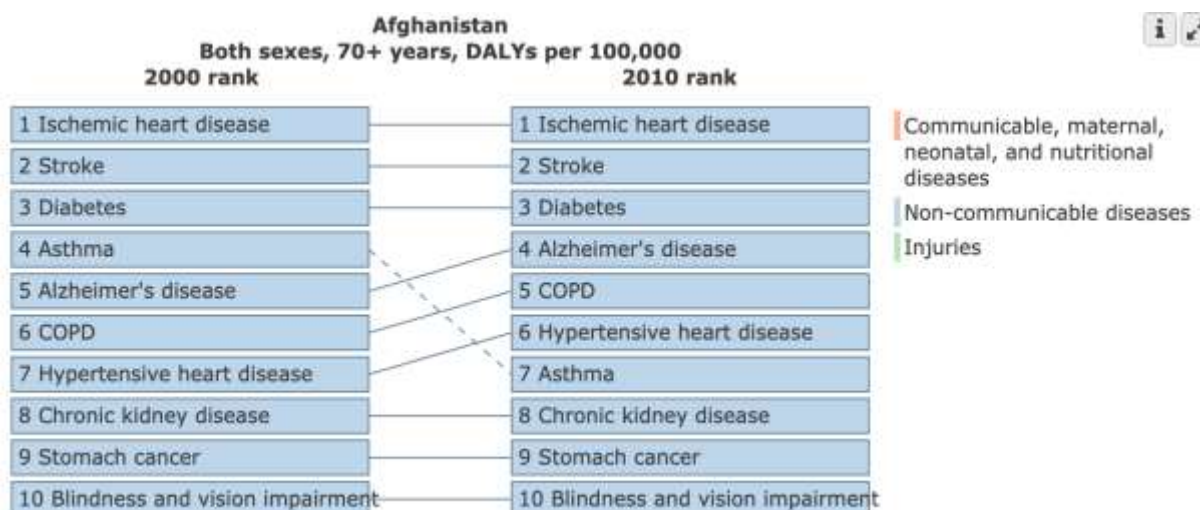
Source: (65)

Figure 38: Non-Communicable Diseases, 50-69 years



Source: (65)

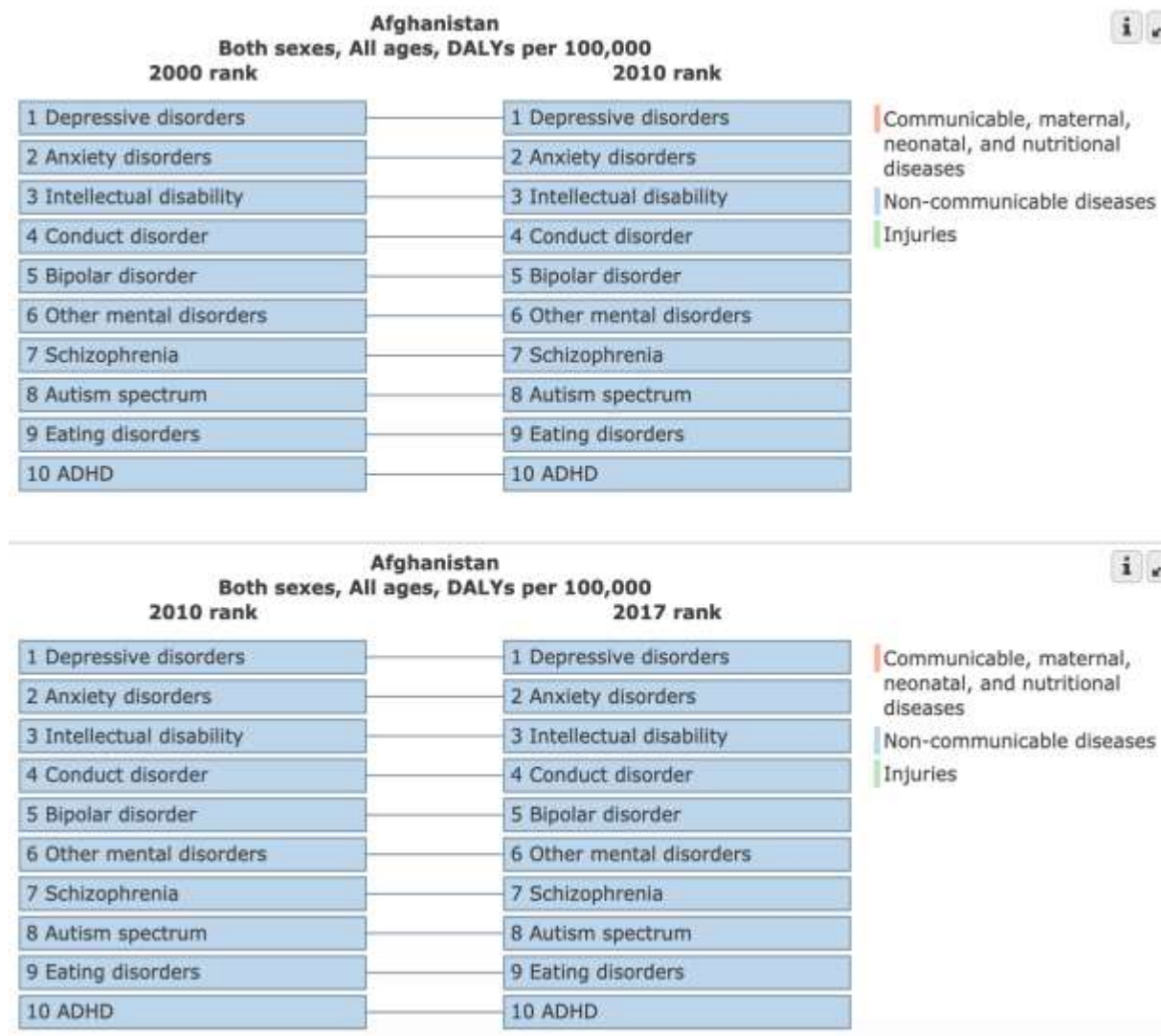
Figure 39: Non-Communicable Diseases, 70+ years



Source: (65)

Mental Health

Figure 40: Mental Health Disorders, All ages



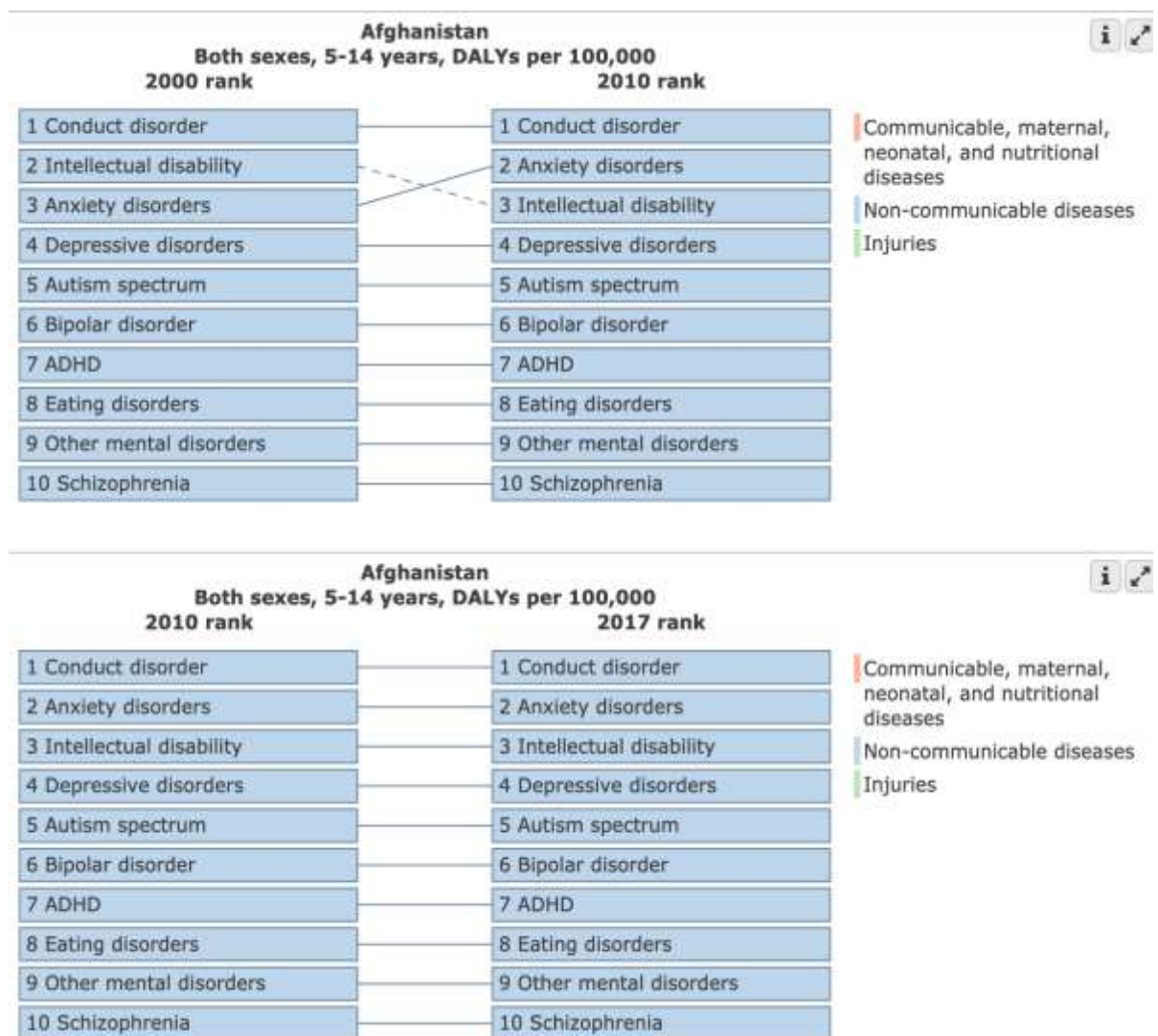
Source: (65)

Figure 41: Mental Health Disorders, <5 years



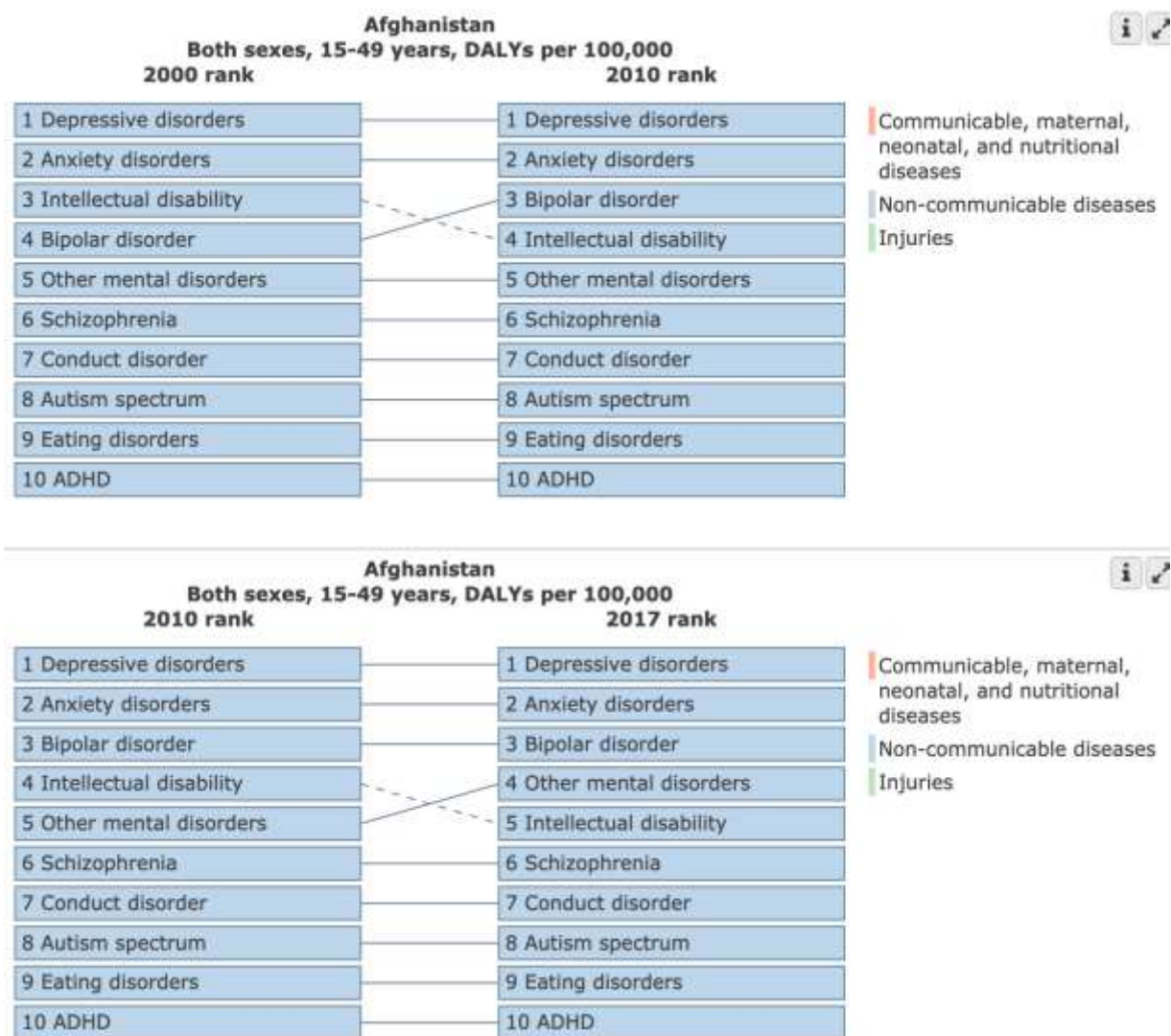
Source: (65)

Figure 42: Mental Health Disorders, 5-14 years



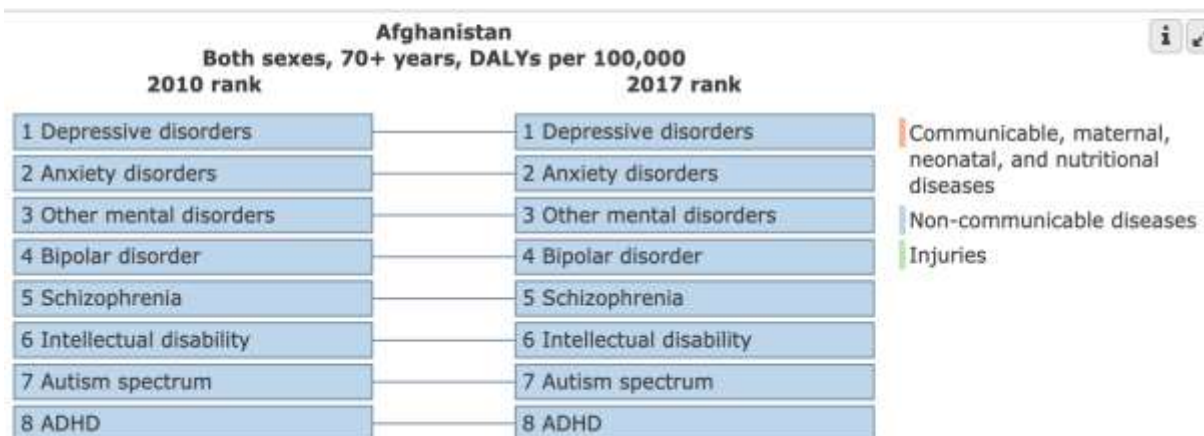
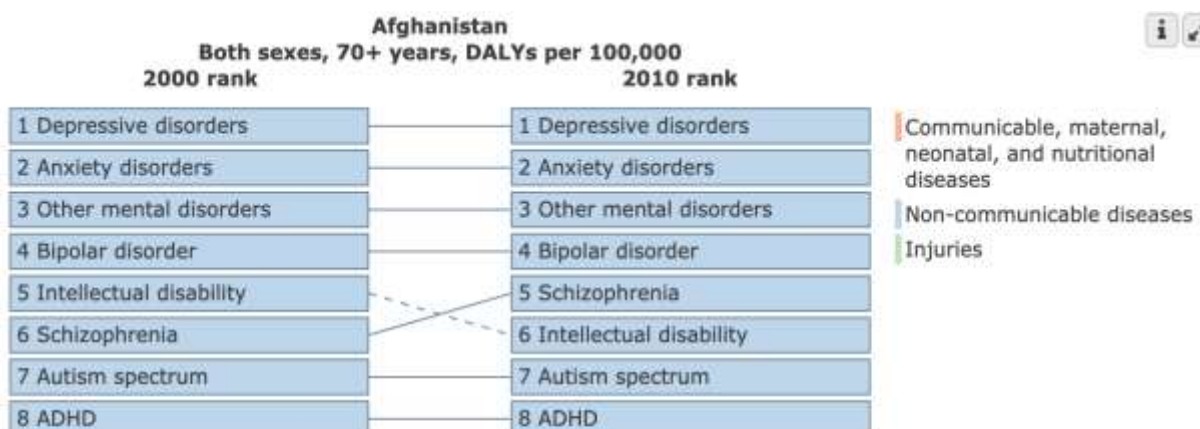
Source: (65)

Figure 43: Mental Health Disorders, 15-49 years



Source: (65)

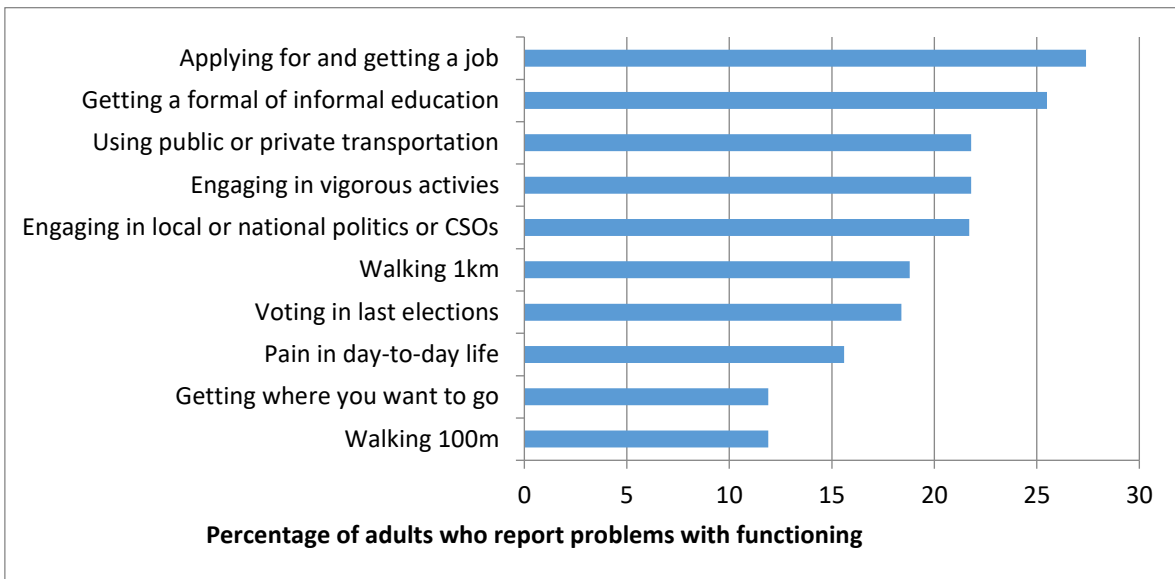
Figure 45: Mental Health Disorders, 70+ years



Source: (65)

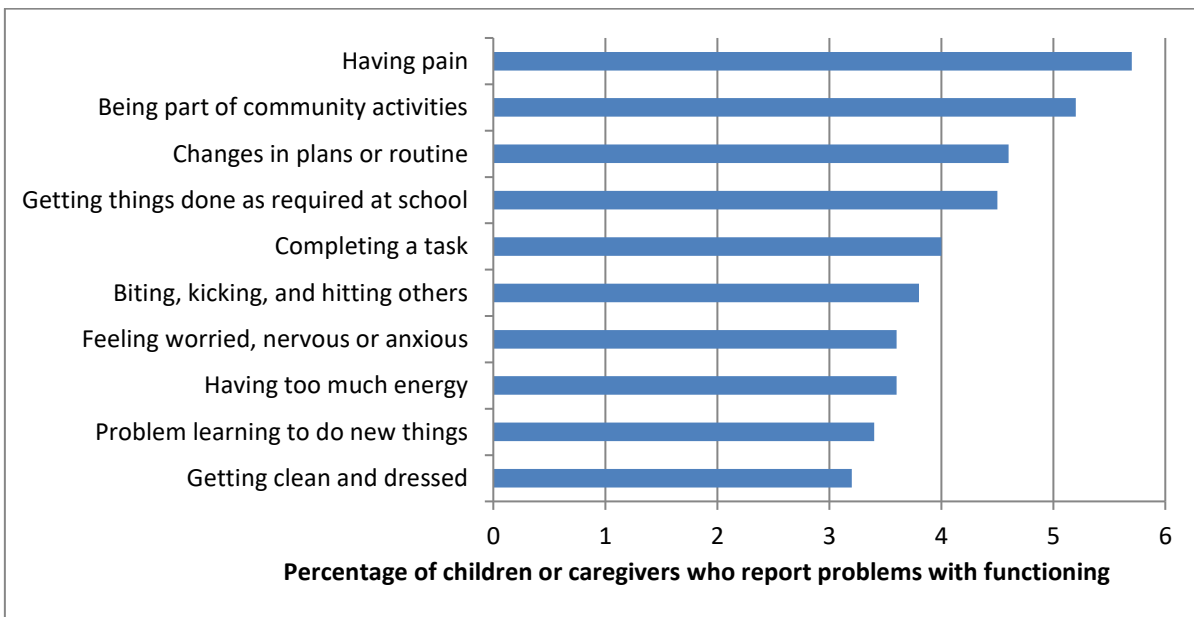
Disability

Figure 46: Top 10 Functional Disabilities Among Adults



Source: (76)

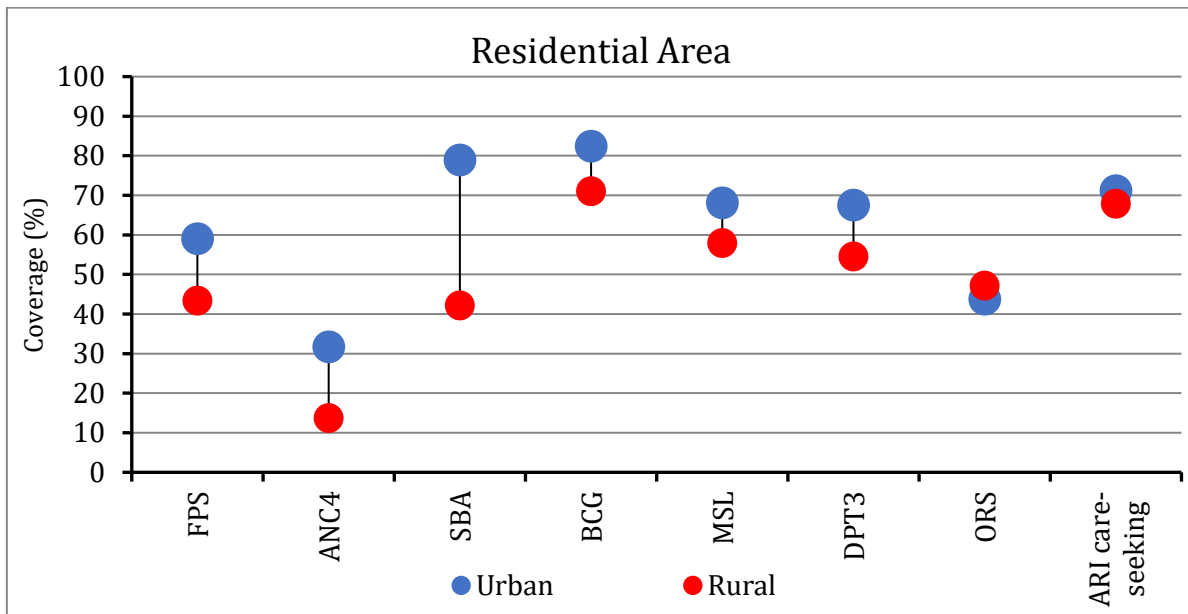
Figure 47: Top 10 Functional Disabilities Among Children



Source: (76)

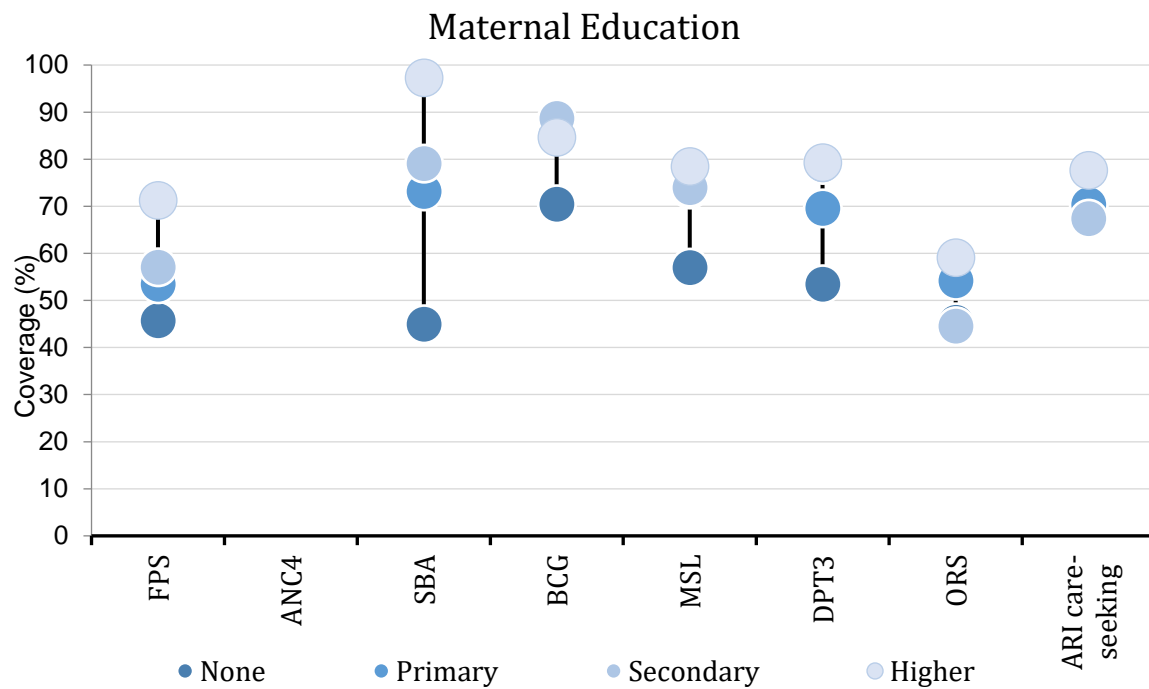
Equity

Figure 48: Key Health Interventions Disaggregated by Residential Area (2015)



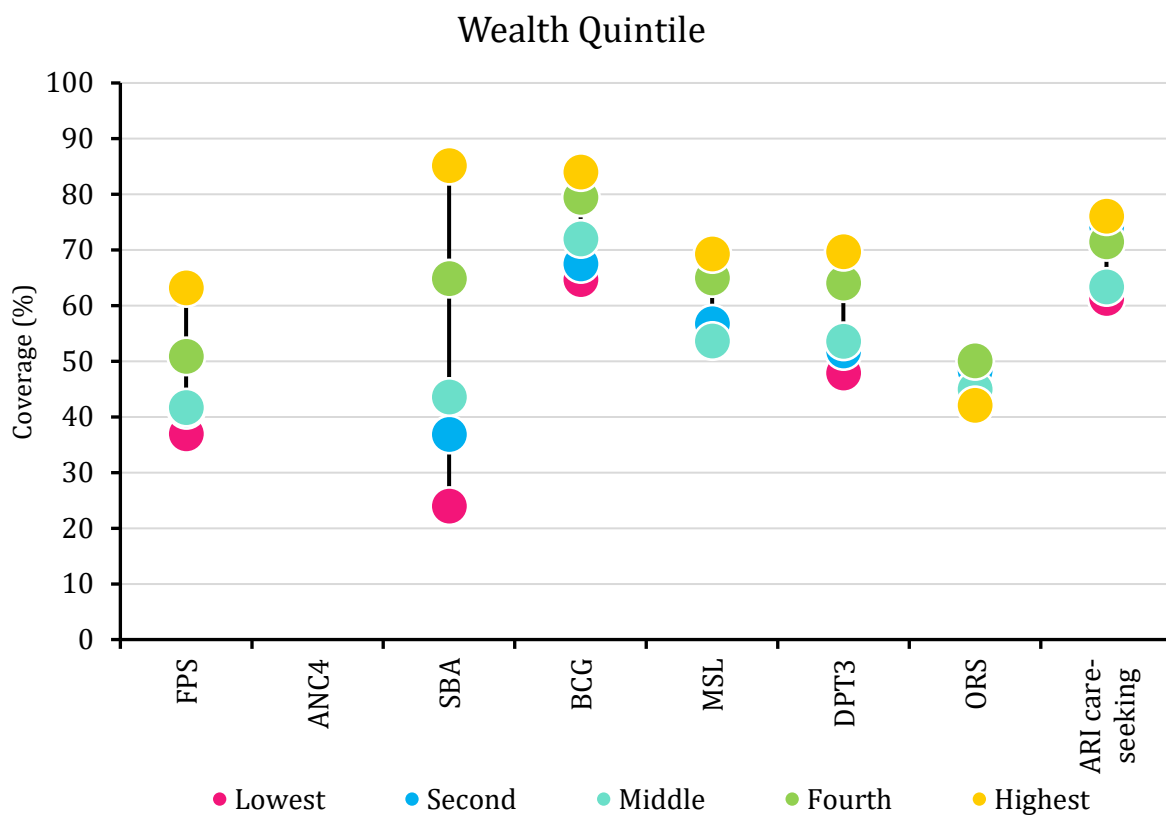
Source: (117)

Figure 49: Key Health Interventions Disaggregated by Maternal Education (2015)



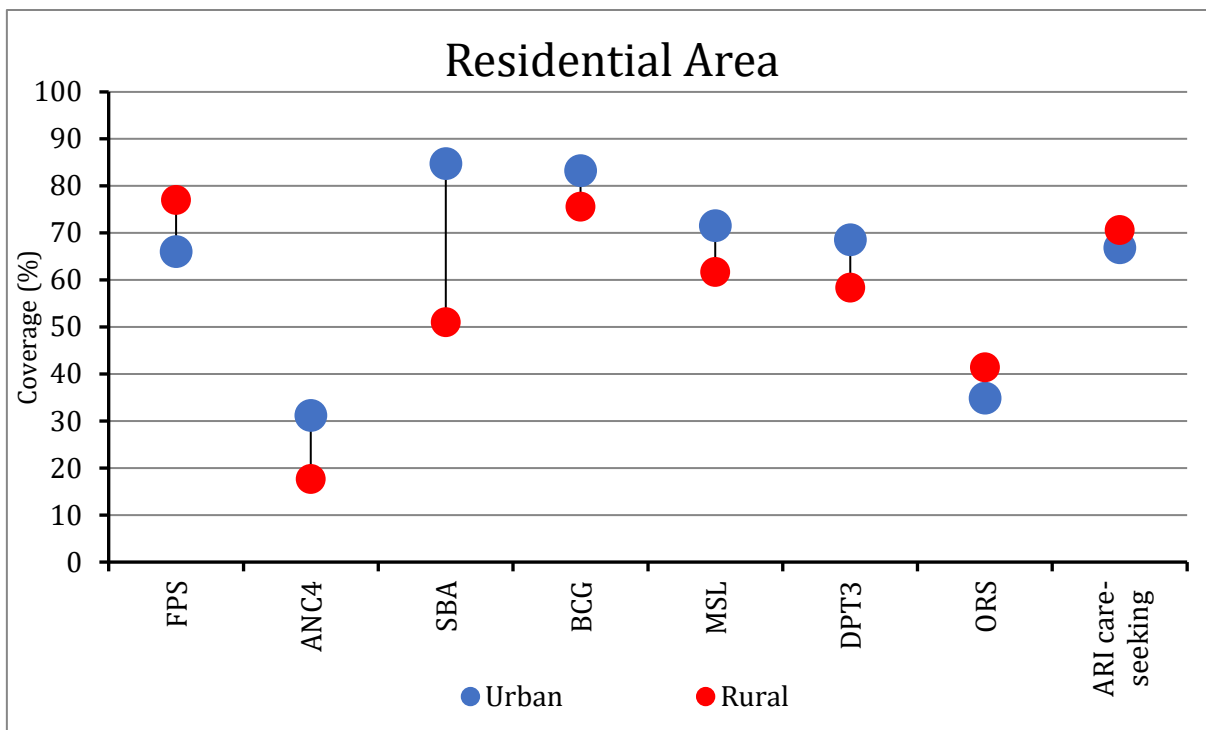
Source: (117)

Figure 50: Key Health Interventions Disaggregated by Wealth Quintile (2015)



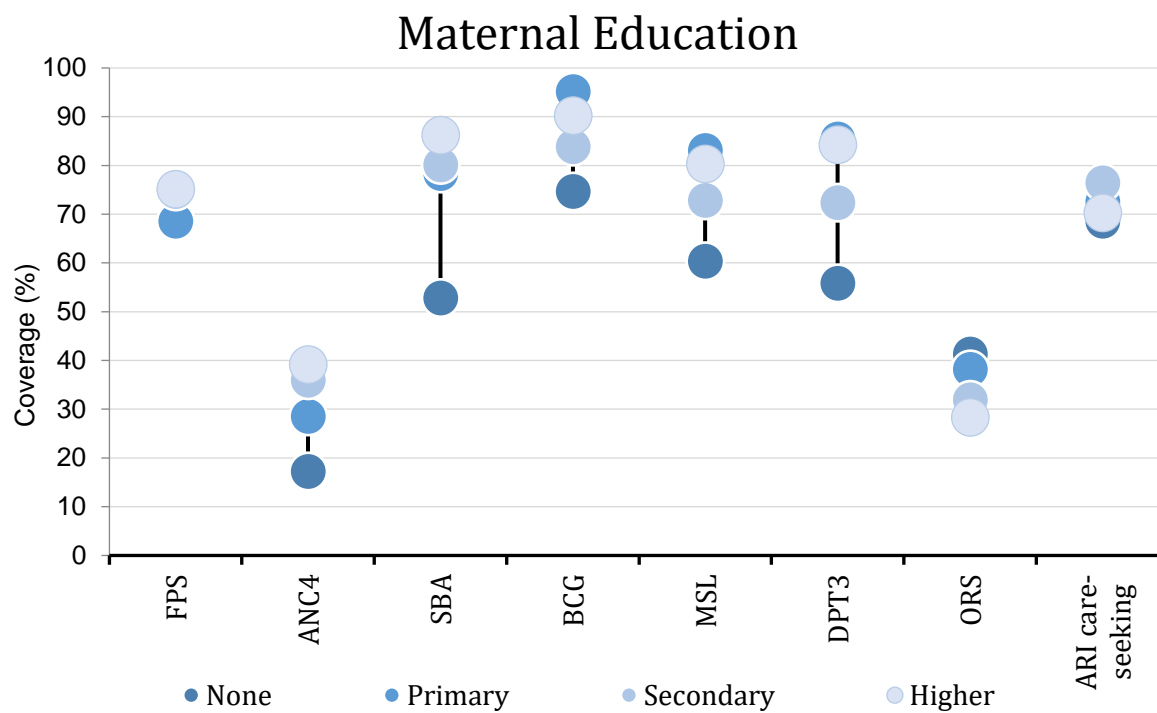
Source: (117)

Figure 51: Key Health Interventions Disaggregated by Residential Area (2018)



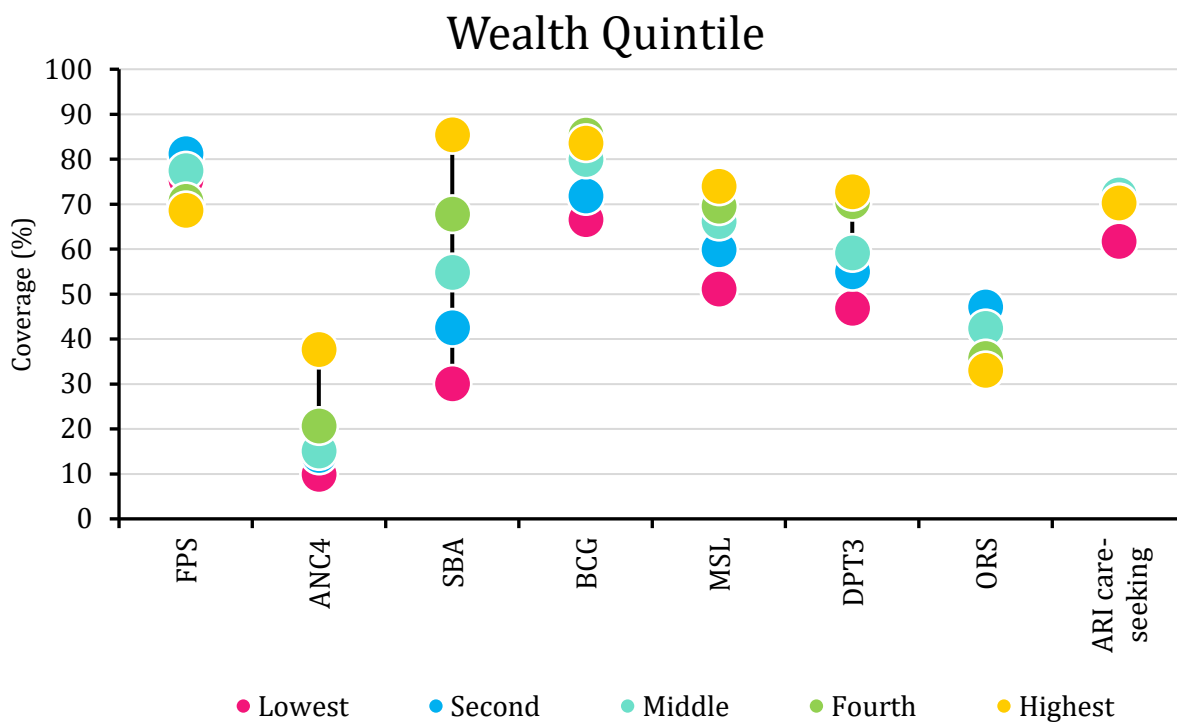
Source: (61)

Figure 52: Key Health Interventions Disaggregated by Maternal Education (2018)



Source: (61)

Figure 53: Key Health Interventions Disaggregated by Wealth Quintile (2018)



Source: (61)



**Independent Assessment of the Design and
Performance of Primary Health Care in
Afghanistan**