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Ministry of National Health Services,
Regulations & Coordination

DCP3 Disease Control Priorities
Country Translation Phase

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Collaboration between the Government of Pakistan and the Disease Control Priorities 3 Country Translation Project

REPORT ON PRIORITY SETTING AND DEVELOPMENT OF THE PAKISTAN UNIVERSAL HEALTH COVERAGE ESSENTIAL PACKAGE OF HEALTH SERVICES

World Health Organization

THE AGA KHAN UNIVERSITY

Radboud University
Radboudumc

DISEASE CONTROL PRIORITIES 3 (DCP3)
COUNTRY TRANSLATION PROJECT
LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE
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Abbreviations

AJK	Azad Jammu & Kashmir
AKU	Aga Khan University
BP	Benefit Package
CHE	Current Health Expenditure
DALYs	Disability-Adjusted Life Years
DCP3	Disease Control Priorities 3
DLIs	Disbursement Linked Indicators
EPHS	Essential Package of Health Services
EPR	Emergency Preparedness and Response
EUHC	Essential UHC Package
FATA	Federally Administered Tribal Area
FLH	First Level Hospital
GB	Gilgit Baltistan
HIPTool	Health Interventions Prioritization Tool
HPP	Highest-Priority Package
HPSIU Unit	Health Planning, System Strengthening and Information Analysis
HSA	Health Services Academy
IAG	International Advisory Group
ICER	Incremental Cost-Effectiveness Ratio
IMPHC	Inter-Ministerial Health & Population Council
KP	Khyber Pakhtunkhwa
LMICs	Lower-Middle Income Countries
LLMICs	Low and Lower-Middle Income Countries
LSHTM	London School of Hygiene and Tropical Medicine
MNHSRC	Ministry of National Health Services, Regulations and Coordination
NAC	National Advisory Committee
NCDs	Non-communicable Diseases

NHSP	National Health Support Programme
OOP	Out-of-Pocket
PDHS	Pakistan Demographic and Health Survey
PHC	Primary Health Care
RMNCAH	Reproductive, Maternal, Newborn, Adolescent Health
SDGs	Sustainable Development Goals
TWGs	Technical Working Groups
UHC	Universal Health Coverage
WHO	World Health Organization

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Foreword

This report presents an overview of the collaborative efforts that began in 2018 between the Pakistan Ministry of National Health Services, Regulations and Coordination (MNHSRC) and the Diseases Control Priorities 3 (DCP3) Country Translation project, hosted at the London School of Hygiene and Tropical Medicine.

The main objective of this collaboration was to support Pakistan's UHC reforms and provide technical backup in developing an evidence-informed essential package of health services (EPHS). Pakistan became the first country to formally adopt the DCP3 evidence, concept, and model packages in shaping its UHC package. This strategic undertaking, geared towards enhancing equitable access to essential healthcare services and financial risk protection, aligns with Pakistan's health vision and its commitment to achieving the Sustainable Development Goals by 2030.

This report, which has been prepared based on a series of MNHSRC publications, offers a comprehensive insight into the efforts undertaken by the Ministry and partners throughout the package design process. The development of the federal package has supported health system reforms across provinces, culminating in the development of six provincial/area packages in 2021. Implementation of these packages will strengthen Pakistan's health system and accelerate progress towards UHC.

The collaboration has been based on the DCP3 approach to UHC and the important decision made by the Ministry on removing barriers that impede access to essential primary health care services. By publicly financing high-impact interventions, Pakistan will address the three key dimensions of UHC: expanding access to health services, increasing the range of health services, and providing financial risk protection against out-of-pocket expenses. The effective implementation of the UHC EPHS across provinces will require greater government engagement, adequate financing, as well as addressing health system bottlenecks and gaps. The experience and lessons gleaned from the development of the Pakistan's UHC package can provide useful reference to other low- and lower middle-income countries embarking on their own journey of developing evidence-informed UHC packages of essential health services.

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Executive Summary

The Disease Control Priorities 3 (DCP3) Country Translation project is supporting selected low- and middle-income countries in setting priorities for essential packages of health services (EPHS), on the pathway to universal health coverage (UHC). In 2018, DCP3 initiated collaboration with the MNHSRC to provide technical assistance and capacity building in the area of priority setting and development of an Essential Package of Health Services (EPHS) based on the DCP3 concept, evidence, and model packages. The activities under this collaboration supported national efforts towards UHC and guided decision making on resource allocation for package implementation on federal and provincial levels.

The development of the UHC EPHS or Benefit Package (BP) supports Pakistan's National Health Vision 2016-2025 to "improve the health of all Pakistanis, particularly women and children by ensuring universal access to affordable quality essential health services, delivered through resilient and responsive health system". The UHC EPHS became the cornerstone of UHC reforms at the federal and provincial levels.

Following the endorsement of the DCP3 concept and evidence by the Inter-Ministerial Health Council and the establishment of a roadmap for the collaboration, intensive work was conducted to develop the essential package of health services. This endeavor was grounded in local evidence and guided by DCP3's concept and model packages.

Package design followed an inclusive and transparent process, involving MNHSC staff, provincial Departments of Health, DCP3 experts, UN agencies, development partners, and national academia. A governance structure for the initiative was put in place by instituting a Secretariat within the MNHSRC, with technical support from the DCP3 Country Translation Project. The collaborative work covered a review of the burden of disease in Pakistan, mapping existing health services, setting decision criteria for intervention prioritization, gathering evidence for decision criteria, costing, and evidence-informed deliberation.

A two-stage prioritization process was necessary to develop a package that is feasible and implementable within the available fiscal space for health. The initial prioritization process resulted in designing a package of 117 district-level interventions based on burden of disease, cost-effectiveness, financial risk, budget impact, and feasibility of implementation criteria. The district-level package, delivered at the community, health center, and first-level hospital platforms, costed US$29.7 per capita, exceeding the allocated budget of $13 per capita for government spending. This prompted a second-stage prioritization, resulting in a package of 88 high-priority interventions for immediate implementation. The immediate implementation package has an initial per capita cost of US$ 12.98 and is estimated to significantly reduce the disease burden in Pakistan, averting 40.3 million DALYs.

Cost and DALYs averted of the Immediate Implementation Package

Cluster	Community		Health Centre		First Level Hospital		Total		
	Cost capita (US$)	DALYs averted (million)	Cost capita (US$)	DALYs averted (million)	Cost capita (US$)	DALYs averted (million)	# Interv	Cost capita (US$)	DALYs averted (million)
RMNCAH	2.03	6.62	2.14	19.22	2.31	1.43	42	6.48	27.27
CDs	0.47	0.05	0.59	1.95	0.11	8.57	12	1.16	10.57
NCDs	0.42	0.09	0.54	0.16	0.26	0.36	13	1.22	0.61
Health Services	0	-	1.15	0.14	2.98	1.77	21	4.13	1.92
SUBTOTAL	**2.92**	**6.76**	**4.40**	**21.47**	**5.65**	**12.13**	**88**	**12.98**	**40.37**

Scientific evidence was localized at provincial/federating area levels to produce six province/area specific EPHS for Khyber Pakhtunkhwa, Balochistan, Sindh, Punjab, Azad Jammu & Kashmir, and Gilgit Baltistan. This exercise, conducted in 2021, leveraged the technical capacity built and elements developed during the federal prioritization process.

In line with the key principles of UHC, both the federal and provincial/area district immediate implementation packages prioritize the use of public resources to deliver the highest impact interventions at the primary health care level. Population growth and the progressive increase in the coverage of interventions along the UHC timeline up to 2030 will result in rising costs that will far exceed the current government expenditure on health. An increase in government health allocation will therefore be necessary to sustain implementation until the UHC coverage target is achieved. The report also outlines the challenges and lessons learned during this experience taking into account the challenge of transition from package design to implementation.

1 Introduction

At least half of the world's population still lacks access to essential health services and more than 100 million people have been pushed under the poverty line because they have to pay for health services.[1] As part of the health goal of the Sustainable Development Goals (SDGs), United Nations (UN) Member States agreed in 2015 to achieve universal health coverage (UHC) by 2030 (SDG 3.8).

More recently, the commitment to achieving UHC was reinforced when a high-level meeting on UHC was convened by the UN General Assembly in September 2019.[2] In the political declaration that emerged from the meeting, Heads of State and Government recognized that UHC is fundamental to achieving not only the health-related targets of the SDGs but also for alleviating poverty, ensuring quality education, and achieving gender equality and women's empowerment. They committed to scale up their efforts towards the attainment of UHC by 2030 and implement the most effective, evidence-based, high impact and quality assured interventions to meet the needs of all, especially of vulnerable populations.

UHC simply means that all people and communities have access to high-quality health services they need (from health promotion and prevention to treatment, rehabilitation, and palliative care) without financial hardship. UHC has three key dimensions: extending population coverage, expanding the range of health services, and increasing financial risk protection by decreasing out-of-pocket expenditures on health. The journey towards UHC calls for proactive measures across all three dimensions. A critical question for health planners is to decide which health interventions to provide to its population in order to promote progress towards UHC, especially in resource-constrained settings. There is a global consensus that countries must focus on interventions that are the highest-impact and most cost-effective, including those that improve the health of the worst off and protect against financial risk.[3] In this regard, the Pakistan Ministry of National Health Services, Regulations and Coordination (MNHSRC) established a collaboration with the Disease Control Priorities 3 (DCP3) Country Translation Project in 2018 to support its UHC reforms and develop an Essential Package of Health Services (EPHS) using the DCP3 evidence and model UHC packages.

The focus of this publication is to provide an overview of the experience of Pakistan in priority setting and the development of a UHC EPHS and the lessons learned from this experience. The report is divided into four sections. Section 2 provides background information on Pakistan's health and health financing profiles and on the DCP3 Country Translation Project. Section 3 outlines the processes and methods used to develop the EPHS, using the DCP3 approach and evidence and describes the contents of the federal EPHS and provincial versions. Section 4 presents the plans for the transition from package design to implementation, while Section 5 highlights the challenges and lessons learned during the package development process.

2 Background

2.1 Pakistan context

Pakistan, covering an area of 796,096 square kilometers, is divided into four provinces, namely Punjab, Sindh, Khyber Pakhtunkhwa (KP), Balochistan, and Islamabad Capital Territory. Additionally, there are two autonomous regions, Azad Jammu & Kashmir (AJK) and Gilgit Baltistan (GB). In 2018, the Federally Administered Tribal Area (FATA) was merged with the KP province through a constitutional amendment. According to the Pakistan 2017 Population Census, the total population stood at 208 million, with 76 million living in urban areas and 132 million in rural areas.[4] By 2021, it was estimated that the population increased to 231 million.[5] Punjab has the highest population share (53%), followed by Sindh (23%), Khyber Pakhtunkhwa (14.7%), ex-FATA (2.4%), Balochistan (5.9%) and Islamabad Capital Territory (nearly 1%). The population is generally young, with 40 percent of Pakistanis being under the age of 15.

Pakistan is a lower-middle income country, with an estimated gross domestic product of 1,505 US$ per capita in 2021.[6] While poverty has been on decline between 2014 and 2019,[7] the 2017/2018 Multidimensional Poverty Index indicates that over 38% of Pakistanis continue to be multidimensionally poor in terms of health, education, basic living standards, and monetary status.[8] An additional 13% is vulnerable to multidimensional poverty, which is more common in rural areas. Pakistan's Human Capital Index value is 0.41, lower than the South Asia average of 0.48.[9]

Over the last two decades, Pakistan has made steady progress in improving key health indicators. According to the World Health Organization (WHO) Global Health Observatory, the UHC Service Coverage Index[1] is 45 in 2021, up from 40 in 2015.[10] The maternal mortality ratio declined from 304/100,000 live births in 2000 to 186/100,000 live births during three years preceding the 2019 Pakistan Maternal Mortality Survey.[11] Pakistan's neonatal mortality rate has slowly declined from 52 to 42 per 1,000 live births between the 2006-07 and 2017-18 Pakistan Demographic and Health Survey (PDHS).[12] Under-five mortality has also decreased from 89 in PDHS 2006/07 to 74 per 1,000 live births in the three-year period preceding the 2017/18 survey. Infant and child mortality rates remain substantially higher than the targets set under SDG 3.2. Estimates from the Institute for Health Metrics and Evaluation suggest that 42,059 disability-adjusted life years (DALYs) per 100,000 population were lost in 2019, 50% of which were due to communicable diseases and reproductive, maternal, newborn and child conditions, 44% to non-communicable diseases (NCDs), and 6% to injuries.[13]

[1] The UHC Service Coverage Index (SCI) is a composite indicator that measures the coverage of essential health services using sixteen proxy indicators, which are divided into four groups: reproductive, maternal, newborn and child health; infectious diseases; non-communicable diseases; and service capacity and access.

Pakistan allocates a relatively small portion of its total government spending to health. According to the 2017-18 National Health Accounts data, the total per capita health expenditure is US$52,[14] significantly lower than the estimated US$135 per capita spent by other lower middle-income countries.[15] Pakistan's public expenditure on health was around 6% of total government expenditure, amounting to Rs 657 billion or US$ 4.1 billion in 2020-2021.[16] Low levels of domestic government financing mean that out-of-pocket (OOP) payments represent the largest share of the current health expenditure in Pakistan.[17] In 2018, 5.39% of the population spent over 10% of their household budget on health and 1.02% had health expenditures exceeding 25%.[18]

Table 1: Selected key indicators

UHC Service Coverage Index	45 (2021)
Current health expenditure (CHE) per capita (US$)	36 (2020)
Government health spending % total health expenditure	35.6% (2020)
Out-of-pocket expenditure as % of current health expenditure	54.3% (2020)
Incidence of catastrophic health expenditure at 10% of household total consumption or income	5.39 (2018)
Skilled health workers density per 10,000 population	14.79 (2015)

Source: WHO Global Health Observatory https://www.who.int/data/gho; Global Health Expenditure Database https://apps.who.int/nha/database/ViewData/Indicators/en

2.2 Disease Control Priorities Initiative

The Disease Control Priorities initiative, published first in 1993 by the World Bank,[19] has endeavored over the last two decades to assist countries in assessing evidence and value for money to support decision making on resource allocations for health. The third edition (DCP3), launched in 2017, offers an up-to-date review of the efficacy and cost-effectiveness of priority health interventions across 21 health areas, utilizing systematic appraisal of evidence, economic evaluation, and expert judgment.[20]

DCP3 proposes two model packages of health services that can serve as a starting point for developing or revising UHC packages of essential health services in low- and lower middle-income countries (LLMICs).[21] The first package, the Essential UHC Package (EUHC), includes 218 high-priority health services for lower middle-income countries; a sub-set of 108 interventions - the Highest-Priority Package (HPP) - is recommended for low-income countries where the fiscal space for health is more constrained. These packages offer guidance or a set of evidence-based interventions that can be adapted by countries based on their disease burden, health needs, health system capacity, and available financing.

In 2018, a DCP3 Country Translation Project was established at the London School of Hygiene and Tropical Medicine (LSHTM), funded by the Bill & Melinda Gates Foundation.[22] The project aims to support countries in using the DCP3 evidence and packages to develop their UHC packages and build technical capacity in priority setting and package design. The project has

supported a number of countries, including Pakistan, in designing evidence-informed UHC packages that are both economically viable and feasible for implementation.

3 Process of developing the Pakistan EPHS

3.1 Initial engagement

The DCP3 evidence and model packages were launched in a regional workshop organized in Islamabad in August 2018 by WHO and DCP3 in collaboration with the Government of Pakistan. Subsequently, the MNHSRC decided to adopt the DCP3 concept and evidence as the basis for UHC-related reforms and the development of Pakistan's EPHS. The decision was formally endorsed by the Inter-Ministerial Health & Population Forum in September 2018. A formal request was therefore submitted to the DCP3 Secretariat to select Pakistan as the first country adapting the DCP3 evidence to develop its UHC benefit package (BP) or EPHS. A collaboration was established by the MNHSRC with the DCP3 Secretariat and WHO on the development of an essential package of health services based on localized evidence and considering the DCP3 recommended interventions. The DCP3 UHC project was formally established with the engagement of the Health Services Academy (HSA), Department of Community Health Sciences of Aga Khan University (AKU), with a technical secretariat based at the Health Planning, System Strengthening and Information Analysis Unit (HPSIU) of the MNHSRC.

A roadmap for prioritization and package design was developed following a joint WHO and DCP3 mission in January 2019. The formal process for developing the EPHS covered a series of consultations with stakeholders leading to agreement on the objectives, expected outcomes, and methods of work. Initial work involved a comprehensive review covering epidemiology, disease burden, clinical services currently offered, health system capacity, resource allocation, fiscal space, and health plans. The process also included dialogue and evidence-informed deliberation on priorities and services.

3.2 Aims and principles

The development of the federal EPHS was motivated by the strategic emphasis on UHC and the need to develop an affordable, feasible, and sustainable package based on scientific evidence.

The package design process was guided by the following set of principles:

- Setting the package should be country owned and executed;
- Strong commitment and active engagement of key policymakers, other national stakeholders, including planning and finance are essential;
- Priority-setting and the package development process should be open and transparent in all steps, with clearly defined decision criteria, driven by evidence;
- The process should focus on package affordability and feasibility of implementation;
- The package should enhance equity and improve access for vulnerable segments of the population;

- The package should be linked to robust financing mechanisms and effective service delivery system.

3.3 Steps followed in setting the UHC EPHS

A number of key steps were adopted for the process of developing the UHC EPHS, namely:

- Establishing a governance structure for dialogue, evidence-informed deliberation on priorities and services, and decision-making;
- Assessing the disease burden, health service needs, system priorities, and current financing landscape;
- Reaching consensus on decision criteria and collecting evidence for setting priorities and selecting health interventions;
- Implementing an evidence based decision-making process to prioritize health interventions and decide what to include and what to exclude;
- Conducting a detailed costing of the prioritized interventions based on current and target coverage levels, including the UHC target in 2030;
- Adapting and piloting the package at the subnational level in devolved settings;
- Assessing the health system capacity to implement the package, especially at the district level, and identifying actions to fill existing gaps and facilitate implementation;
- Assessing the budget impact of the package and linking the EPHS to the budgeting and resource allocation process;
- Establishing a monitoring and evaluation framework to assess performance and outcomes;
- Reviewing the package periodically based on policy change, new evidence, health system capacity, and available fiscal space.

The key steps conducted during the package design process are described below. The last step on periodic review of the package will be conducted once more experience is gained following implementation.

3.3.1 Establishing a governance structure

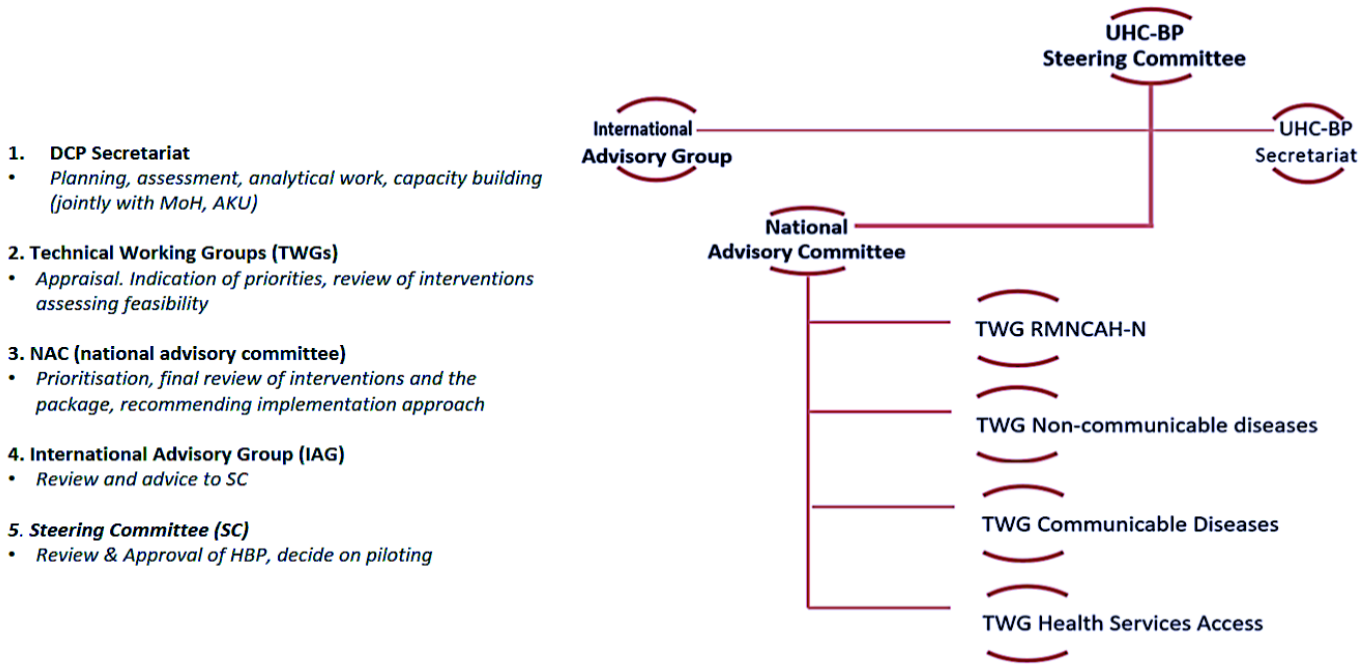
The governance and advisory structure for the development and implementation of the UHC package of essential health services for Pakistan were put in place by instituting a UHC-BP Secretariat within the MNHSRC. The UHC-BP Secretariat consisted of staff from the HPSIU, HSA and the Department of Community Health Sciences at AKU, with technical support from the Secretariat of the DCP3 Country Translation Project at the LSHTM, WHO, UNICEF and the Radboud University Medical Centre. The governance structure included clear roles and ways of engaging to support an inclusive country-led process.

The decision-making forums included:

- four technical working groups (TWGs) on reproductive, maternal, neonatal, child and adolescent health (RMNCAH), communicable diseases, NCDs and health services access, each with membership representing different public health, health system and clinical professions;
- National Advisory Committee (NAC), chaired by the Director General of Health;
- International Advisory Group (IAG) chaired by the Principal Investigator of the DCP3 Country Translation Project and members representing international expertise, DCP3 editors and authors, and relevant international agencies;
- Steering Committee, chaired by the federal Minister of Health;
- Inter-Ministerial Health & Population Council (IMHPC), final decision-making body which included the four provincial and two regional ministers of health.

Figure 1 shows the governance structure for the package design, including the terms of reference for each forum.

Figure 1: UHC EPHS Governance and Advisory Structure



This governance arrangement reflects three levels:

- **Political level** for decision making at the ministerial level (UHC-BP Steering Committee and IMHPC);
- **Technical level,** through the NAC, for developing consensus at the technical level and proposing recommendations to the political level for consideration/ endorsement with support from the IAG;
- **Cluster level,** through the four TWGs, comprised of subject experts to prioritize interventions considering evidence and local context.

3.3.2 Mapping existing health services

A preliminary mapping was conducted to assess the health services already being provided by the health system in Pakistan against the DCP3 EUHC package of 218 interventions.[23] The TWGs estimated that 135 (62%) of the 218 EUHC interventions were available in the public sector health facilities in Pakistan, although most of these interventions were not universally accessible in the country (Table 2). Among available interventions, only 42 or 31% were generally available, while 93 (or 69%) were available on a limited scale. Most of the generally available health services were in the RMNCH and communicable diseases areas, with significant gaps in the availability of NCD and injury-related interventions. The analysis of interventions across the different types of health service delivery platforms demonstrates low availability of health services at the PHC level.

Table 2: Availability of DCP3 EUHC interventions in Pakistan by cluster

Cluster	EUHC interventions	Available interventions	Generally available	Limited accessibility
RMNCH	67	50 (75%)	22 (44%)	28 (56%)
Communicable Diseases	52	32 (62%)	10 (31%)	22 (69%)
NCDs & injuries	45	16 (36%)	6 (37.5%)	10 (62.5%)
Health Services	54	37 (69%)	4 (11%)	33 (89%)
Total	**218**	**135 (62%)**	**42 (31%)**	**93 (69%)**

3.3.3 Defining decision criteria

Decision criteria for prioritization of interventions were developed through an electronic survey involving over 100 TWGs and NAC members. The survey was conducted by the DCP3 Secretariat, Radboud University and HPSIU, and aimed to develop a consensus among TWG members on ranking of decision criteria into high, medium or low priority. Based on the survey results, consensus was reached on using the following decision criteria when prioritizing interventions:

- burden of disease averted
- cost-effectiveness
- financial risk protection
- budget impact
- feasibility of implementation
- equity, and
- socio-economic impact/context.

3.3.4 Scoping

An initial scoping review was carried out using three criteria (disease burden, cost-effectiveness and feasibility) to define the list of interventions to be included in the prioritization exercise. Based on the review, it was decided to focus on 170 (78%) out of the 218 DCP3 EUHC services. None of the services that were currently provided in the country were omitted at this stage.

3.3.5 Defining interventions for prioritization

The HPSIU defined the shortlisted 170 interventions by conducting a desk review of relevant treatment guidelines and protocols, including national guidance, WHO global and regional guidelines, and training curricula, followed by informal specialist review within HPSIU and external review by the TWG members before and during two TWG workshops.

Each of the 170 interventions were described in terms of (a) their delivery platform and types (both in public and private health sector), (b) process to be followed, (c) type of providers, (d) medicines, supplies and equipment needed, (e) health information systems tools, (f) supervision, (g) availability of standard protocols, and (h) availability of in-service training curriculum. Reference documents and a flow chart for each intervention with the estimated time required for each step were also included. This helped not only in developing a common understanding of what the intervention requires, but also to ensure appropriate estimation of direct costs.

For each intervention, the process and time required at each step was described, including defining direct and, to some extent, indirect costs. Health system at district level and other costs were not factored in at this stage. The information provided in the interventions' description sheets was validated by the TWGs. These intervention description sheets can be accessed through government reports.[24]

3.3.6 Collecting data and generating evidence on decision criteria

Evidence on the decision criteria for each of the 170 interventions was collated to support TWG deliberations. Individual evidence sheets were developed for each intervention, incorporating color-coded evidence on burden of disease, cost-effectiveness and rank order, quality of cost-effectiveness evidence, and budget impact.

Quantitative evidence was used for three criteria: burden of disease, budget impact, and cost-effectiveness. Effectiveness was not seen as an important criterion because EUHC interventions were deemed effective *ex ante*. Other criteria were considered but data on these were insufficient to include in the quantitative assessment.

- **Burden of disease:** the most recent evidence was obtained from the Institute for Health Metrics and Evaluation (2017 data).
- **Current and target coverage levels**: these were defined using national surveys, specialized surveys, studies, and burden of disease data.

- **Cost-effectiveness:** incremental cost-effectiveness ratio (ICER) data primarily derived from DCP3 and the Tufts Medical School Global Health Cost-Effectiveness Analysis registry. Where available, cost-effectiveness evidence was used from Pakistan, countries in the region or other relevant LLMICs. In cases where information was not available, global ICER values from DCP3 were used. Applicability of global cost-effectiveness evidence to the country context was systematically assessed using general and specific knock-out criteria.
- **Unit costs:** a normative, ingredients-based costing was carried out and an economic costing approach was taken in defining the unit costs for the 170 interventions. Interventions were costed across the five platforms as defined in DCP3. A bottom-up approach to costing was applied to community, primary healthcare center and hospital platforms, while a top-down approach was used for the population-level interventions. The approach followed the principles set out in the Global Health Costing Consortium reference case.[25] A semi-automated user-friendly costing Excel template was designed and used throughout the costing process. Further information on costing is included in the annex (p. 38).

The shortlisted interventions were ranked according to their ability to bring the largest health gain to the population of Pakistan, using the Health Interventions Prioritization Tool (HIPTool). The HIPTool was used to define an Investment Cascade of Interventions on the pathway to UHC.

For each of the 170 shortlisted DCP3 EUHC interventions, the evidence on decision criteria was reported to the TWGs and the NAC using a combination of intervention descriptions and evidence sheets.

3.3.7 Prioritization

The prioritization process required two stages. In the first stage, two TWG workshops were held in November 2019 and February 2020 to prioritize interventions based on agreed-upon decision criteria without strict consideration of the available fiscal space for health. The interventions were initially prioritized and costed for community, health center, first-level hospital, tertiary/referral hospital, and population-level platforms. This initial prioritization resulted in the selection of 151 interventions for the UHC EPHS. Out of the 151 interventions, 26 were at the community platform, 43 at the health center, 46 at the first-level hospital, 22 at the tertiary level, and 12 at the population level. Since the government opted for prioritizing primary health care, a district package was designed covering three platforms (community, health center, and first-level hospital). Out of the 151 interventions, the district level package covered only 117 interventions, with an overall per-capita cost of US$29.7. However, when costed, these interventions were well above the available fiscal space for package implementation of US$13 per capita. As a result, a second stage of prioritization was required.

During the *second stage* of prioritization, held in June 2020, several options needed to be considered to ensure that the cost of the district package does not exceed the fiscal space for

health. To develop an affordable package that could be implemented immediately until health allocations increased to match the costs of the full EPHS, the NAC explored three options:

- further prioritize the interventions in the package during the first stage and reduce them to the level that could be covered by the available public funding, using cost-effectiveness levels and the TWG voting during prioritization;
- reduce the per capita cost by applying a 20% reduction in the cost of first-level hospital interventions as a co-payment; or
- reduce the number of interventions based on cost-effectiveness alone.

The NAC recommended Option 1, resulting in a publicly financed, more limited 'immediate implementation' package (IIP) of district-level interventions. The IIP initially included 76 interventions. Options 2 and 3 were not taken in consideration. Option 2 involved co-payments, which if introduced, would compromise the package's goal of enhancing financial risk protection. Option 3, which relied solely on cost-effectiveness for prioritization, was also not recommended because it ignored other important criteria, such as financial risk protection and equity.

The IAG reviewed the contents of the IIP in July 2020 and provided recommendations for the final package. These recommendations were also subjected to a detailed review by the various departments and programs of the MNHSRC. The recommendations made by the IAG and the MNHSRC resulted in a final IIP of 88 interventions at a cost of US$12.98. The final iterations of both IIP and full EPHS were presented to and approved by the UHC-EPHS Steering Committee and the IMHPC in October 2020.

3.3.8 Final endorsed package

The full package has 117 interventions at a cost of US$ 29.7 and is estimated to avert 46.7 million DALYs (Table 3). The majority of the interventions included in the full package belong to the RMNCAH cluster (50 interventions), followed by health services (29 interventions), communicable disease (23 interventions), and non-communicable disease clusters (15). Most of the interventions are delivered at the health center and first-level hospitals, with only 28 interventions being delivered at the primary care center level.

Table 3: Full package of 117 interventions by cluster and delivery platform

Cluster	Community			Health Centre			First Level Hospital			Total		
	# Interv	Cost capita (US$)	DALYs averted (million)	# Interv	Cost capita (US$)	DALYs averted (million)	# Interv	Cost capita (US$)	DALYs averted (million)	# Interv	Cost capita (US$)	DALYs averted (million)
RMNCAH	17	5.42	7.16	15	2.17	19.22	18	8.77	2.40	50	16.36	28.78

CDs	9	0.54	0.14	10	0.82	2.05	4	0.66	8.78	23	2.01	10.96
NCDs	1	0.42	0.09	9	0.54	0.16	5	2.22	0.43	15	3.18	0.68
Health Services	1	0.002	0.0004	10	2.73	0.47	18	5.41	5.85	29	8.14	6.32
SUBTOTAL	**28**	**6.38**	**7.39**	**44**	**6.25**	**21.9**	**45**	**17.06**	**17.46**	**117**	**29.70**	**46.75**

Out of the 117 interventions in the full package, a more limited list of 88 district-level interventions were selected for the IIP (Table 4). The IIP has an initial per capita cost of US$ 12.98 and is estimated to avert 40.3 million DALYs. The majority of interventions are also at the health center and first level hospitals (Table 4). Most of the IIP interventions are at the RMNCAH cluster (47%), followed by health services access (24%), NCDs and injuries (15%), and communicable diseases (14%).

Table 4: Immediate implementation package of 88 interventions by cluster & platform

Cluster	Community			Health Centre			First Level Hospital			Total		
	# Interv	Cost capita (US$)	DALYs averted (million)	# Interv	Cost capita (US$)	DALYs averted (million)	# Interv	Cost capita (US$)	DALYs averted (million)	# Interv	Cost capita (US$)	DALYs averted (million)
RMNCAH	15	2.03	6.62	13	2.14	19.22	14	2.31	1.43	42	6.48	27.27
CDs	3	0.47	0.05	7	0.59	1.95	2	0.11	8.57	12	1.16	10.57
NCDs	1	0.42	0.09	9	0.54	0.16	3	0.26	0.36	13	1.22	0.61
Health Services	0	0	-	8	1.15	0.14	13	2.98	1.77	21	4.13	1.92
SUBTOTAL	**19**	**2.92**	**6.76**	**37**	**4.40**	**21.47**	**32**	**5.65**	**12.13**	**88**	**12.98**	**40.37**

It is important to highlight that while the number of interventions in the IIP has been reduced, the IIP is estimated to avert a significant proportion (86%) of the DALYs averted by the full package. In addition, while the PHC level interventions cost around US$ 4.4 and avert 21.5 million DALYs, the cost of the first level interventions is higher (US$ 5.65) while averting only 12.13 million DALYs. Section 8.1 of the annex includes the list of interventions in the immediate implementation and full district packages. The evidence for the prioritized interventions is also available in the annex (page 39).

In addition to the district-level package, 12 population-based interventions were prioritized to improve health outcomes for all citizens These interventions come at an additional cost of US$0.78 per capita and are detailed in section 8.2 of the annex. The responsibility for implementing these interventions falls jointly on the federal and provincial governments. This

means that the complete district-level package will include a total of 129 interventions at US$30.48 per capita, with the IIP consisting of 100 interventions at US$13.76 per capita.

In addition, 22 tertiary care interventions were prioritized and costed at US$6.5 per capita but were not recommended for immediate implementation. These were considered for inclusion in packages offered by the social health insurance schemes for tertiary care services, which most provinces are currently initiating.

3.4 Provincial localization

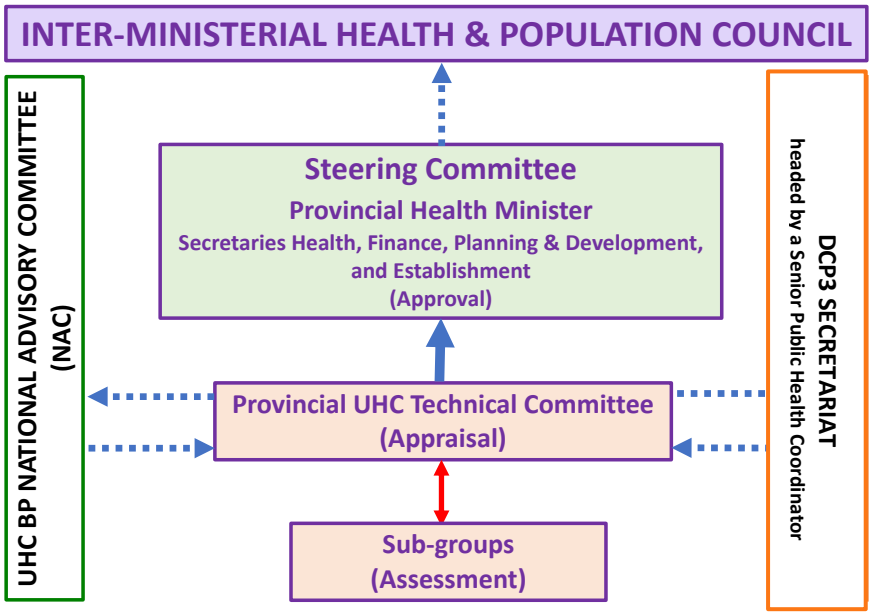
Due to the devolved nature of the health system in Pakistan, provincial adaptation of the national package was needed prior to its implementation to account for the substantial diversity in health priorities and needs between provinces/areas. Six district-level provincial packages were developed through a process similar to the national EPHS design using the local technical capacity built during the development of the federal package, namely in Khyber Pakhtunkhwa, Balochistan, Sindh, Punjab, Azad Jammu & Kashmir, and Gilgit Baltistan. HPSIU staff participated in all processes together with local Ministry of Heath staff, with general technical support from the DCP3 Secretariat and international advisers. The development of the provincial packages was conducted in three stages:

- **Stage 1:** Organization and approval of a governance structure for each province, aligned with the national governance structure;
- **Stage 2:** Sensitization, mapping of existing services, and agreement on approaches to be taken in each province/federating area;
- **Stage 3:** Prioritization process and approval of final provincial EPHS.

3.4.1 Provincial Governance Structure

To ensure clear and consistent governance of the provincial EPHS, a provincial governance structure was developed, which included clear roles and responsibilities (Figure 2). The governance structure for provincial localization was developed and implemented with support from the DCP3 Secretariat, including the recruitment of a senior public health coordinator and technical staff for each of the four provinces to cover the duration of the package development process.

Figure 2: Governance structure for provincial localization



3.4.2 Sensitization and mapping of existing services

Several sensitization and mapping exercises were conducted in the 4 provinces and 2 federating areas in 2021. The mapping exercises of existing services in each province/area were conducted against the DCP3 EUHC 218 interventions and the district UHC EPHS of 117 interventions. The process of developing the provincial/area EPHS followed the procedures established during the design of the federal package, with deliberations conducted with the provincial health managers and health staff involved in service delivery in each province/area. Across all provinces, there was a consensus to adopt the UHC EPHS at provincial/area level.

3.4.3 Provincial prioritization and package design

Provincial localization was completed through a series of meetings with the Provincial UHC Technical Committee, followed by structured four-day workshops at each province/federating area. Initial work involved a review of the health system and fiscal space, covering epidemiology, disease burden, clinical services currently offered, health system capacity, resource allocation, fiscal space, and health plans.

The decision criteria used for prioritization of the federal UHC EPHS guided the provincial/area localization, which included cost-effectiveness, burden of disease averted, budget impact, feasibility, financial risk protection, equity, and social and economic impact. Similarly, evidence was generated for the above decision criteria for each province, which were presented to the TWGs using description sheets and summary evidence sheets. The evidence generated for provincial package design was used to inform TWG deliberation during the localization workshops. The interventions were prioritized in each province/federating area considering their own health needs, burden of disease, fiscal space, and availability of resources for implementation. The provincial/area packages developed after deliberations of

the provincial technical committee were presented for approval to the Steering Committee of each province, chaired by the health minister.

The number of interventions and cost of packages varies across provinces/areas (Table 5). For example, the district package for the province of Sindh has 94 interventions, while the Punjab package has 103 (Table 5).

Table 5: Number of interventions in the 6 provincial/area EPHS by delivery platform

Platform	KP	Balochistan	Sindh	Punjab	AJK	GB
Community level	21	19	21	23	21	19
PHC centre level	35	39	37	39	36	41
First level hospital	42	38	36	41	39	36
District EPHS	**98**	**96**	**94**	**103**	**96**	**96**
Tertiary hospital	22	25	25	22	22	22
Population level	12	11	12	12	10	10-12
All 5 platforms	**132**	**132**	**131**	**137**	**128**	**128-130**

The cost per capita also ranges from US$12.1 in Gilgit Baltistan to US$21.5 in Balochistan (Table 6). The cost of these packages differs across provinces/areas due to higher burden of specific diseases and higher operational costs in some of the provinces/areas.

Table 6: Per capita cost of the 6 provincial/area EPHS by delivery platform (US$)++

Platform	KP	Balochistan	Sindh	Punjab	AJK	GB
Community level	4.0	4.6	3.1	2.5	3.5	2.5
PHC centre level	3.5	3.5	4.6	3.3	3.5	2.8
First level hospital	10.0	13.5	11.8	7.8	11.9	6.8
District EPHS	**17.6**	**21.5**	**19.5**	**13.5**	**18.9**	**12.1**
Tertiary hospital	8.8	4.8	7.9	11.7	3.2	5.3
Population level	4.8	5.0	3.6	1.6	7.9	16.88 - 92.02
All 5 platforms	**31.2**	**31.2**	**31.0**	**26.8**	**30.0**	**34.31 …**

++Costs include an 8% inflationary adjustment for 2021.

The district packages are estimated to avert a significant disease burden in each province/area, ranging from over 175,500 DALYs in Gilgit Baltistan to over 9 million DALYs in Punjab (Table 7). In-depth information on these packages is available in provincial reports.[26,27,28]

Table 7: Estimated DALYs averted by the 6 provincial EPHS by delivery platform

Platform	KP	Balochistan	Sindh	Punjab	AJK	GB
Community level	530,138	929,667	565,518	1,367,648	55,048	70,764
PHC centre level	1,255,150	242,123	1,836,851	4,090,875	141,495	64,199
First level hospital	925,205	162,027	510,871	2,488,247	99,432	31,983
District EPHS	**2,710,492**	**1,333,817**	**2,913, 240**	**7,946,772**	**295,976**	**166,946**
Tertiary hospital	342,263	83,000	539,236	1,156,977	20,971	8,565
Population level	++	++	++	++	++	++
All 5 platforms	**3,052,755 ++**	**1,416,817 ++**	**3,452,476 ++**	**9,103,748 ++**	**316,947 ++**	**175,511 ++**

++ DALYs averted through population level interventions are difficult to measure but are expected to be highly cost-effective.

4 Transition to implementation

Pakistan is moving towards implementation of its UHC Benefit Package. A five-year investment case has been prepared to support the initial implementation of the provincial EPHS, in 12 districts across all provinces and federating areas within the first 30 months of Phase I. The plan initially aimed to expand the implementation to 40 districts under Phase II, covering a population of approximately 60 million. The financing for the implementation of the EPHS was expected to come from a World Bank soft loan, as well as grant assistance from various development partners. under the World Bank's National Health Support Programme (NHSP). Instead of piloting the EPHS implementation, however, the NHSP plan was subsequently changed to cover provincial projects to strengthen PHC through disbursement-linked indicators (DLIs) initiatives. The DLIs envisage to ensure PHC facilities meet essential health service delivery standards, timely and appropriate referral to higher levels of care, vaccination coverage, information systems strengthening, availability of family planning commodities, nutrition supplies and essential medicines, improved budgeting and domestic resource mobilization, and improved community engagement in the areas not covered by lady health workers. The Health Department at the Sindh Province has recently initiated a project to implement the provincial EPHS as a pilot in one of its districts and it is hoped that other provinces will consider a similar approach.

5 LESSONS LEARNED

The process of defining the UHC EPHS based on the DCP3 evidence, concept and model packages serves as a major milestone for the realization of UHC in Pakistan and has been at the center of UHC reforms over past years. The development of the federal and provincial packages has strengthened national capacity in evidence-informed priority setting and package design, while ensuring an inclusive and transparent consultative process. The experience of Pakistan provides several important lessons learned in relation to the pre-requisites necessary for developing an evidence-informed, affordable, and feasibly implemented package. The section is using the framework for country readiness and prerequisites for the transition to implementation developed as part of the DCP3 country translation initiatives and published in January 2023 by the British Medical Journal Global Health.[29]

5.1 Securing sustained political commitment to UHC

A key pre-requisite for developing an UHC EPHS is strong political commitment. UHC and package development was at the center of the national health vision and reforms, with specific commitment to initiate the process based on the DCP3 evidence. Political commitment was also demonstrated by the engagement of the highest level of policymakers in all processes, including the IMHPC and Provincial Health Departments. However, in general, political commitment beyond the MNHSRC could have been stronger, with a particular need to secure the engagement of the financing

sectors throughout the entire package design process and transition to implementation.

5.2 Engaging key stakeholders

Engaging key internal and external stakeholders is critical for national ownership of the process and ensuring smoother transition to implementation. Engagement of key internal and external stakeholders was ensured through the adoption of a governance structure for EPHS design. However, as mentioned before, a stronger engagement of the planning and finance sectors would have resulted in a better understanding of current and future opportunities and the extent to which domestic financing could be made available to implement the package across the SDG timeline.

In addition, the private sector was not engaged in the package design process, despite its major role in delivering healthcare in Pakistan. Similarly, a comprehensive process of societal dialogue and community engagement was also not carried out. Such an initiative would have been instrumental in understanding public perceptions regarding their key health needs and in garnering their support for the proposed health reforms.

5.3 Assessing the health system and financing mechanisms

A key prerequisite in developing a properly designed and feasibly implemented UHC package is to conduct reliable assessments of the health systems and financing mechanisms. A key lesson learned in the Pakistan process is that work on assessing the health system should be undertaken before or during the package design process to ensure that health system gaps are clearly identified and plans to address are made. The fiscal space assessment has significantly shaped the way the federal package was finally designed, which required trade-offs in prioritizing interventions for public financing. Efforts to estimate fiscal space for health should be tied to macroeconomic analysis and assessment of the country's prospects for economic growth. Given the current economic forecast and the effects of the COVID-19 pandemic, generating new resources for health do not currently appear to happen through economic growth alone. Other options include enhancing the efficient use of available resources by implementing an evidence-informed EPHS, generating new health sector-specific resources through earmarked public health taxes on tobacco, unhealthy foods, and beverages, reprioritizing the government budget to increase health allocation, mobilizing additional resources through external financing, and building implementation and improvement capacity.

5.4 Developing and implementing a roadmap

The road map developed at the initial stage, including the key steps outlined in Section 2.3 of the report, was essential in defining an evidence-informed package and served as a guide for provincial package design. By using the same roadmap and processes outlined in the federal package design, the development of the provincial packages was completed in a short period of time.

5.5 Securing a successful transition to implementation

Implementation of the UHC EPHS will require addressing the key health system gaps impeding package rollout and ensuring the affordability of the package beyond the initial year of implementation. Population growth and progressive increase in interventions' coverage over the next years of the SDG cycle will result in rising package costs beyond what is currently available. Options to increase health resource allocations will have to be considered.

Institutionalization of the process and continued capacity building is necessary for sustained UHC-related processes. The DCP3 Country Translation Project in Pakistan provided on-the-job and short trainings in priority setting, economic evaluation, and setting and revising EPHS to build analytical capacity within the MNHSRC. However, to achieve sustained institutionalization of UHC-related processes, it is critical to retain the current human resources and skills within the MNHSRC and partner institutions.

5.6 Lessons for updating the DCP3 UHC model packages

The Pakistan experience provides valuable insights on areas requiring an update in the DCP3 model packages. While the EUHC package includes a comprehensive array of evidence-informed interventions, country experience highlighted the need to better define some of these interventions. Several interventions are too generic or have multiple components requiring several clinical actions. Furthermore, notable gaps exist in the availability of critical interventions, particularly in the area of emergency medical services and pandemic preparedness and response. In addition, it is essential to update the evidence on cost-effectiveness to incorporate research conducted post-2015.

It is important to note that the cost of implementing the EUHC interventions is significantly higher than what Pakistan and many other LLMICs can realistically afford, even for the highest priority package of 108 interventions. It would be thus imperative to periodically revisit the DCP3 model packages (EUHC and HPP), taking into account the lessons learned in Pakistan and other countries that have used the DCP3 guidance since it was launched in December 2017.

6 Conclusion

Setting an evidence-informed EPHS that is fully endorsed by the government is a promising achievement in Pakistan. However, effective implementation is not readily feasible. The MNHSRC needs to work closely with the Planning Commission and the Ministry of Finance to develop and implement a concrete, affordable plan for the pilot implementation of the EPHS, with a priority given to addressing the lessons learned from this extensive experience. Already, the Sindh Province is working to establish a pilot project for implementing the provincial version in one of its districts. It is hoped that other provinces will follow the same example.

Pakistan's experience in implementing UHC through an EPHS provides several valuable lessons for other LLMICs. These include engaging the public in societal dialogue, involving the planning

and finance sectors early on, undertaking concurrent assessments of the health system and package design, and ensuring sustained institutionalization of UHC-related processes. Additionally, it is necessary to update the DCP3 model packages to include critical interventions and a more specific definition of interventions.

7 References

1. World Health Organization (WHO); World Bank (WB). Tracking Universal Health Coverage: 2017 Global Monitoring Report. 2017.
2. United Nations General Assembly. Political Declaration of the High-level Meeting on Universal Health Coverage “Universal health coverage: moving together to build a healthier world.” 2019; Available from: https://www.un.org/pga/73/wp-content/uploads/sites/53/2019/07/FINAL-draft-UHC-Political-Declaration.pdf
3. World Health Organization. Making fair choices on the path to universal health coverage. Geneva, Switzerland; 2014.
4. Pakistan Bureau of Statistics (PBS). Pakistan Census Report (2017). 2017.
5. World Bank. Pakistan Indicators. Available from: https://data.worldbank.org/country/pakistan
6. World Bank. GDP per capita (current US$) - Pakistan [Internet]. Available from: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=PK
7. Government of Pakistan. Pakistan SDGs Status Report. 2021.
8. Oxford Poverty & Human Development Initiative, UNDP. Global Multidimensional Poverty Index 2023: Unstacking global poverty: Data for high impact action. 2023.
9. International Bank for Reconstruction and Development. Pakistan Human Capital Review: Building Capabilities throughout Life [Internet]. 2023. Available from: https://openknowledge.worldbank.org/entities/publication/8748b7a7-7345-4298-9631-3f5f146c7007
10. World Health Organization Global Health Observatory. UHC Service Coverage 2021 [Internet]. [cited 2023 Sep 13]. Available from: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/uhc-index-of-service-coverage
11. National Institute of Population Studies (NIPS) [Pakistan] and ICF. Pakistan 2019 Maternal Mortality Survey. Islamabad; 2020.
12. National Institute of Population Studies, DHS Program ICF. Pakistan Demographic and Health Survey 2017-18. Islamabad & Maryland; 2019.
13. Institute for Health Metrics and Evaluation (IHME). Global Burden of Disease Study data for Pakistan. 2019; Available from: https://ghdx.healthdata.org/gbd-2019
14. Pakistan Bureau of Statistics (PBS). National Health Accounts (2017-18). 2017.
15. World Bank. Current health expenditure per capita (current US$) [Internet]. [cited 2023 Sep 13]. Available from: https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD
16. Government of Pakistan Finance Division. Pakistan Economic Survey 2021-22 [Internet]. 2022. Available from: https://www.finance.gov.pk/survey_2022.html
17. Pakistan Bureau of Statistics (PBS). National Health Accounts Pakistan (2019-

20) [Internet]. 2020. Available from: https://www.pbs.gov.pk/sites/default/files/national_accounts/national_health_accounts/NHA-Pakistan_2019-20.pdf

18. World Bank World Development Indicators. Proportion of population spending more than 10% and 25 % of household consumption or income on out-of-pocket health care expenditure (%) [Internet]. 2018 [cited 2023 Sep 13]. Available from: https://databank.worldbank.org/source/world-development-indicators

19. World Bank. World Development Report: Disease Control Priorities in Development Countries [Internet]. 1993. Available from: http://dcp-3.org/sites/default/files/DCP1-Complete.pdf

20. Disease Control Priorities 3. DCP3 Volumes. 2018; Available from: https://dcp-3.org/volumes

21. Jamison DT, Gelband H, Horton S, Jha P, Laxminarayan R, Mock CN, et al. Disease Control Priorities, Third Edition (Volume 9): Improving Health and Reducing Poverty. Disease Control Priorities, Third Edition (Volume 9): Improving Health and Reducing Poverty. 2017.

22. DCP3 Country Translation. DCP3 Country Translation Project [Internet]. [cited 2023 Aug 20]. Available from: http://dcp-3.org/translation

23. MoNHSR&C, Disease Control Priorities 3, World Health Organization. Universal Health Coverage Benefit Package of Pakistan: Essential Package of Health Services with Localized Evidence [Internet]. 2022. Available from: https://dcp-3.org/resources/universal-health-coverage-benefit-package-pakistan-essential-package-health-services

24. Government of Pakistan, World Health Organization, Disease Control Priorities 3 (DCP3). Towards universal health coverage: Interventions' description of essential package of health services/ UHC benefit package of Pakistan. 2020; Available from: https://dcp-3.org/sites/default/files/resources/Interventions Description of Essential Package of Health Services UHC Benefit Package of Pakistan 2020.pdf?issu

25. Anna Vassall, Sedona Sweeney, Jim Kahn, Gabriela B. Gomez, Lori Bollinger, Elliot Marseille, Ben Herzel, Willyanne DeCormier Plosky, Lucy Cunnama, Edina Sinanovic SBA. Reference Case for Estimating the Costs of Global Health Services and Interventions [Internet]. 2017. Available from: https://ghcosting.org/pages/standards/reference_case

26. Health Department Government of State of Azad Jammu & Kashmir. Azad Jammu & Kashmir: Essential Package of Health Services with Localized Evidence [Internet]. 2021. Available from: https://dcp-3.org/resources/essential-package-health-service-localized-evidence-azad-jammu-kasmir

27. Health Department Government of Sindh. Essential Package of Health Services with Localized Evidence: UHC Benefit Package of Sindh. 2021;

28. Health Department Government of Balochistan. Interventions' Description of Essential Package of Health Services / UHC Benefit Package of Balochistan.

29. Alwan A, Majdzadeh R, Yamey G, Blanchet K, Hailu A, Jama M, et al. Country readiness and prerequisites for successful design and transition to

implementation of essential packages of health services: Experience from six countries. BMJ Glob Heal. 2023;8.

8 Annexes

8.1 District EPHS interventions

SR #	DCP3 Code - UHC BP Platform	Full Name of Intervention	Cluster	Immediate District EPHS	Special Initiatives
1	C1-COM	Antenatal and postpartum education on family planning	RMNCH	✓	
2	C2-COM	Counselling of mothers on providing thermal care for preterm new-borns (delayed bath and skin-to-skin contact)	RMNCH	✓	
3	C3a-COM	Management of labour and delivery in low risk women by skilled attendant	RMNCH	✓	
4	C3b-COM	Basic neonatal resuscitation following delivery	RMNCH	✓	
5	C3c-PHC	Management of labour and delivery in low risk women by skilled attendant	RMNCH	✓	
6	C3d-PHC	Basic neonatal resuscitation following delivery	RMNCH	✓	
7	C4-COM	Promotion of breastfeeding or complementary feeding by lay health workers	RMNCH	✓	
8	C5-PHC	Tetanus toxoid immunization among schoolchildren and among women attending antenatal care	RMNCH	✓	
9	C8-COM	Detection and management of acute severe malnutrition and referral in the presence of complications	RMNCH		✓
10	C10-COM	Education on handwashing and safe disposal of children's stools	RMNCH	✓	
11	C11-COM	Pneumococcus vaccination	RMNCH	✓	
12	C12-COM	Rotavirus vaccination	RMNCH	✓	
13	C14-COM	Provision of vitamin A and zinc supplementation to children according to WHO guidelines, and provision of food supplementation to women and children in food insecure households	RMNCH		✓
14	C16-COM	Childhood vaccination series (diphtheria, pertussis, tetanus, polio, BCG, measles, hepatitis B, Hib, rubella)	RMNCH	✓	

15	C18-COM	Education of schoolchildren on oral health	RMNCH	✓	
16	C19-COM	Vision pre-screening by teachers; vision tests and provision of ready-made glasses on-site by eye specialists	RMNCH	✓	
17	C27a-COM	Provision of iron and folic acid supplementation to pregnant women, and provision of food or caloric supplementation to pregnant women in food insecure households (CL)	RMNCH	✓	
18	C27b-PHC	Provision of iron and folic acid supplementation to pregnant women, and provision of food or caloric supplementation to pregnant women in food insecure households (PHC)	RMNCH	✓	
19	C28-COM	Community-based HIV testing and counselling (for example, mobile units and venue-based testing), with appropriate referral or linkage to care and immediate initiation of lifelong ART	Infectious Disease Cluster		✓
20	C30a-COM	Provision of condoms to key populations, including sex workers, men who have sex with men, people who inject drugs (IDU), transgender populations, and prisoners	Infectious Disease Cluster		✓
21	C30b-COM	Provision of disposable syringes to people who inject drugs (IDU)	Infectious Disease Cluster		✓
22	C32-COM	Routine contact tracing to identify individuals exposed to TB and link them to care	Infectious Disease Cluster		✓
23	C33-PHC	For malaria due to P. vivax, test for G6PD deficiency; if normal, add chloroquine or chloroquine plus 14-day course of primaquine	Infectious Disease Cluster		
24	C43-COM	Early detection and treatment of leishmaniasis, dengue, chikungunya, rabies, trachoma, and helminthiasis	Infectious Disease Cluster	✓	
25	C45-COM	Identify and refer patients with high risk including pregnant women, young children, and those with underlying medical conditions	Infectious Disease Cluster		
26	C46-COM	In the context of an emerging infectious outbreak, provide advice and guidance on how to recognize early symptoms and signs and when to seek medical attention	Infectious Disease Cluster	✓	
27	C51-COM	WASH behaviour change interventions, such as community-led total sanitation	NCD & IPC	✓	
28	C53a-COM	Identification/screening of the early childhood development issues motor, sensory and language stimulation	Health Services		
29	C53b-PHC	Early childhood development rehabilitation interventions, including motor, sensory, and language stimulation	Health Services		
30	HC1-PHC	Early detection and treatment of neonatal pneumonia with oral antibiotics	RMNCH	✓	
31	HC2-PHC	Management of miscarriage or incomplete abortion and post abortion care	RMNCH	✓	

32	HC3-FLH	Management of preterm premature rupture of membranes, including administration of antibiotics	RMNCH	✓	
33	HC4a-COM	Provision of condoms and hormonal contraceptives, including emergency contraceptives	RMNCH	✓	
34	HC4b-PHC	Provision of condoms and hormonal contraceptives, including emergency contraceptives and IUDs	RMNCH	✓	
35	HC5a-COM	Counselling of mothers on providing kangaroo care for new-borns (CL)	RMNCH	✓	
36	HC5b-PHC	Counselling of mothers on providing kangaroo care for new-borns (PHC)	RMNCH	✓	
37	HC6-FLH	Management of neonatal sepsis, pneumonia, and meningitis using injectable and oral antibiotics	RMNCH	✓	
38	HC7-PHC	Pharmacological termination of pregnancy	RMNCH	✓	
39	HC9a-COM	Screening of hypertensive disorders in pregnancy	RMNCH	✓	
40	HC9b-PHC	Screening and management of hypertensive disorders in pregnancy	RMNCH	✓	
41	HC10-FLH	Screening and management of diabetes in pregnancy (gestational diabetes or pre-existing type II diabetes)	RMNCH	✓	
42	HC11-PHC	Management of labour and delivery in low risk women (BEmNOC), including initial treatment of obstetric or delivery complications prior to transfer	RMNCH	✓	
43	HC12-PHC	Detection and treatment of childhood infections with danger signs (IMCI)	RMNCH	✓	
44	HC14-PHC	Psychological treatment for mood, anxiety, ADHD, and disruptive behaviour disorders	RMNCH		
45	HC16-PHC	Post gender-based violence care, including counselling, provision of emergency contraception, and rape-response referral (medical and judicial) - to be executed as inter-sectoral intervention	RMNCH		
46	HC17-PHC	Syndromic management of common sexual and reproductive tract infections (for example urethral discharge, genital ulcer, and others) according to WHO guidelines	RMNCH	✓	
47	HC19-FLH	For individuals testing positive for hepatitis B and C, assessment of treatment eligibility by trained providers followed by initiation and monitoring of antiviral treatment when indicated	Infectious Disease Cluster		✓
48	HC20-PHC	Hepatitis B and C testing of individuals identified in the national testing policy (based on endemicity and risk level), with appropriate referral of positive individuals to trained providers	Infectious Disease Cluster		✓
49	HC21-PHC	Partner notification and expedited treatment for common STIs, including HIV	Infectious Disease Cluster	✓	
50	HC23-PHC	Provider-initiated testing and counselling for HIV, STIs, and hepatitis, for all in contact with health system in high-prevalence settings, including prenatal care with appropriate referral or linkage to care	Infectious Disease Cluster		✓

		including immediate ART initiation for those testing positives for HIV			
51	HC24-FLH	As resources permit, hepatitis B vaccination of high-risk populations, including healthcare workers, PWID, MSM, household contacts, and persons with multiple sex partners	Infectious Disease Cluster		
52	HC25-PHC	Provision of male circumcision service	Infectious Disease Cluster	✓	
53	HC26-PHC	For PLHIV and children under five who are close contacts or household members of individuals with active TB, perform symptom screening and chest radiograph; if there is no active TB, provide isoniazid preventive therapy according to current WHO guidelines	Infectious Disease Cluster	✓	
54	HC27-PHC	Diagnosis of TB, including assessment of rifampicin resistance using rapid molecular diagnostics (Ultra expert), and initiation of first-line treatment per current WHO guidelines for drug-susceptible TB; referral for confirmation, further assessment of drug resistance, and treatment of drug-resistant TB	Infectious Disease Cluster	✓	
55	HC28-COM	Screening for HIV in all individuals with a diagnosis of active TB; if HIV infection is present, start (or refer for) ARV treatment and HIV care	Infectious Disease Cluster		✓
56	HC30-PHC	Evaluation and management of fever in clinically stable individuals using WHO IMAI guidelines, with referral of unstable individuals to first-level hospital care	Infectious Disease Cluster	✓	
57	HC32-PHC	Provision of insecticide-treated nets to children and pregnant women attending Health Centre	Infectious Disease Cluster	✓	
58	HC33-PHC	Identify and refer to higher levels of health care patients with signs of progressive illness	Infectious Disease Cluster	✓	
59	HC36-PHC	Long-term combination therapy for persons with multiple CVD risk factors, including screening for CVD in community settings using non-lab-based tools to assess overall CVD risk	NCD & IPC	✓	
60	HC37-PHC	Low-dose inhaled corticosteroids and bronchodilators for asthma and for selected patients with COPD	NCD & IPC	✓	
61	HC38-PHC	Provision of aspirin for all cases of suspected acute myocardial infarction	NCD & IPC	✓	
62	HC39a-PHC	Screening of albuminuria kidney disease including targeted screening among people with diabetes	NCD & IPC	✓	
63	HC41-PHC	Secondary prophylaxis with penicillin for rheumatic fever or established rheumatic heart disease	NCD & IPC	✓	
64	HC42-PHC	Treatment of acute pharyngitis in children to prevent rheumatic fever	NCD & IPC	✓	
65	HC45-PHC	Opportunistic screening for hypertension for all adults and initiation of treatment among individuals with severe hypertension and/or multiple risk factors	NCD & IPC	✓	

66	HC50-PHC	Management of depression and anxiety disorders with psychological and generic antidepressant therapy	NCD & IPC	✓	
67	HC56-PHC	Targeted screening for congenital hearing loss in high-risk children using otoacoustic emissions testing	NCD & IPC	✓	
68	HC57a-PHC	Dental extraction (PHC)	Health Services	✓	
69	HC57b-FLH	Dental extraction (FLH)	Health Services	✓	
70	HC58a-PHC	Drainage of dental abscess (PHC)	Health Services	✓	
71	HC59-PHC	Drainage of superficial abscess	Health Services	✓	
72	HC60-PHC	Management of non-displaced fractures	Health Services	✓	
73	HC61-PHC	Resuscitation with basic life support measures	Health Services	✓	
74	HC62-PHC	Suturing laceration	Health Services	✓	
75	HC63a-PHC	Treatment of caries	Health Services	✓	
76	HC64-PHC	Basic management of musculoskeletal and neurological injuries and disorders, such as prescription of simple exercises and sling or cast provision	Health Services	✓	
77	HC68-PHC	Health centre pathology services* *cost included in relevant interventions	Health Services		
78	FLH1-FLH	Detection and management of foetal growth restriction	RMNCH		
79	FLH3-FLH	Jaundice management with phototherapy	RMNCH	✓	
80	FLH4-FLH	Management of eclampsia with magnesium sulphate, including initial stabilization at Health Centre	RMNCH	✓	
81	FLH5-FLH	Management of maternal sepsis, including early detection at Health Centre	RMNCH	✓	
82	FLH6-FLH	Management of new-born complications infections, meningitis, septicaemia, pneumonia and other very serious infections requiring continuous supportive care (such as IV fluids and oxygen)	RMNCH	✓	
83	FLH7-FLH	Management of preterm labour with corticosteroids, including early detection	RMNCH		
84	FLH8-FLH	Management of labour and delivery in high risk women, including operative delivery (CEmNOC)	RMNCH	✓	
85	FLH10-FLH	Surgical termination of pregnancy by manual vacuum aspiration and dilation and curettage	RMNCH	✓	
86	FLH11-FLH	Full supportive care for severe childhood infections with danger signs	RMNCH		
87	FLH12-FLH	Management of severe acute malnutrition associated with serious infection	RMNCH		

88	FLH13-FLH	Early detection and treatment of early-stage cervical cancer	RMNCH	✓	
89	FLH14-FLH	Insertion and removal of long-lasting contraceptives (IUCDs and Implants)	RMNCH	✓	
90	FLH15-FLH	Tubal ligation	RMNCH	✓	
91	FLH16-FLH	Vasectomy	RMNCH	✓	
92	FLH17-FLH	Referral of cases of treatment failure for drug susceptibility testing; enrolment of those with MDR-TB for treatment per WHO guidelines (either short or long regimen)	Infectious Disease Cluster	✓	
93	FLH18-FLH	Evaluation and management of fever in clinically unstable individuals using WHO IMAI guidelines, including empiric parenteral antimicrobials and antimalarials and resuscitative measures for septic shock	Infectious Disease Cluster	✓	
94	FLH20-FLH	Management of acute coronary syndromes with aspirin, unfractionated heparin, and generic thrombolytics (when indicated)	NCD & IPC		
95	FLH22-FLH	Management of acute exacerbations of asthma and COPD using systemic steroids, inhaled beta-agonists, and, if indicated, oral antibiotics and oxygen therapy	NCD & IPC		✓
96	FLH23-FLH	Medical management of acute heart failure	NCD & IPC	✓	
97	FLH24-FLH	Management of bowel obstruction	NCD & IPC	✓	
98	FLH30-FLH	Management of intoxication/poisoning syndromes using widely available agents; e.g., activated charcoal, naloxone, bicarbonate, antivenin	NCD & IPC	✓	
99	FLH31-FLH	Appendectomy	Health Services	✓	
100	FLH34-FLH	Colostomy	Health Services	✓	
101	FLH35-FLH	Escharotomy or fasciotomy	Health Services	✓	
102	FLH36-FLH	Fracture reduction and placement of external fixator and use of traction for fractures	Health Services	✓	
103	FLH38-FLH	Hysterectomy for uterine rupture or intractable postpartum haemorrhage	Health Services	✓	
104	FLH39-FLH	Irrigation and debridement of open fractures	Health Services	✓	
105	FLH41a-FLH	Management of septic arthritis	Health Services	✓	
106	FLH41b-FLH	Placement of External Fixation and Use of Traction for Fractures	Health Services	✓	
107	FLH42-FLH	Relief of urinary obstruction by catheterization or suprapubic cystostomy	Health Services	✓	

108	FLH43-FLH	Removal of gallbladder including emergency surgery	Health Services	✓	
109	FLH44-FLH	Repair of perforations (for example, perforated peptic ulcer, typhoid ileal perforation)	Health Services	✓	
110	FLH45-FLH	Resuscitation with advanced life support measures, including surgical airway	Health Services		
111	FLH48a-FLH	Trauma laparotomy	Health Services		✓
112	FLH49-FLH	Trauma-related amputations	Health Services		✓
113	FLH50-FLH	Tube thoracostomy	Health Services		
114	FLH52-FLH	Compression therapy for amputations, burns, and vascular or lymphatic disorders	Health Services	✓	
115	RH1-FLH	Full supportive care for preterm new-borns	RMNCH	✓	
116	RH14-FLH	Cataract extraction and insertion of intraocular lens	Health Services		
117	P5-COM	Systematic identification of individuals with TB symptoms among high-risk groups and linkage to care ("active case finding")	Infectious Disease Cluster	✓	

Legend:

	District EPHS
	Special Initiatives
	Not an immediate priority

8.2 List of 12 prioritized interventions at the population level

SR #	Intervention	Platform	DCP 3 Code	Unit Cost $ /Capita
1	Mass media messages concerning sexual and reproductive health and mental health for adolescents (Also included in HIV and Mental health packages of services)	Population	P1	0.02
2	Mass media messages concerning healthy eating or physical activity (Also included in CVD and Musculoskeletal packages of services)	Population	P2	0.02
3	Education campaign for the prevention of gender-based violence	Population	C25	0.02
4	Mass media encouraging use of condoms, voluntary medical male circumcision and STI testing	Population	P4	0.02
5	Sustained integrated vector management for effective control of visceral Leishmaniasis, dengue, chikungunya, CCHF, and other nationally important causes of non-malarial fever vector borne NTDs	Population	P6	0.02
6	Mass media messages concerning awareness on handwashing and health effects of household air pollution	Population	P13	0.02
7	Conduct a comprehensive assessment of International Health Regulations (IHR) competencies using the Joint External Evaluation (JEE) tool	Population	P7	0.00
8	Develop and implement a plan to ensure surge capacity in hospital beds, stockpiles of disinfectants, equipment for supportive care and personal protective equipment	Population	P10	0.49
9	Develop plans and legal authority for curtaining interactions between infected persons and un-infected population and implement and evaluate infection control measures in health facilities	Population	P11	0.01
10	Conduct simulation exercises and health worker training for outbreak events including outbreak investigation, contact tracing and emergency response	Population	P8	0.00

11	Decentralize stocks of antiviral medications to reach at risk groups and disadvantaged populations	Population	P9	0.14
12	Mass media messages concerning use of tobacco (Also included in CVD package of services)	Population	P3	0.02

8.3 Costing Exercise

The approach required development of a cost template for analysis, intervention description sheets and identification of specific inputs for each intervention, identification of price sources, establishment of a hierarchy of price sources by input, and price data extraction. The approach allowed capturing resources needed in order to deliver high-quality services (as opposed to capturing the current quality of delivery which was in some areas found to be sub-optimal). Furthermore, the ingredients-based approach allowed for greater disaggregation of costs between inputs and activities, which is important for comparing 'value for money' between interventions. The approach has limitations, including the inability to account for system-level inefficiencies inherent in any service-delivery setting. Unit costs were calculated for 170 interventions across five delivery platforms. Costs were calculated to be nationally representative, using a provider perspective and a one-year timeframe. Staff requirements were described in terms of staff type and number of minutes of direct contact required. For some interventions, multiple drug regimens were described depending on the target population. Regarding equipment, resources were quantified by the number of minutes used per intervention. A semi-automated user-friendly costing Excel template was designed and used throughout the costing process. Costs were collected in Pakistani rupees and converted to 2019 US$. The mean cost varied greatly by platform, being lowest in the population and community platforms and highest in the hospital platforms. The highest mean cost per intervention is for the cancer, musculoskeletal, and congenital disorders, while the lowest mean costs per intervention are for environmental, pandemic-related and adolescent health interventions. The largest cost drivers overall are drug regimens (28% of total costs) and surgery-related costs (25% of total costs). Utilizing the current and target coverage levels, the total cost for each intervention was estimated and was divided by total population to estimate cost per capita for each intervention. The information of total spending per intervention was used for assessing budget implication under three scenarios as low, medium or high.

8.4 Localized evidence for the federal district EPHS

DCP 3 Code - UHC BP Platform	Full Name of Intervention	Cluster	Cost effectiveness and ranking	ICER	Burden of Diseases Annual DALYs per 100,000	Optimized Spending per Intervention USD (un-constrained)	Optimized Spending per Intervention USD (un-constrained) % of total spending	Budget Impact under optimized spending	Cost per capita $	Cost per capita PKR	Unit Cost per Intervention $
C1-COM	Antenatal and postpartum education on family planning	RMNCH	19	57	8,228.56	1,671,965	0.02%	Low	0.01	1.25	0.55
C2-COM	Counselling of mothers on providing thermal care for preterm new-borns (delayed bath and skin-to-skin contact)	RMNCH	18	54	2,053.32	400,301	0.01%	Low	0.00	0.30	0.75
C3a-COM	Management of labour and delivery in low risk women by skilled attendant	RMNCH	4	2	7,789.51	7,630,418	0.10%	Low	0.03	5.71	23.14
C3b-COM	Basic neonatal resuscitation following delivery	RMNCH	3	1	7,789.51	534,342	0.01%	Low	0.00	0.40	1.62
C3c-PHC	Management of labour and delivery in low risk women by skilled attendant	RMNCH	6	5	7,789.51	64,378,904	0.85%	Medium	0.29	48.21	23.90
C3d-PHC	Basic neonatal resuscitation following delivery	RMNCH	2	1	7,789.51	4,712,215	0.06%	Low	0.02	3.53	1.75
C4-COM	Promotion of breastfeeding or complementary feeding by lay health workers	RMNCH	17	54	1,479.78	2,867,185	0.04%	Low	0.01	2.15	1.14
C5-PHC	Tetanus toxoid immunization among schoolchildren and among women attending antenatal care	RMNCH	44	323	83.26	47,757,266	0.63%	Medium	0.21	35.77	1.07
C8-COM	Detection and management of acute severe malnutrition and referral in the presence of complications	RMNCH	92	1,471	154.12	327,870,307	4.34%	High	1.47	245.54	20.05
C10-COM	Education on handwashing and safe disposal of children's stools	RMNCH	13	34	1,842.87	10,352,967	0.14%	Low	0.05	7.75	1.19
C11-COM	Pneumococcus vaccination	RMNCH	57	749	56.99	86,123,282	1.14%	High	0.39	64.50	18.34
C12-COM	Rotavirus vaccination	RMNCH	108	9,457	2.23	39,267,286	0.52%	Medium	0.18	29.41	9.06
C14-COM	Provision of vitamin A and zinc supplementation to children according to WHO guidelines, and provision of food supplementation to women and children in food insecure households	RMNCH	91	1,357	189.93	428,302,759	5.67%	High	1.92	320.75	20.80

C16-COM	Childhood vaccination series (diphtheria, pertussis, tetanus, polio, BCG, measles, hepatitis B, Hib, rubella)	RMNCH	25	121	1,803.57	78,688,206	1.04%	High	0.35	58.93	18.67
C18-COM	Education of schoolchildren on oral health	RMNCH	78	1,082	455.87	19,434,644	0.26%	Low	0.09	14.55	1.34
C19-COM	Vision pre-screening by teachers; vision tests and provision of ready-made glasses on-site by eye specialists	RMNCH	30	229	267.70	42,725,968	0.57%	Medium	0.19	32.00	2.95
C27a-COM	Provision of iron and folic acid supplementation to pregnant women, and provision of food or caloric supplementation to pregnant women in food insecure households (CL)	RMNCH	32	266	516.88	158,674,132	2.10%	High	0.71	118.83	56.63
C27b-PHC	Provision of iron and folic acid supplementation to pregnant women, and provision of food or caloric supplementation to pregnant women in food insecure households (PHC)	RMNCH	31	266	516.88	106,639,304	1.41%	High	0.48	79.86	57.09
C28-COM	Community-based HIV testing and counselling (for example, mobile units and venue-based testing), with appropriate referral or linkage to care and immediate initiation of lifelong ART	Infectious Disease Cluster	42	286	136.49	337,032	0.00%	Low	0.00	0.25	2.24
C30a-COM	Provision of condoms to key populations, including sex workers, men who have sex with men, people who inject drugs (IDU), transgender populations, and prisoners	Infectious Disease Cluster	39	286	354.98	5,681,703	0.08%	Low	0.03	4.25	22.65
C30b-COM	Provision of disposable syringes to people who inject drugs (IDU)	Infectious Disease Cluster	37	286	354.98	545,269	0.01%	Low	0.00	0.41	8.05
C32-COM	Routine contact tracing to identify individuals exposed to TB and link them to care	Infectious Disease Cluster	68	1,082	865.45	7,918,664	0.11%	Low	0.04	5.93	13.86
C33-PHC	For malaria due to P. vivax, test for G6PD deficiency; if normal, add chloroquine or chloroquine plus 14-day course of primaquine	Infectious Disease Cluster	69	1,082	162.16	5,329,603	0.07%	Low	0.02	3.99	2.64
C43-COM	Early detection and treatment of Chagas disease, human African trypanosomiasis, leprosy, and leishmaniases	Infectious Disease Cluster	60	1,057	12.70	14,944,171	0.20%	Low	0.07	11.19	12.71
C45-COM	Identify and refer patients with high risk including pregnant women, young children, and those with underlying medical conditions	Infectious Disease Cluster	86	1,082	317.41	1,326,180	0.02%	Low	0.01	0.99	0.90

C46-COM	In the context of an emerging infectious outbreak, provide advice and guidance on how to recognize early symptoms and signs and when to seek medical attention	Infectious Disease Cluster	71	1,082	1,523.88	20,620,041	0.27%	Low	0.09	15.44	0.45
C51-COM	WASH behaviour change interventions, such as community-led total sanitation	NCD & IPC	76	1,082	2,078.07	94,164,478	1.25%	High	0.42	70.52	1.08
C53a-COM	Identification/screening of the early childhood development issues motor, sensory and language stimulation	Health Services	62	1,082	204.72	447,502	0.01%	Low	0.00	0.34	1.19
C53b-PHC	Early childhood development rehabilitation interventions, including motor, sensory, and language stimulation	Health Services	70	1,082	204.72	36,434,357	0.48%	Low	0.16	27.29	12.97
HC1-PHC	Early detection and treatment of neonatal pneumonia with oral antibiotics	RMNCH	15	41	438.16	4,273,684	0.06%	Low	0.02	3.20	5.46
HC2-PHC	Management of miscarriage or incomplete abortion and post abortion care	RMNCH	82	1,082	60.11	10,138,544	0.13%	Low	0.05	7.59	28.95
HC3-FLH	Management of preterm premature rupture of membranes, including administration of antibiotics	RMNCH	100	3,041	2,554.40	30,897,363	0.41%	Low	0.14	23.14	176.45
HC4a-COM	Provision of condoms and hormonal contraceptives, including emergency contraceptives	RMNCH	38	286	354.98	4,099,860	0.05%	Low	0.02	3.07	15.20
HC4b-PHC	Provision of condoms and hormonal contraceptives, including emergency contraceptives and IUDs	RMNCH	41	286	354.98	6,149,790	0.08%	Low	0.03	4.61	15.20
HC5a-COM	Counselling of mothers on providing kangaroo care for new-borns (CL)	RMNCH	114	430	1,406.40	29,620	0.00%	Low	0.00	0.02	0.67
HC5b-PHC	Counselling of mothers on providing kangaroo care for new-borns (PHC)	RMNCH	115	430	1,406.40	44,430	0.00%	Low	0.00	0.03	0.67
HC6-FLH	Management of neonatal sepsis, pneumonia, and meningitis using injectable and oral antibiotics	RMNCH	24	107	438.16	6,943,795	0.09%	Low	0.03	5.20	66.11
HC7-PHC	Pharmacological termination of pregnancy	RMNCH	22	84	60.11	3,089,340	0.04%	Low	0.01	2.31	17.18
HC9a-COM	Screening of hypertensive disorders in pregnancy	RMNCH	117	132,148	200.70	719,518	0.00%	Low	0.00	0.54	0.43
HC9b-PHC	Screening and management of hypertensive disorders in pregnancy	RMNCH	113	132,148	200.70	17,915,764	0.24%	Low	0.08	13.42	7.11

HC10-FLH	Screening and management of diabetes in pregnancy (gestational diabetes or pre-existing type II diabetes)	RMNCH	99	2,571	39.82	992,290	0.01%	Low	0.00	0.74	25.54
HC11-PHC	Management of labour and delivery in low risk women (BEmONC), including initial treatment of obstetric or delivery complications prior to transfer	RMNCH	33	267	8,228.56	147,617,840	1.95%	High	0.66	110.55	31.88
HC12-PHC	Detection and treatment of childhood infections with danger signs (IMCI)	RMNCH	10	23	4,984.36	5,675,811	0.08%	Low	0.03	4.25	7.46
HC14-PHC	Psychological treatment for mood, anxiety, ADHD, and disruptive behaviour disorders	RMNCH	104	4,821	945.69	2,468,190	0.03%	Low	0.01	1.85	2.05
HC16-PHC	Post gender-based violence care, including counselling, provision of emergency contraception, and rape-response referral (medical and judicial)	RMNCH	88	1,206	1,090.24	4,544,273	0.06%	Low	0.02	3.40	15.04
HC17-PHC	Syndromic management of common sexual and reproductive tract infections (for example urethral discharge, genital ulcer, and others) according to WHO guidelines	RMNCH	29	183	218.49	57,797,840	0.77%	Medium	0.26	43.28	5.10
HC19-FLH	For individuals testing positive for hepatitis B and C, assessment of treatment eligibility by trained providers followed by initiation and monitoring of antiviral treatment when indicated	Infectious Disease Cluster	55	607	605.82	121,669,698	1.61%	High	0.55	91.12	301.91
HC20-PHC	Hepatitis B and C testing of individuals identified in the national testing policy (based on endemicity and risk level), with appropriate referral of positive individuals to trained providers	Infectious Disease Cluster	50	504	605.82	15,583,330	0.21%	Low	0.07	11.67	3.88
HC21-PHC	Partner notification and expedited treatment for common STIs, including HIV	Infectious Disease Cluster	27	156	354.98	33,863,370	0.45%	Low	0.15	25.36	3.69
HC23-PHC	Provider-initiated testing and counselling for HIV, STIs, and hepatitis, for all in contact with health system in high-prevalence settings, including prenatal care with appropriate referral or linkage to care including immediate ART initiation for those testing positives for HIV	Infectious Disease Cluster	48	429	960.80	30,795,092	0.41%	Low	0.14	23.06	4.37
HC24-FLH	As resources permit, hepatitis B vaccination of high-risk populations, including healthcare workers, PWID, MSM, household contacts, and persons with multiple sex partners	Infectious Disease Cluster	46	386	272.08	585,521	0.01%	Low	0.00	0.44	2.67

HC25-PHC	Provision of voluntary medical male circumcision service in settings with high prevalence of HIV	Infectious Disease Cluster	61	1,081	354.98	28,938,406	0.38%	Low	0.13	21.67	40.05
HC26-PHC	For PLHIV and children under five who are close contacts or household members of individuals with active TB, perform symptom screening and chest radiograph; if there is no active TB, provide isoniazid preventive therapy according to current WHO guidelines	Infectious Disease Cluster	34	271	865.45	2,404,714	0.03%	Low	0.01	1.80	20.19
HC27-PHC	Diagnosis of TB, including assessment of rifampicin resistance using rapid molecular diagnostics (UltraXpert), and initiation of first-line treatment per current WHO guidelines for drug-susceptible TB; referral for confirmation, further assessment of drug resistance, and treatment of drug-resistant TB	Infectious Disease Cluster	11	24	865.45	38,658,963	0.51%	Medium	0.17	28.95	92.76
HC28-COM	Screening for HIV in all individuals with a diagnosis of active TB; if HIV infection is present, start (or refer for) ARV treatment and HIV care	Infectious Disease Cluster	5	4	136.49	204,654	0.00%	Low	0.00	0.15	2.46
HC30-PHC	Evaluation and management of fever in clinically stable individuals using WHO IMAI guidelines, with referral of unstable individuals to first-level hospital care	Infectious Disease Cluster	81	1,082	16,396.85	12,405,679	0.16%	Low	0.06	9.29	4.20
HC32-PHC	Provision of insecticide-treated nets to children and pregnant women attending Health Centre	Infectious Disease Cluster	40	286	317.41	10,311,022	0.14%	Low	0.05	7.72	8.58
HC33-PHC	Identify and refer to higher levels of health care patients with signs of progressive illness	Infectious Disease Cluster	67	1,082	317.41	4,319,630	0.06%	Low	0.02	3.23	4.90
HC36-PHC	Long-term combination therapy for persons with multiple CVD risk factors, including screening for CVD in community settings using non-lab-based tools to assess overall CVD risk	NCD & IPC	84	1,082	5,457.87	5,887,615	0.07%	Low	0.03	4.41	9.93
HC37-PHC	Low-dose inhaled corticosteroids and bronchodilators for asthma and for selected patients with COPD	NCD & IPC	111	25,180	1,028.46	21,005,045	0.31%	Low	0.09	15.73	2.54
HC38-PHC	Provision of aspirin for all cases of suspected acute myocardial infarction	NCD & IPC	49	443	2,415.37	477,948	0.01%	Low	0.00	0.36	0.89
HC39a-PHC	Screening of albuminuria kidney disease including targeted screening among people with diabetes	NCD & IPC	107	8,737	624.27	11,246,414	0.15%	Low	0.05	8.42	10.06

HC41-PHC	Secondary prophylaxis with penicillin for rheumatic fever or established rheumatic heart disease	NCD & IPC	85	1,082	132.83	840,387	0.01%	Low	0.00	0.63	2.98
HC42-PHC	Treatment of acute pharyngitis in children to prevent rheumatic fever	NCD & IPC	9	22	132.83	1,602,323	0.02%	Low	0.01	1.20	4.87
HC45-PHC	Opportunistic screening for hypertension for all adults and initiation of treatment among individuals with severe hypertension and/or multiple risk factors	NCD & IPC	54	571	4,967.63	40,740,352	0.54%	Medium	0.18	30.51	21.85
HC50-PHC	Management of depression and anxiety disorders with psychological and generic antidepressant therapy	NCD & IPC	105	6,559	735.26	36,974,544	0.48%	Low	0.17	27.69	32.58
HC56-PHC	Targeted screening for congenital hearing loss in high-risk children using otoacoustic emissions testing	NCD & IPC	94	1,857	275.52	906,113	0.01%	Low	0.00	0.68	14.01
HC57a-PHC	Dental extraction (PHC)	Health Services	59	1,000	83.28	92,790,726	1.23%	High	0.42	69.49	19.37
HC57b-FLH	Dental extraction (FLH)	Health Services	74	1,082	83.28	80,079,483	1.06%	High	0.36	59.97	22.29
HC58a-PHC	Drainage of dental abscess (PHC)	Health Services	98	2,543	16.57	34,877,338	0.46%	Low	0.16	26.12	14.56
HC59-PHC	Drainage of superficial abscess	Health Services	96	2,144	16.45	34,388,923	0.46%	Low	0.15	25.75	16.03
HC60-PHC	Management of non-displaced fractures	Health Services	83	1,082	3,683.13	5,791,518	0.08%	Low	0.03	4.34	13.47
HC61-PHC	Resuscitation with basic life support measures	Health Services	116	1,082	3,438.00	141,643	0.00%	Low	0.00	0.11	1.65
HC62-PHC	Suturing laceration	Health Services	66	1,082	3,683.13	4,871,371	0.06%	Low	0.02	3.65	2.83
HC63a-PHC	Treatment of caries	Health Services	106	6,643	16.57	60,788,300	0.81%	Medium	0.27	45.52	25.38
HC64-PHC	Basic management of musculoskeletal and neurological injuries and disorders, such as prescription of simple exercises and sling or cast provision	Health Services	109	10,833	4,884.43	21,724,528	0.28%	Low	0.10	16.27	8.77
HC68-PHC	Health centre pathology services – **Cost included in relevant interventions**	Health Services	75	1,082	317.41	316,032,586	4.19%	High	1.42	236.67	22.14
FLH1-FLH	Detection and management of foetal growth restriction	RMNCH	72	1,082	1,600.34	450,318,604	5.96%	High	2.02	337.24	514.33
FLH3-FLH	Jaundice management with phototherapy	RMNCH	80	1,082	439.05	4,458,454	0.06%	Low	0.02	3.34	101.28

FLH4-FLH	Management of eclampsia with magnesium sulphate, including initial stabilization at Health Centre	RMNCH	26	147	200.70	40,770,626	0.54%	Medium	0.18	30.53	170.87
FLH5-FLH	Management of maternal sepsis, including early detection at Health Centre	RMNCH	90	1,343	27.53	46,067,773	13.02%	High	0.21	34.50	225.04
FLH6-FLH	Management of new-born complications infections, meningitis, septicaemia, pneumonia and other very serious infections requiring continuous supportive care (such as IV fluids and oxygen)	RMNCH	14	37	438.16	19,735,564	0.26%	Low	0.09	14.78	126.50
FLH7-FLH	Management of preterm labour with corticosteroids, including early detection at Health Centre	RMNCH	112	35,714	2,053.32	384,256,163	4.98%	High	1.72	287.77	252.26
FLH8-FLH	Management of labour and delivery in high risk women, including operative delivery (CEmONC)	RMNCH	102	3,703	8,228.56	257,561,989	3.42%	High	1.16	192.89	570.38
FLH10-FLH	Surgical termination of pregnancy by manual vacuum aspiration and dilation and curettage	RMNCH	65	1,082	60.11	2,421,900	0.03%	Low	0.01	1.81	184.41
FLH11-FLH	Full supportive care for severe childhood infections with danger signs	RMNCH	73	1,082	4,882.03	412,527,270	5.46%	High	1.85	308.94	266.95
FLH12-FLH	Management of severe acute malnutrition associated with serious infection	RMNCH	89	1,229	154.12	194,164,486	2.57%	High	0.87	145.41	240.13
FLH13-FLH	Early detection and treatment of early-stage cervical cancer	RMNCH	53	557	47.18	86,019	0.00%	Low	0.00	0.06	272.68
FLH14-FLH	Insertion and removal of long-lasting contraceptives (IUCDs and Implants)	RMNCH	64	1,082	130.03	503,257	0.01%	Low	0.00	0.38	1.86
FLH15-FLH	Tubal ligation	RMNCH	93	1,643	130.03	71,274,663	0.94%	Medium	0.32	53.38	189.17
FLH16-FLH	Vasectomy	RMNCH	63	1,082	130.03	659,929	0.01%	Low	0.00	0.49	184.96
FLH17-FLH	Referral of cases of treatment failure for drug susceptibility testing; enrolment of those with MDR-TB for treatment per WHO guidelines (either short or long regimen)	Infectious Disease Cluster	43	314	114.41	11,750,124	0.16%	Low	0.05	8.80	597.42
FLH18-FLH	Evaluation and management of fever in clinically unstable individuals using WHO IMAI guidelines, including empiric parenteral antimicrobials and antimalarials and resuscitative measures for septic shock	Infectious Disease Cluster	1	1	16,396.85	12,193,860	0.16%	Low	0.05	9.13	135.02

FLH20-FLH	Management of acute coronary syndromes with aspirin, unfractionated heparin, and generic thrombolytics (when indicated)	NCD & IPC	103	4,593	2,415.37	314,595,982	4.16%	High	1.41	235.60	429.07
FLH22-FLH	Management of acute exacerbations of asthma and COPD using systemic steroids, inhaled beta-agonists, and, if indicated, oral antibiotics and oxygen therapy	NCD & IPC	110	15,714	1,028.46	123,546,297	1.62%	High	0.55	92.52	81.44
FLH23-FLH	Medical management of acute heart failure	NCD & IPC	36	279	161.38	41,163,969	0.55%	Medium	0.18	30.83	620.43
FLH24-FLH	Management of bowel obstruction	NCD & IPC	20	74	169.01	15,570,284	0.21%	Low	0.07	11.66	267.52
FLH30-FLH	Management of intoxication/poisoning syndromes using widely available agents; e.g., activated charcoal, naloxone, bicarbonate, antivenin	NCD & IPC	87	1,082	475.62	403,151	0.01%	Low	0.00	0.30	30.13
FLH31-FLH	Appendectomy	Health Services	95	1,957	54.34	147,959,396	1.96%	High	0.66	110.81	275.31
FLH34-FLH	Colostomy	Health Services	23	86	107.41	2,840,128	0.04%	Low	0.01	2.13	294.82
FLH35-FLH	Escharotomy or fasciotomy	Health Services	35	276	126.29	11,540,565	0.15%	Low	0.05	8.64	308.82
FLH36-FLH	Fracture reduction and placement of external fixator and use of traction for fractures	Health Services	28	157	3,683.13	64,354,438	0.85%	Medium	0.29	48.19	249.46
FLH38-FLH	Hysterectomy for uterine rupture or intractable postpartum haemorrhage	Health Services	16	43	59.62	4,203,149	0.06%	Low	0.02	3.15	327.23
FLH39-FLH	Irrigation and debridement of open fractures	Health Services	47	410	3,683.13	43,348,095	0.58%	Medium	0.19	32.46	378.07
FLH41a-FLH	Management of septic arthritis	Health Services	51	529	369.50	1,076,500	0.01%	Low	0.00	0.81	402.29
FLH41b-FLH	Placement of External Fixation and Use of Traction for Fractures	Health Services	52	529	3,071.11	22,573,467	0.30%	Low	0.10	16.91	343.42
FLH42-FLH	Relief of urinary obstruction by catheterization or suprapubic cystostomy	Health Services	56	729	204.18	246,929,810	3.27%	High	1.11	184.92	221.13
FLH43-FLH	Removal of gallbladder including emergency surgery	Health Services	45	343	69.73	29,636,400	0.39%	Low	0.13	22.19	304.47
FLH44-FLH	Repair of perforations (for example, perforated peptic ulcer, typhoid ileal perforation)	Health Services	7	18	257.11	8,079,525	0.11%	Low	0.04	6.05	384.42
FLH45-FLH	Resuscitation with advanced life support measures, including surgical airway	Health Services	77	1,082	3,438.00	35,768,895	0.47%	Low	0.16	26.79	80.20

FLH48a-FLH	Trauma laparotomy	Health Services	8	20	3,683.13	62,940,922	0.83%	Medium	0.28	47.14	354.17
FLH49-FLH	Trauma-related amputations	Health Services	12	33	3,683.13	23,132,326	0.31%	Low	0.10	17.32	310.39
FLH50-FLH	Tube thoracostomy	Health Services	79	1,082	3,865.43	6,082,301	0.07%	Low	0.03	4.55	84.88
FLH52-FLH	Compression therapy for amputations, burns, and vascular or lymphatic disorders	Health Services	58	800	126.29	2,163,866	0.03%	Low	0.01	1.62	8.69
RH1-FLH	Full supportive care for preterm new-borns	RMNCH	21	83	7,711.69	32,688,553	0.43%	Low	0.15	24.48	38.63
RH14-FLH	Cataract extraction and insertion of intraocular lens	Health Services	97	2,286	100.23	414,807,744	5.50%	High	1.86	310.65	242.94
P5-COM	Systematic identification of individuals with TB symptoms among high-risk groups and linkage to care (“active case finding”)	Infectious Disease Cluster	101	3,571	865.45	68,222,543	0.90%	Medium	0.31	51.09	0.78

Note: Health System cost is included

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