Government of Pakistan
Ministry of National Health Services,
Regulations & Coordination

Universal Health Coverage
Benefit Package of Pakistan

Essential Package of Health Services

with Localized Evidence

DCP3 Disease Control Priorities
economic evaluation for health

World Health Organization

Government of Pakistan
Ministry of National Health Services,
Regulations & Coordination

Universal Health Coverage (UHC) Benefit Package of Pakistan

ESSENTIAL PACKAGE OF HEALTH SERVICES (EPHS)

October 2020

UHC Benefit Package of Pakistan – Essential Package of Health Services

Produced by:
Ministry of National Health Services, Regulations & Coordination;
Provincial/ Area Departments of Health, Punjab, Sindh, KP, Balochistan, Islamabad, GB and AJK; and
Health Planning, System Strengthening & Information Analysis Unit (HPSIU)

Technical Assistance:
DCP3 Secretariat and World Health Organization

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Message from the SAPM/ Federal Minister of State

Dr Faisal Sultan
Special Assistant to Prime Minister/
Federal Minister of State

Universal health coverage is an investment in human capital and a foundational driver of inclusive and sustainable economic growth and development of the country. It is a way to support our people so they can reach their full potential and fulfil their aspirations.

The critical challenge for us is to achieve universal health coverage by ensuring provision of preventive, promotive and curative essential healthcare services to all people. Although there are programmes, which are offering free services at the point of service delivery relevant to reproductive, maternal & child health, control of communicable and non-communicable diseases, but the coverage of services is not satisfactory at all, especially through community and Primary Health Care level platforms.

Universal Health Coverage envisages providing high quality services in an equitable and cost-effective manner. Universal Health Coverage will serve as a catalyst of change in provision of equity-based cost-effective health services and create the demand for more investments in health sector. Investing in Universal Health Coverage will build more inclusive and resilient societies that will ensure protection and promotion of physical and mental well-being for all.

Ministry of National Health Services Regulation & Coordination with the support of the provincial/area Departments of Health has achieved an important milestone of developing Universal Health Coverage - Benefit Package of Pakistan/ Essential Package of Health Services. The development of this package and subsequent implementation will become the cornerstone of health reforms across Pakistan.

This work is just the beginning of the reform process and we have to move forward towards the implementation of Universal Health Coverage - Benefit Package in a more coordinated and effective manner, while developing stronger partnerships.

Messages from the Provincial/ Area Ministers of Health

We, the Ministers of Health endorse the Universal Health Coverage Benefit Package of Pakistan / Essential Package of Health Services. We believe that Universal Health Coverage will set the path towards achieving the Sustainable Development Goals in Pakistan and foster equity across the sector. Transparency and mutual accountability are vital for ensuring equity, efficiency and cost effectiveness in provision of quality essential health services to ALL.

'Universal Health Coverage being the outcome and driver of progress, is at the centre of all efforts for developing our nation. Prioritizing investments in essential health services will bear dividends that will help in taking the country and province forward. Universal Health Coverage is the most powerful approach that will ensure health for all in an equitable and cost-effective manner'

Dr Yasmin Rashid
Minister of Health, Punjab

Dr. Azra Pechuho
Minister of Health, Sindh

'Health is a human right and quality essential health services should be available to everyone, every time, with a special focus on equity for the most vulnerable in society. Universal Health Coverage through evidence-based cost effective and equitable essential health interventions lays the foundation of a responsible health care system for ALL'

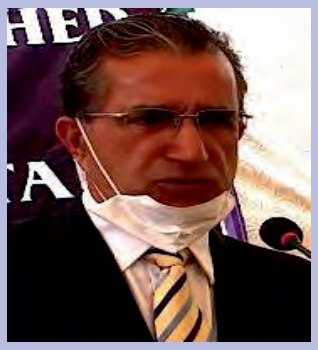
'Universal Health Coverage envisions health for all, including access to quality essential health services, provision of effective, quality and affordable essential medicines, commodities and vaccines both through public and private health sector. Investments in provision of essential health services underpin the reforms that the health care system in Pakistan has been seeking. Universal Health Coverage Benefit Package provides the opportunity of reforming our health care system'

Taimoor Khan Jhagra
Minister of Health, Khyber Pakhtunkhwa

'Universal Health Coverage of the essential health services is the need of the hour for Balochistan. Balochistan has had a compromised health service delivery system due to low population density and difficult terrain. Investing in health and reaching out to each and every member of our society is a responsibility that we feel very strongly about and we would ensure all the efforts to take forward the cause of health of our people'

Dr. Rubaba Buledi
Parliamentary Secretary of Health, Balochistan

'Universal Health Coverage Benefit Package underpinned by evidence is critical for Gilgit-Baltistan considering its difficult terrain and challenges of the health system. In the wake of scarce resources, setting up priorities based on evidence gives an opportunity to improve the efficiency of the health system and have a larger impact on health with the available resources. The people of Gilgit Baltistan look forward to having quality, cost effective and equitable essential health services'



Dr. Imam Yar Baig
Minister of Health, Gilgit-Baltistan

'Achieving Universal Health Coverage is one of the key targets, we are committed to in order to ensure progress in Azad Jammu & Kashmir. The availability, accessibility, and capacity of health workers to deliver quality essential health services are drivers that improve health service coverage and health outcomes. Investments in quality primary health care are the cornerstone to achieving Universal Health Coverage. A high literacy rate and awareness among the AJK population presents an excellent opportunity of reaping high health dividends from Universal Health Coverage'

Dr. Najeeb Naqi
Minister of Health, Azad Jammu & Kashmir

FOREWORD

Aamir Ashraf Khawaja
Secretary (NHSR&C)

Pakistan has made some positive strides in economic and social development and in the health of its people – but not all citizens have been able to benefit from this progress. The country lags far behind in its health outcomes as a result of a weak health system overwhelmed by a number of parallel and fragmented systems, health care structures and serious crises of health workforce.

Poor access to essential health services and health equity are the major challenges in the health sector of Pakistan. Serious and unusual disease events are on the rise and inevitable. Emergence and re-emergence of health emergencies and epidemics with increased pace and population needs has a very high impact on health, economy and security. The COVID19 pandemic is the recent example which placed ever more lives at risk.

Improved health outcome in Pakistan is measured through progress on achieving Universal Health Coverage (UHC) index which is unfortunately among the lowest. A progressive approach towards UHC requires improved availability and coverage of essential health services both through the public and private health sectors. I am glad to see that evidence of global best practices to achieve UHC has been localized and using the same, UHC Benefit Package of Pakistan/ Essential Package of Health Services has been finalized.

Now it is a call for all the relevant public and private stakeholders, academia, civil society organizations, United Nations agencies and Development partners to join hands to extend their full support in the implementation of this benefit package in all parts of the country.

I appreciate the support of the DCP3 secretariat and WHO to the production of this package. I am also thankful to all members of the UHC Steering Committee, International Advisory Group, National Advisory Committee and different Technical Working Groups for their contributions and inputs. I appreciate the leadership role of Dr Malik Mohammad Safi, Director General (Health)/ Chair of National Advisory Committee for effectively coordinating this reform initiative.

However, the task is not over yet and we have to urgently move towards the implementation of UHC benefit package so that quality essential health services are accessible to all people in Pakistan, in a cost-effective way.

ACKNOWLEDGEMENT

Dr. Malik Muhammad Safi
Director General (Health)

The Government of Pakistan, with the ratification of the 2030's Sustainable Development Agenda, expressed its clear resolve and commitment to improve the health of all people by achieving Universal Health Coverage (UHC). Disease Control Priorities – Edition 3 (DCP3) defines a model concept of essential health services to ensure better health outcomes and achieving UHC. In the Inter-Ministerial Health & Population Council meeting (2018), it was decided to adopt the concept and produce the UHC Benefit Package of Pakistan.

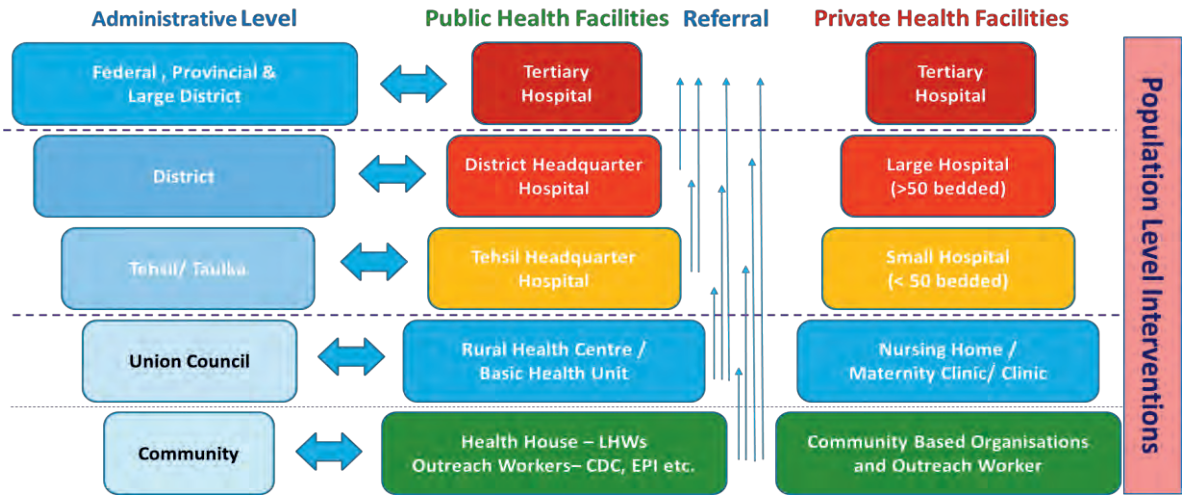
I am grateful to Dr Faisal Sultan, Special Assistant to Prime Minister/ Federal Minister of State, Dr Nausheen Hamid, Parliamentary Secretary of Health, All Provincial/ Area Ministers of Health and Mr Aamir Ashraf Khawaja, Secretary NHSR&C in providing the leadership and guidance.

My gratitude is due to the Disease Control Priorities -3 secretariat and more specifically Professor Ala Alwan and Professor Anna Vassall for their valuable guidance and support. I am grateful to Dr Mahipala Palitha, Head of Office, WHO Pakistan, Dr Sameen Siddiqui, Chair, Department of Community Health Sciences-Aga Khan University, Dr Asad Hafeez, Vice Chancellor Health Services Academy, Dr Zafar Mirza, WHO Advisor on UHC and Dr Raza Zaidi, Health System Specialist in providing all support to successfully complete the review, ensure inclusive consultative process and produce the UHC benefit package of Pakistan.

I am thankful to all Directors General Health Services and their technical staff, the team at the Health Planning, System Strengthening & Information Analysis Unit / Ministry of NHSR&C, Department of Community Health Sciences - Aga Khan University, Health Services Academy, University of Radboud who worked tirelessly to generate localized evidence and facilitating dialogue with the Government officials, academia, experts, civil society organizations, private sector and development partners in defining and agreeing on the UHC Benefit Package of Pakistan/ Essential Package of Health Services.

Many more individuals and organizations gave their valuable time and suggestions to create this document and I am thankful to all of them.

In the end, I call upon all stakeholders for the implementation of this benefit package and achievement of targets.


Administrative Level
Public Health Facilities
Referral
Private Health Facilities
Federal , Provincial & Large District
Tertiary Hospital
Tertiary Hospital
District
District Headquarter Hospital
Large Hospital (>50 bedded)
Tehsil/ Taulka
Tehsil Headquarter Hospital
Small Hospital (< 50 bedded)
Union Council
Rural Health Centre / Basic Health Unit
Nursing Home / Maternity Clinic/ Clinic
Community
Health House – LHWs Outreach Workers– CDC, EPI etc.
Community Based Organisations and Outreach Worker
Population Level Interventions

Universal Health Coverage Benefit Package of Pakistan Essential Package of Health Services

In 2015, the Sustainable Development Goals (SDGs) were endorsed by the United Nations as an integrated global agenda to chart a new era for development and poverty reduction during the period 2015-2030. In this agenda, Universal Health Coverage (UHC) became one of the key targets under the SDG3 (health goal). The **three dimensions of UHC** are: i) which services are covered and which need to be included; ii) covered population and extension to non-covered; iii) ensuring financial risk protection.

The 12th Five Year Plan (health chapter), National Health Vision and National Action Plan (2019-23) are underpinned by the idea to ensure provision of good quality essential health care services to all the people of Pakistan through a resilient and equitable health care system. National Health Vision for Pakistan provides a well thought strategic framework for implementation of good governance parameters that can positively influence the achievement of health-related SDGs and UHC targets within Pakistan.

To transform the National Health Vision into reality, one of the key actions was to develop a UHC Benefit Package for Pakistan. '**UHC Benefit Package of Pakistan'** consists of i) Essential Package of Health Services (EPHS) at five platforms and ii) Inter-sectoral Interventions/ policies.

Pakistan is one of the first countries in the world to use the global review of evidence by Disease Control Priorities (DCP3) to inform the definition of its UHC benefit package. The DCP3 aimed to provide an up-to-date and comprehensive review of the efficacy, effectiveness, and cost-effectiveness of global best practices with the goal of influencing programme design and resource allocation to achieve UHC. With support of the DCP3 secretariat based at the London School of Hygiene & Tropical Medicine (LSHTM), global evidence was reviewed and adjusted to the needs of Pakistan to inform the prioritization of health interventions at five platforms for inclusion in the EPHS.

Designing of the EPHS for Pakistan considered the burden of disease, budget impact, efficiency, feasibility, fairness and socio-economic context. The aim is to define which services are to be covered by government funding through **five different platforms** (both through public and private sector) for ALL in Pakistan:

i) Community level
ii) Primary healthcare centre level
iii) First level hospital
iv) Tertiary hospital
v) Population level

Interventions at community, PHC centre and First level hospital are clubbed as the **District EPHS**. In addition, interventions related to health system strengthening and inter-sectoral policies also play an important role in moving towards UHC.

Evidence was gathered on burden of disease in Pakistan, unit cost and cost-effectiveness of each intervention, budget impact, feasibility, financial risk protection, equity and social context of Pakistan. In addition to economic evaluation, EPHS interventions incorporate evidence on intervention quality and uptake, along with non-health outcomes such as equity and financial protection.

This localized evidence was used to organise priority services into **four clusters**.

a) Reproductive, maternal, new-born, child, adolescent health & nutrition/ Life course related cluster

b) Infectious diseases cluster

c) Non-communicable diseases & Injury prevention cluster

d) Health services cluster

This evidence was intensely reviewed by the technical experts and stakeholders, followed by critical review at the International Advisory Group (IAG) and National Advisory Committee (NAC) level to select those health interventions that should be provided in the pathway to UHC, given the best estimates of the funding available to the government, partners and private sector.

Background

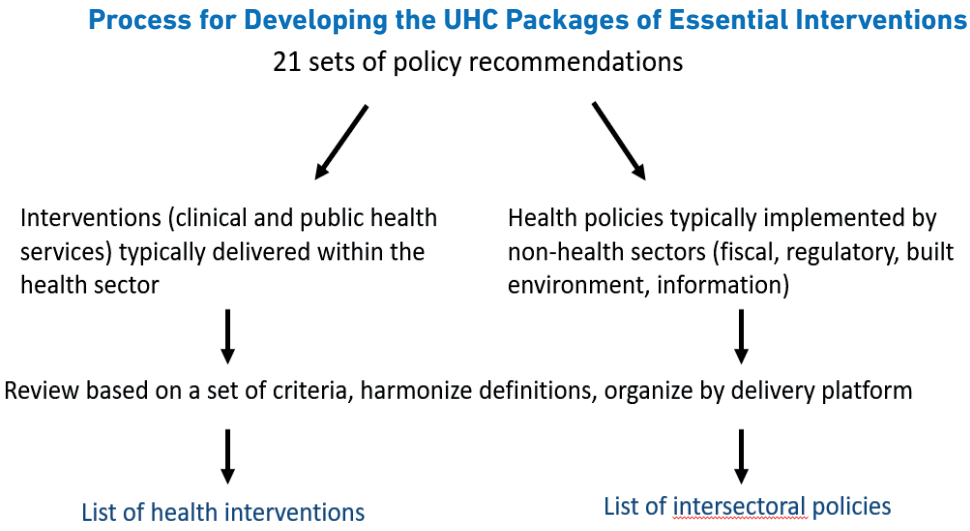
In 1993, the World Bank published its World Development Report focusing on 'Disease Control Priorities in Developing Countries' (DCP1) with the objective of systematically assessing value for money of interventions addressing the major causes of disease burden to support decision making on resource allocations particularly in resource constrained settings. In 2006, the second edition (DCP2) was released highlighting cost-effective interventions based on evidence review and health systems analysis and providing policy recommendations.

The third edition (DCP3) aimed to provide an up-to-date and comprehensive review of the efficacy, effectiveness, and cost-effectiveness of priority health interventions with the goal of influencing program design and resource allocation at global and country levels. In addition to economic evaluation DCP3 incorporates evidence on intervention quality and uptake, along with non-health outcomes such as equity and financial protection. What makes DCP3 unique is the focus on UHC.

DCP3 presents its findings in nine individual volumes addressed to specific audiences. The first eight volumes are structured around packages of conceptually related interventions, while the ninth specifically focuses on UHC and provides an overview with main findings and conclusions.

To prioritize health interventions particularly in the context of limited resources, the DCP3 project[1], which was hosted at the University of Washington developed a structured process for systematic appraisals of existing evidence, new economic analyses and expert judgement on health services to develop 21 sets of conceptually related policy recommendations covering a comprehensive list of health priorities published in nine volumes. The UHC packages were developed in 2017 by another process that reviewed the key policy recommendations in the 21 areas through a set of criteria covering disease burden, evidence of impact, cost-effectiveness, financial risk protection, equity and feasibility of implementation. In parallel, a set of intersectoral policies were also identified.

[1]http://dcp-3.org/about-project



The Packages include the essential UHC package (EUHC) of 218 health interventions, grouped into five health care delivery platforms to serve as a guide and a starting point for country specific analysis and the development of health benefit packages in lower-middle income countries.

The five health delivery platforms are population-based health interventions, community services, health centre, first level hospital, and referral and specialized hospitals. A subset of EUHC, consisting of 108 health service interventions, represents the high-priority package (HPP) for early implementation in low-income countries (LMIC) where the fiscal space for health is too limited to cover the entire EUHC package[2].

Consistent with the concept and definition of UHC, preventive and health promotion services that are implemented in partnership with sectors other than health are an integral part of improved health coverage[3]. Therefore, the second package developed covers a similar concept for 71 intersectoral policies of which 29 are core priorities for early implementation. These policies (covering fiscal, regulatory, infrastructure, and information measures) are key to health promotion and disease prevention and aim to reduce common behavioral and environmental risk factors.

The DCP3 findings in its 9 volumes and the UHC packages aim to support countries in their efforts to achieve full access to essential health care. DCP3 packages can be adapted to reflect local disease burden, health care needs, national financing structures and local evidence on costs.

With support from the Bill & Melinda Gates Foundation the country translation phase was initiated in 2018 and hosted at the London School of Hygiene and Tropical Medicine (LSHTM) with the aim of offering comprehensive technical support to 2-3 countries in priority setting and development of national and subnational UHC benefit packages. Another objective of this phase was to improve global evidence, best practices and resources by contributing to technical guidance needed by other LMICs. Generating or revising the health benefit package is a process that must be country owned and executed and will be dynamically evolving and updated. This phase therefore also involves capacity building including putting in place capabilities and institutions equipped to respond to policy changes beyond the duration of the country project.

[2]Jamison, Alwan, Mock et al. Universal health coverage: key messages from Disease Control priorities, 3rd Edition, Lancet, 2017
[3] https://www.who.int/health_financing/universal_coverage_definition/en/

Pakistan as the first country to develop UHC Benefit Package

The Government of Pakistan (GOP) is committed to UHC and to achieving equitable access to essential health care. This commitment has been clearly stated in the National Health Vision 2016-2025 which aims 'to improve the health of all Pakistanis, particularly women and children by providing universal access to affordable, quality essential health services, delivered through a resilient and responsive health system.[4]

The provision of essential health services is also underscored in the 12th Five-Year Plan (health chapter), and National Action Plan (2019-23). To translate the government commitment into action, the Ministry of National Health Services, Regulations and Coordination (M/o NHSR&C) established a collaboration with the DCP3 Secretariat and the World Health Organization (WHO) on the development of an essential package of health services based on localized evidence and considering the DCP3 recommended interventions.

An international workshop was jointly organized by the Government, DCP3 and WHO in Islamabad in August 2018 with participation of the Minister and high officials of the M/o NHSR&C, Provincial Departments of Health (DOH), UN agencies and other partners. Participants were sensitized on the concept and evidence described in the nine DCP3 volumes and model packages.

Soon after, the Inter-Ministerial Health & Population Forum, held on 14 September 2018, decided to endorse the DCP3 recommendations for the purpose of developing a national UHC - EPHS. A formal request was subsequently submitted to the DCP3 Secretariat to select Pakistan as the first country adapting DCP3 evidence to develop the UHC benefit package of Pakistan/ EPHS.

A roadmap for the development of UHC benefit package for Pakistan was developed following a joint WHO and DCP3 mission in January 2019. Around the same time, the M/o NHSR&C initiated a process to review already existing essential health services in Pakistan[5].

Four workshops were organized between December 2019 and February 2020, in collaboration with WHO, covering communicable diseases, non-communicable diseases (NCDs) and injuries, reproductive, maternal, neonatal and child health (RMNCH) and health services. Preliminary prioritization was conducted based on four criteria: disease burden, evidence, cost-effectiveness, and feasibility of implementation.

Pakistan is an LMIC and the review therefore focused on the availability of the DCP3 EUHC interventions. Overall, 135 (62%) of the 218 EUHC interventions are available in health facilities although most of these interventions are not universally accessible in the country. Major gaps in services were observed at community and PHC centre level. Following table shows the availability of interventions according to the four clusters mentioned above. Only 42, less than one fifth of the 218 EUHC interventions, are generally available. Most of the generally available health services are in the RMNCH and communicable diseases areas.

[4]https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/pakistan/national_health_vision_2016-25_30-08-2016.pdf

[5]Ministry of National Health Services, Regulations and Coordination. HPSIU. Review of essential health services in Pakistan based on Disease Control Priorities 3. April, 2019. Available at: http://www.nhsrc.gov.pk/

Status of Availability of EUHC Health Interventions (2018-19)

Cluster	EUHC interventions	Overall availability	Generally available	Limited accessibility
RMNCH	67	50 (75%)	**22 (33%)**	28 (42%)
Communicable Diseases	52	32 (61%)	**10 (19%)**	22 (42%)
NCDs & injuries	45	16 (35%)	**6 (13%)**	10 (22%)
Health Services	54	37 (67%)	**4 (7%)**	33 (60%)
Total	218	135 (62%)	**42 (19%)**	93 (43%)

Following the completion of the review of existing health services the DCP3 UHC project was formally established in July 2019 with a partnership between the Health Planning, System Strengthening and Information Analysis Unit (HPSIU) of the M/o NHSR&C, Health Services Academy (HSA), Department of Community Health Sciences of Aga Khan University (AKU), World Health Organization and the DCP3 Secretariat.

Aims, principles and steps for developing the EPHS in Pakistan

The UHC Essential Package of Health Services is a policy framework for strategic service provision based on scientific evidence on health interventions. The **purpose** is to ensure that all people have access to essential health services (including prevention, promotion, treatment, rehabilitation and palliation) particularly in the context of limited resources. It **aims** to address current poor access to health and inequalities in health service provision. It also helps to establish and clarify health priorities and direct resource allocation accordingly.

The **guiding principles** adopted for the development process of the 'UHC benefit package of Pakistan' included the following:

- Setting of the package is country executed and owned with active engagement of policy makers and other national stakeholders
- The package should enhance equity and improve access for vulnerable segments of the population
- Strong commitment and joint work of key stakeholders in government and national stakeholders is essential for success
- The process should be open and transparent in all steps with clearly defined criteria, driven by evidence and a systematic approach of country collaboration from data to dialogue and decisions
- Partnership with other stakeholders including UN agencies and development partners is a critical component of joint work
- Feasibility and affordability of implementation is key. Unrealistically aspirational packages with inadequate financial resources or health system capacity is a recipe for failure
- The package developed should be linked to robust financing mechanisms and effective service delivery system

The steps for setting the UHC benefit package of Pakistan were discussed with stakeholders taking into account the principles mentioned above. Box 1 summarizes the **key steps**.

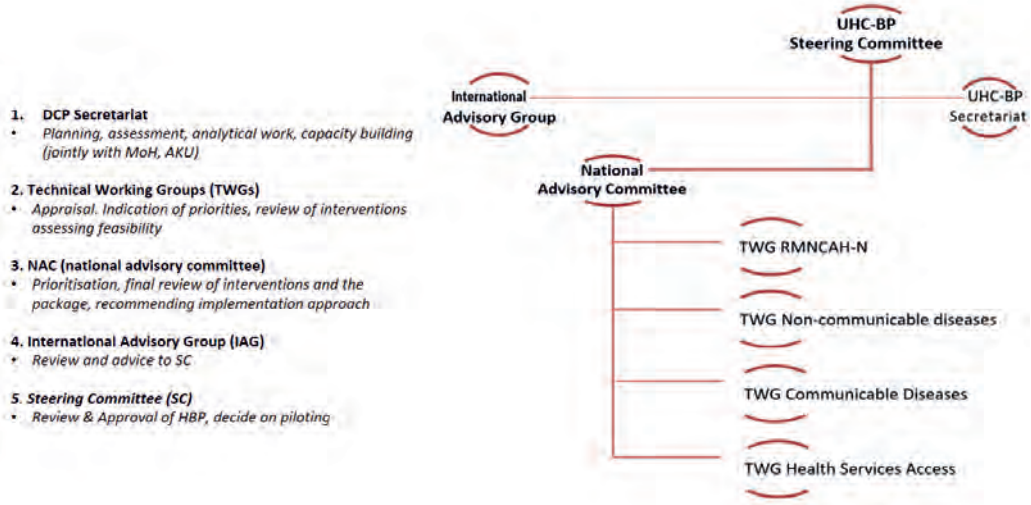
Box 1: Key steps for setting the Essential Package of Health Services
Assess disease burden, health challenges, priorities, health system capacity including financing
Establish a governance structure for dialogue and evidence-based deliberation on priorities
Agree on goals and criteria for setting priorities and selecting services / interventions
Implement evidence-based priority setting process to decide what to include and what to exclude
Conduct detailed costing of the package by interventions and delivery platforms based on current and planned coverage levels target
Assess health system capacity to identify actions to implement the package
Assess the budget impact of the package and translate decisions to resource allocation and use
Establish a monitoring and evaluation framework to assess performance and outcomes
Adapt and pilot the package at the district level
Review periodically based on new evidence, health system capacity and available fiscal space

The governance and advisory structure agreed by the UHC benefit package Steering Committee is shown in the figure below. A core team supports the advisory and decision-making process consisting of the HPSIU of the Ministry, HSA, and the Department of Community Health Sciences, AKU with backup technical support from the Secretariat of the DCP3 Country Translation Project at the LSHTM, the World Health Organization, UNICEF and the Radboud University Medical Centre.

Multiple technical working groups (TWGs) with membership representing the different public & private healthcare, health system, academic and clinical professions and other institutions in Pakistan. The TWGs report to the NAC chaired by the Director General (Health) at the M/o NHSR&C.

The NAC reports to the Steering Committee which is chaired by the Minister of Health. The structure also includes an 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.

The governance and advisory structure



This governance arrangement reflects three levels:

- **Political level** for decision making at the ministerial level (UHC-BP Steering Committee and Inter-Ministerial Health & Population Council)
- **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 different TWGs to propose prioritized interventions considering evidence and local context. The membership consisted of wider stakeholders from different constituencies with four groups of subject experts (RMNCH, communicable diseases, NCDs, health services).

There are three connected stages of deliberation around priorities, with results from each stage feeding into the next stage. The first stage involves TWGs for the four clusters. The second stage covers the role of NAC which reviews the combined outcomes of the TWG stage and propose final recommendations, and the third stage is the UHC-BP Steering Committee, chaired by the Federal Minister of Health with the authority to accept or revise NAC recommendations.

The development of the UHC BP - Essential Package of Health Services

The formal process for developing the EPHS started in July 2019 and 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-based deliberation on priorities and services.

Decision criteria for prioritization of interventions were developed with support from an electronic survey involving TWGs and NAC members and conducted by the DCP3 Secretariat, Radboud University and HPSIU. Decision criteria were agreed to guide the TWGs in prioritizing health services and categorizing them into high, medium or low priority. Decision criteria agree on include: health gain per money spent (cost-effectiveness), burden of disease averted, budget impact, feasibility, financial risk protection, equity, and social and economic impact.

The next step was selection of **interventions for scoping** and assessment. Based on an initial scoping review, using three criteria (disease burden, cost-effectiveness and feasibility), it was decided to focus on 169 (77%) out of the 218 EUHC services in initially assessing what to include in the EPHS. None of the services that were currently provided were omitted at this stage.

The HPSIU further defined the selected services 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 the two TWG workshops.

A short 1-2 pager **intervention description** sheet was prepared for each intervention with a flow chart covering the process and the resources needed for implementation including diagnostic and therapeutic measures according to standard protocols and reference documents. The description of intervention included information relevant to delivery platform, process, providers, medicines, supplies, equipment, health information tools, supervision, availability of in-service training curriculum, and reference documents.

Target populations were defined for each intervention using data from the 2017 census, latest national surveys, Institute of Health Metrics and Evaluation (IHME) and published research.

A **normative, ingredients-based costing** was carried out and an economic costing approach was taken. Interventions costed were split across five platforms as defined in DCP3. A bottom-up approach to costing was applied to community, primary healthcare centre and hospital platforms and 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[6]. A semi-automated user-friendly costing template in Microsoft Excel was designed and used throughout the costing process.

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). Further, the ingredients-based approach allowed for greater disaggregation of costs between inputs and activities, which is important for comparisons of '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 the 5 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. For equipment, resources were quantified by the number of minutes used per intervention. Costs were collected in Pakistani rupees and converted to 2019 US dollars.

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 interventions, musculoskeletal interventions and congenital disorders while the lowest mean costs per intervention are for the environmental interventions, pandemic-related interventions and adolescent health

[6] Vassall A et al. Reference Case for Estimating the Costs of Global Health Services and Interventions. 2017.

interventions. The largest cost drivers overall are drug regimens (28% of total costs) and surgery-related costs (25% of total costs).

At the assessment step, the evidence was collated for each intervention based on three criteria: **burden of disease, unit cost, and incremental cost-effectiveness ratio (ICER)**. The evidence base was developed by localizing global evidence to the Pakistani context and by generating Pakistan-specific evidence through the use of the Tufts registry and DCP3 databases on cost-effectiveness, and the **Health Interventions Prioritization tool (Hiptool)**, a digital tool that can be used to analyse and prioritise health services and to visualize the results of specific prioritization choices in terms of disability adjusted life years (DALYs) avoided and budget impact[7]. Optimization of interventions based on – cost effectiveness, DALYs averted, targeted population, budgetary impact was done using the Hiptool. This consequently led to **the Investment Cascade** of Interventions.

The next step taken by the TWGs during the two workshops in November 2019 and February 2020 was to prioritize services into high, medium and low priority categories, and recommending which services should be provided first.

The NAC then considered the TWGs recommendations and recommended EPHS with a priority to District EPHS of high priority services for initial implementation on the country's path to UHC. This step required further prioritization of the final list within the available fiscal space and also considering the recommendations of the experts in the IAG with whom consultation was held on 28 July 2020. The final packages were examined during the second NAC meeting on 15-19 June 2020 and the third NAC meeting on 23 September 2020.

Focus on District EPHS

The EPHS is broadly structured for delivery across five different platforms. The submission to the NAC covered the prioritized interventions and costs of the five delivery platforms (the community and health center platforms already recommended and endorsed by the UHC-BP Steering Committee in November 2019).

Although interventions in all five platforms were prioritized and costed, strengthening the district health system is a major component of health sector reform and a strategic priority in the national health vision and accordingly the district-level part of the package is given the highest priority.

The district health system is a network of health facilities that deliver a comprehensive range of promotive, preventive and curative health care services to a defined population with active participation of the community and under the supervision of the district hospital and district health management team[8]. This submission considers the following three platforms as integral parts of the district health system and the delivery of primary care services.

- Community level
- Primary Healthcare Centre
- First-level hospital

Note that Tertiary hospital platform is not available in all of Pakistan and concentrated mainly in urbanized districts with large population. Similarly, population–based interventions are executed at the national or provincial level and not at the district level.

[7] Health Interventions Prioritization Tool Working Group. http://hiptool.org/
[8] WHO. Health System Strengthening Glossary. https://www.who.int/healtystems/hss_glossary/en/index3.html

An outline of the EPHS

The Essential Package of Health Services has been designed to provide a progressively improving access of essential health care services to the Pakistani population based on the national strategy and the commitment of the government to achieve UHC.

The fiscal space in Pakistan is critically constrained and the health part of the government budget that provides sustainable resources for public purposes is very narrow[9]. Although a minimal increase in health expenditure has been reported in recent years, health expenditure remains low and Pakistan still spends around 1% of GDP and 4% of general government expenditure on health[10]. The total health expenditure per capita is US$ 45 of which public spending on health is around US$ 14[11] (around $7-8 for district level services) which is much lower than the estimated cost of the packages.

The NAC discussed how the full EPHS or part of the EPHS can be implemented at the district health system within the available public spending on health. The aim was to reach consensus on a feasible approach to address the fiscal gap that is consistent with the national vision and health plan. Recognizing that the contents of the EPHS is a dynamic process that will be regularly updated and refined. Provincial localization of the EPHS is also the way forward.

Since public spending on essential health services is central to UHC, the current financial gap called for exploring options to implement the recommended package in a way that is consistent with current fiscal realities but also take into account the potential to adopt approaches for progressive increase in resources and coverage of interventions over the next ten years of the SDG cycle. Phased implementation has therefore been recommended.

Beyond the immediate operationalization of Implementation of District EPHS, the feasibility of the phased implementation over the next ten years will depend on increasing the fiscal space to the level that covers the full package. Options to expand the fiscal space include:

- More efficient use of existing health expenditure which should at least be partly achieved by implementing the EPHS
- Generating new health sector-specific resources through earmarked taxation, sin taxes and other innovative financing approaches
- Development assistance and increased donor and private sector partnerships
- Increased health allocation by reprioritization of government budget

Needless to say, prioritizing the government budget is a very challenging task that requires full engagement of the highest level of government and relevant sectors specially the Planning Commission and the Ministry of Finance. Making the case for a higher level of investment in health requires:

- Conducting an in-depth fiscal space analysis both at national & provincial level and identifying potential sources of additional funding. The World Bank has been actively engaged during the development of the package and there is agreement this task is an urgent next step.
- Advocacy for political support and presenting evidence of efficiency and economic gains. Although the COVID-19 pandemic has demonstrated to policy makers the urgent need for a

[9] WHO. https://www.who.int/health_financing/topics/fiscal-space/why-it-matter/en/
[10] Ministry of Finance. Health and Nutrition. http://finance.gov.pk/survey/chapters_19/11-Health%20and%20Nutrition.pdf
[11] WHO. Global Health Expenditure Database

higher priority given to health, generic arguments alone are not usually effective to increase health allocations.

- Linking revenue raising to a solid investment plan.

A summary of 88 immediate interventions of 117 District EPHS are as follows:

Platform	Number of Interventions	Unit Cost ($)/ person/ year (inclusive of health system cost)	DALYs averted
Community level	19	2.92	6,761,522
PHC Centre level	37	4.40	21,468,038
First Level Hospital	32	5.66	12,134,363
District EPHS	**88**	**12.98**	**40,363,923**

At the community level, majority of interventions are to be implemented through Lady Health Workers (LHWs), which cost US$1.53 to US$2.3/ person/ year depending upon the covered population per LHW (1,500 or 1,000 people respectively). An addition of 13 interventions through special initiatives will cost US$5.15/ person/ year and will avert additional 4,787,101 DALYs.

In addition to District EPHS, unit cost of essential interventions at tertiary hospital (not established in all districts) is $6.29/ person/ year and most of these interventions are already available. Population level interventions are very cost effective with low unit cost and are executed either national or provincial level.

The following sections provide details of interventions and localized evidence in the context of EPHS for Pakistan.

District EPHS Interventions

Platform	All Interventions initially prioritized	Immediate District EPHS	Special Initiative
Community level	28	19	07
Primary Health Centre	43	37	02
First-level Hospital	46	32	04
Grand Total	**117**	**88**	**13**

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 including immediate ART initiation for those testing positives for HIV	Infectious Disease Cluster		✓
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	✓	

PRIORITIZED INTERVENTIONS AT DISTRICT LEVEL	**101**		
Interventions with Split		**88**	**13**
Interventions without Split		**78**	**13**

Legends:

	District EPHS
	Special Initiatives
	Not an immediate priority

Localised Evidence for All 117 Interventions for District EPHS (2 years coverage targets)

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),	Infectious Disease Cluster	39	286	354.98	5,681,703	0.08%	Low	0.03	4.25	22.65

	transgender populations, and prisoners										
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,	Infectious Disease Cluster	46	386	272.08	585,521	0.01%	Low	0.00	0.44	2.67

	PWID, MSM, household contacts, and persons with multiple sex partners										
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	NCD & IPC	84	1,082	5,457.87	5,887,615	0.07%	Low	0.03	4.41	9.93

	factors, including screening for CVD in community settings using non-lab-based tools to assess overall CVD risk										
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

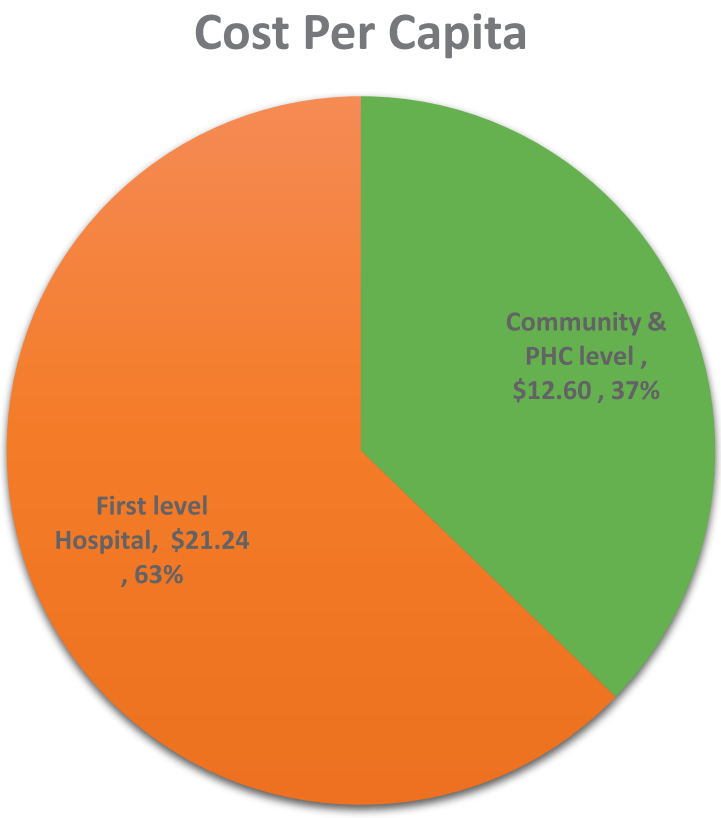
FLH48a-FLH	Trauma laparotomy	Health Services	8	20	3,683.13	62,940,922	0.83%	Medium	0.28	47.14	354.17
FLH49-FLH	Trauma-related amputations	Health Services	12	33	3,683.13	23,132,326	0.31%	Low	0.10	17.32	310.39
FLH50-FLH	Tube thoracostomy	Health Services	79	1,082	3,865.43	6,082,301	0.07%	Low	0.03	4.55	84.88
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

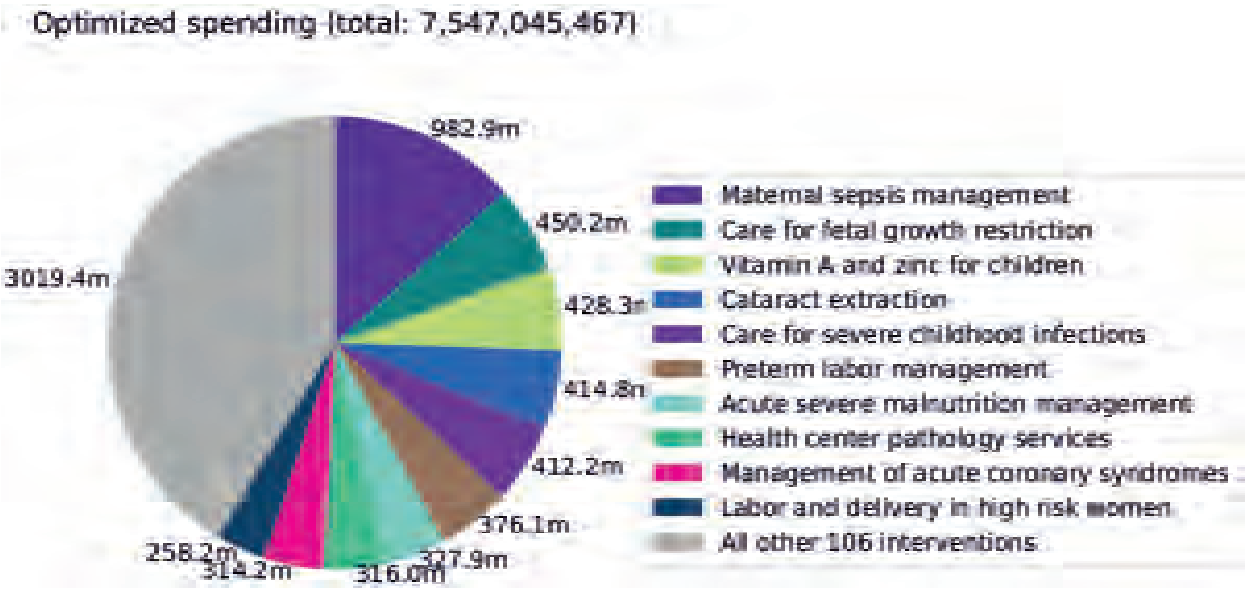
District EPHS Synopsis

Intervention Platform	Current Spending	Optimized spending	Current DALY`s Averted	Optimized DALY`s Averted	Cost Per Capita including Health System Cost
All 3 Levels (117 interventions)	**6,622,464,634**	**7,547,045,467**	**46,735,577**	**47,436,167**	**$33.84**
Community & PHC level (71 interventions)	2,812,820,408	2,810,372,456	29,279,600	29,281,265	**$12.60**
First level Hospital (46 interventions)	3,809,644,226	4,736,673,011	17,455,977	18,154,902	**$21.24**

Note: Health System cost is included

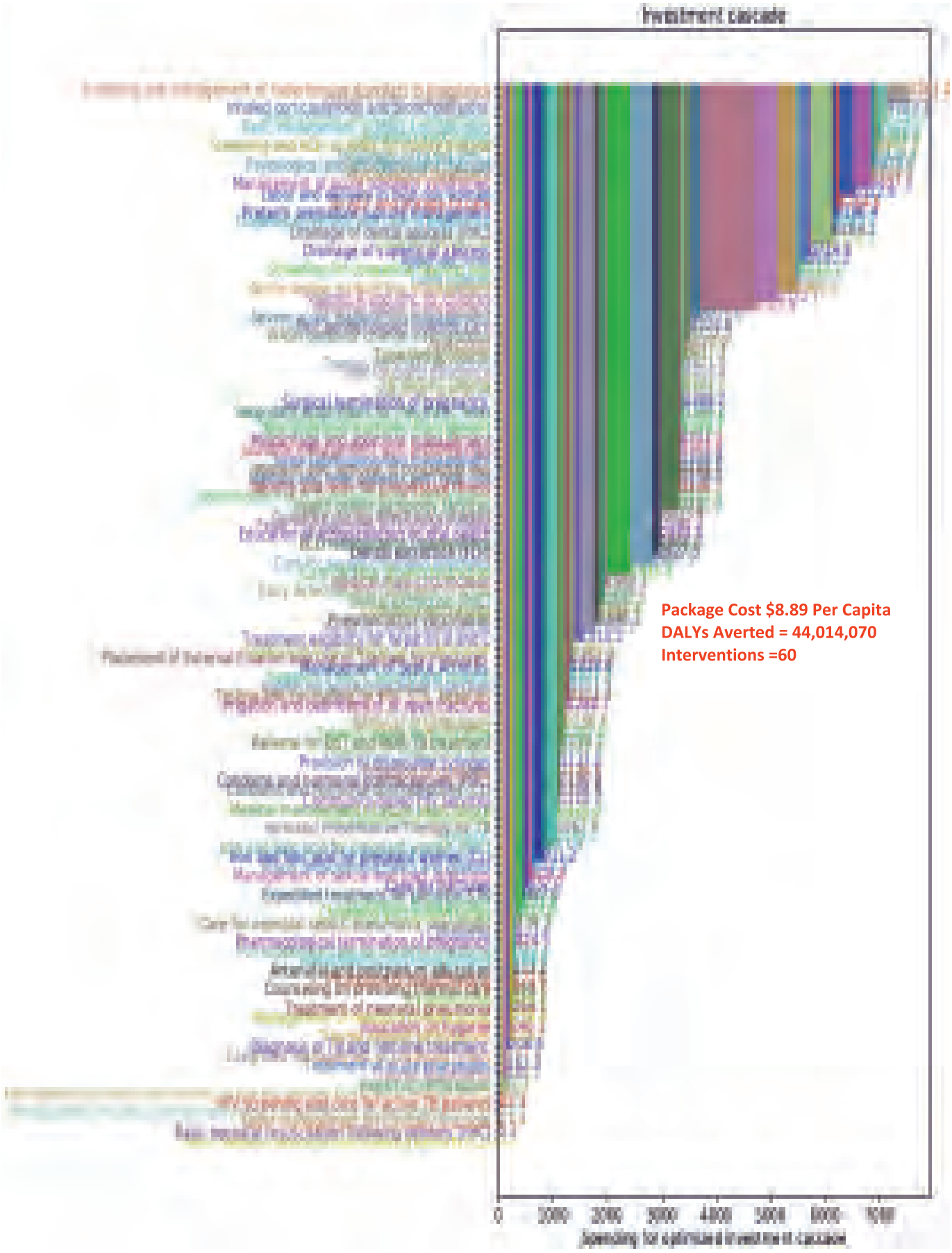


District EPHS Optimization



District EPHS Interventions

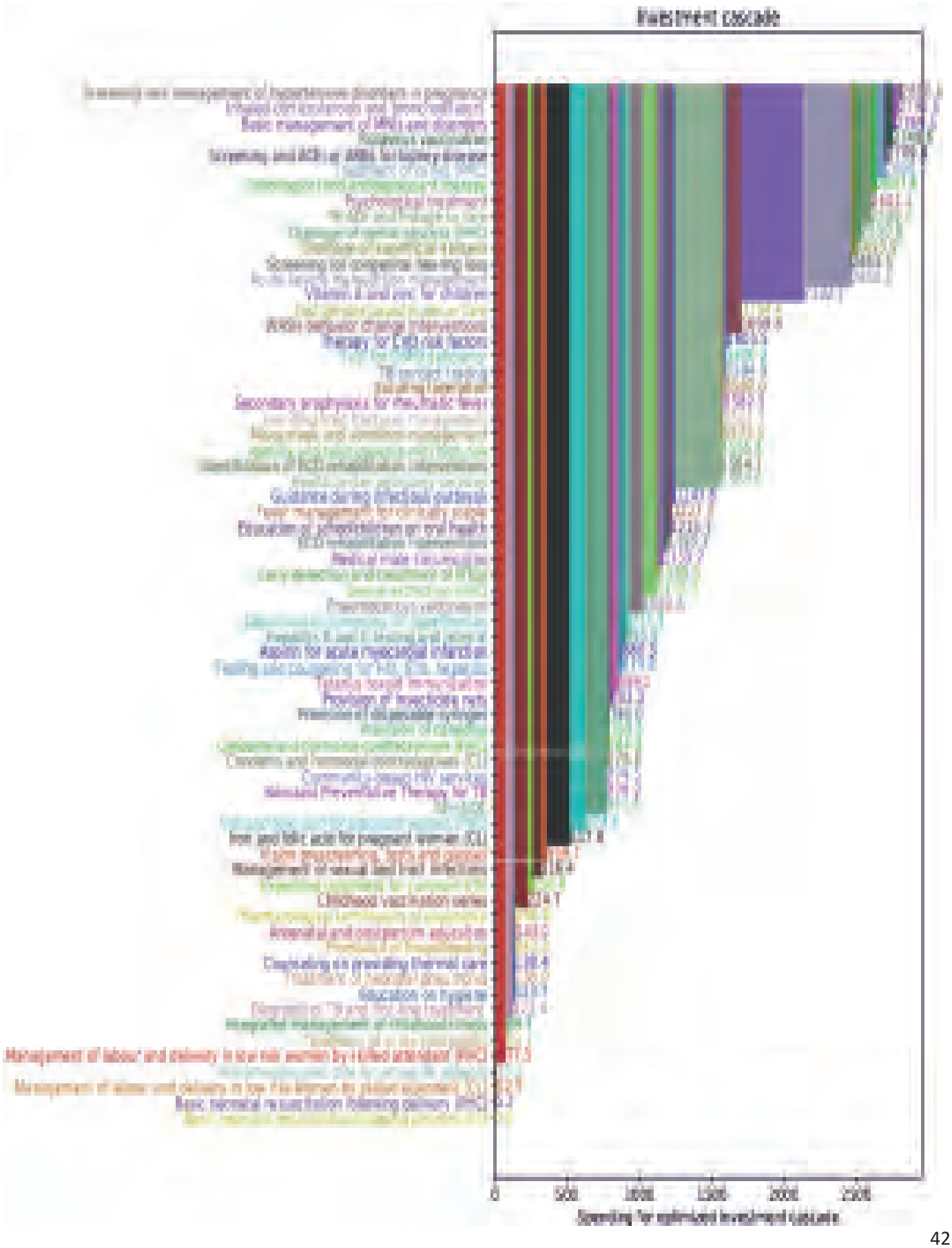
Package Cost $33.84 per Capita
DALYs Averted = 47,436,167
Interventions = 117



Package Cost $8.89 Per Capita
DALYs Averted = 44,014,070
Interventions =60

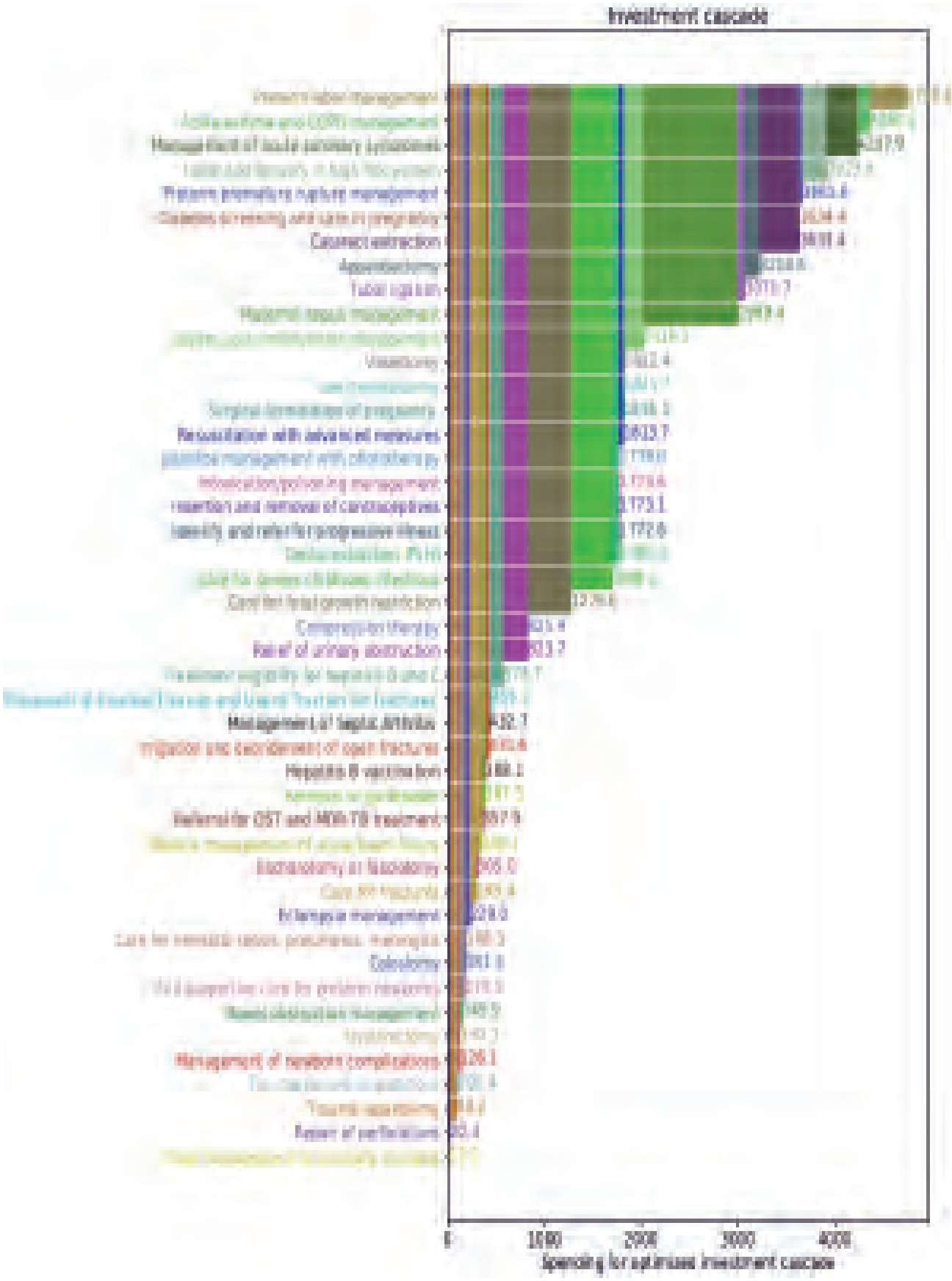
Community and PHC Level Interventions

Package Cost $12.60 per Capita
DALYs Averted = 29,281,265
Interventions = 71



First Level Hospital Interventions

Package Cost $21.24 per Capita
DALYs Averted = 18,154,902
Interventions = 46



List of 22 Prioritized Interventions at Tertiary Level Hospitals

Platform	Interventions
Tertiary level hospital	22
Grand Total	**22**

SR #	Intervention	Platform	DCP 3 Code
1	Calcium and vitamin D supplementation for secondary prevention of osteoporosis	Tertiary level hospital	FLH25
2	Craniotomy for Trauma	Tertiary level hospital	FLH33
3	Hernia Repair Including Emergency Surgery for neonates and infants	Tertiary level hospital	FLH37b
4	Management of osteomyelitis, including surgical debridement for refractory cases	Tertiary level hospital	FLH40
5	Placement of External Fixation and Use of Traction for Fractures of Children	Tertiary level hospital	FLH41c
6	Trauma laparotomy in children	Tertiary level hospital	FLH48b
7	Elective surgical repair of common orthopaedic injuries (for example, meniscal and ligamentous tears) in individuals with severe functional limitation	Tertiary level hospital	RH10
8	Urgent, definitive surgical management of orthopaedic injuries (for example, by open reduction and internal fixation)	Tertiary level hospital	RH11
9	Repair of cleft lip and cleft palate	Tertiary level hospital	RH12
10	Repair of club foot	Tertiary level hospital	RH13
11	Repair of anorectal malformations and Hirschsprung's Disease	Tertiary level hospital	RH15
12	Repair of obstetric fistula	Tertiary level hospital	RH16
13	Insertion of shunt for hydrocephalus	Tertiary level hospital	RH17
14	Surgery for trachomatous trichiasis	Tertiary level hospital	RH18
15	Specialized TB services, including management of MDR- and XDR-TB treatment failure and surgery for TB	Tertiary level hospital	RH2
16	Management of refractory febrile illness including etiologic diagnosis at reference microbiological laboratory	Tertiary level hospital	RH3
17	Management of acute ventilatory failure due to acute exacerbations of asthma and COPD; in COPD use of bilevel positive airway pressure preferred	Tertiary level hospital	RH4
18	Retinopathy screening via telemedicine, followed by treatment using laser photocoagulation	Tertiary level hospital	RH5
19	Use of percutaneous coronary intervention for acute myocardial infarction where resources permit	Tertiary level hospital	RH6
20	Treatment of early stage breast cancer with appropriate multimodal approaches (including generic chemotherapy), with curative intent, for cases that are detected by clinical examination at Health Centre	Tertiary level hospital	RH7
21	Treatment of early stage colorectal cancer with appropriate multimodal approaches (including generic chemotherapy), with curative intent, for cases that are detected by clinical examination at Health Centre	Tertiary level hospital	RH8
22	Treatment of early-stage childhood cancers (such as Burkitt and Hodgkin lymphoma, acute lymphoblastic leukaemia, retinoblastoma, and Wilms tumour) with curative intent in paediatric cancer units or hospitals	Tertiary level hospital	RH9

Localised Evidence for 22 Prioritized Interventions in Tertiary Hospital 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 $
FLH25	Calcium and vitamin D supplementation for secondary prevention of osteoporosis	NCD & IPC	3	2,186	369	559,013,836	40.4%	High	2.5	418.64	236.76
FLH33	Craniotomy for Trauma	Health Services	14	286	691	132,153	0.0%	Low	0.0	0.10	497.65
FLH37b	Hernia Repair Including Emergency Surgery for neonates and infants	Health Services	19	10	26	20,806	0.0%	Low	0.0	0.02	230.43
FLH40	Management of osteomyelitis, including surgical debridement for refractory cases	Health Services	11	799	369	122,030,412	8.8%	High	0.5	91.39	406.99
FLH41c	Management of septic arthritis	Health Services	NA	529	3,071	-	0.0%	Low	-	-	311.08
FLH48b	Trauma laparotomy in children	Health Services	18	20	3,683	82,132	0.0%	Low	0.0	0.06	331.15
RH2	Specialized TB services, including management of MDR- and XDR-TB treatment failure and surgery for TB	Infectious Disease Cluster	7	1,082	865	12,736,018	0.9%	Medium	0.1	9.54	789.13

RH3	Management of refractory febrile illness including etiologic diagnosis at reference microbiological laboratory	Infectious Disease Cluster	8	1,082	16,397	158,227,865	11.4%	High	0.7	118.50	1,077.50
RH4	Management of acute ventilatory failure due to acute exacerbations of asthma and COPD; in COPD use of bilevel positive airway pressure preferred	NCD & IPC	NA	15,714	1,028	-	0.0%	Low	-	-	48.18
RH5	Retinopathy screening via telemedicine, followed by treatment using laser photocoagulation	NCD & IPC	NA	314	972	-	0.0%	Low	-	-	2.75
RH6	Use of percutaneous coronary intervention for acute myocardial infarction where resources permit	NCD & IPC	10	962	2,415	168,931,121	12.2%	High	0.8	126.51	411.42
RH7	Treatment of early stage breast cancer with appropriate multimodal approaches (including generic chemotherapy), with curative intent, for cases that are detected	NCD & IPC	2	9,286	310	147,770,105	10.7%	High	0.7	110.66	2,086.46

	by clinical examination at Health Centre										
RH8	Treatment of early stage colorectal cancer with appropriate multimodal approaches (including generic chemotherapy), with curative intent, for cases that are detected by clinical examination at Health Centre	NCD & IPC	9	1,071	107	3,669,944	0.3%	Low	0.0	2.75	640.73
RH9	Treatment of early-stage childhood cancers (such as Burkitt and Hodgkin lymphoma, acute lymphoblastic leukaemia, retinoblastoma, and Wilms tumour) with curative intent in paediatric cancer units or hospitals	NCD & IPC	4	1,571	598	8,800,015	0.6%	Medium	0.0	6.59	2,364.42
RH10	Elective surgical repair of common orthopaedic injuries (for example, meniscal and ligamentous tears) in individuals with severe functional limitation	NCD & IPC	17	157	3,683	48,399,282	3.5%	High	0.2	36.25	383.83

RH11	Urgent, definitive surgical management of orthopaedic injuries (for example, by open reduction and internal fixation)	NCD & IPC	13	529	3,683	22,574,598	1.6%	High	0.1	16.91	282.40
RH12	Repair of cleft lip and cleft palate	NCD & IPC	1	11,286	7	101,731,537	7.4%	High	0.5	76.19	824.18
RH13	Repair of club foot	NCD & IPC	16	159	77	3,395,814	0.2%	Low	0.0	2.54	152.26
RH15	Repair of anorectal malformations and Hirschsprung's Disease	Health Services	6	1,082	98	5,369,648	0.4%	Low	0.0	4.02	369.21
RH16	Repair of obstetric fistula	Health Services	5	1,082	106	4,416,639	0.3%	Low	0.0	3.31	404.19
RH17	Insertion of shunt for hydrocephalus	Health Services	15	226	67	88,188	0.0%	Low	0.0	0.07	396.54
RH18	Surgery for trachomatous trichiasis	Health Services	12	529	34	15,694,414	1.1%	High	0.1	11.75	218.67

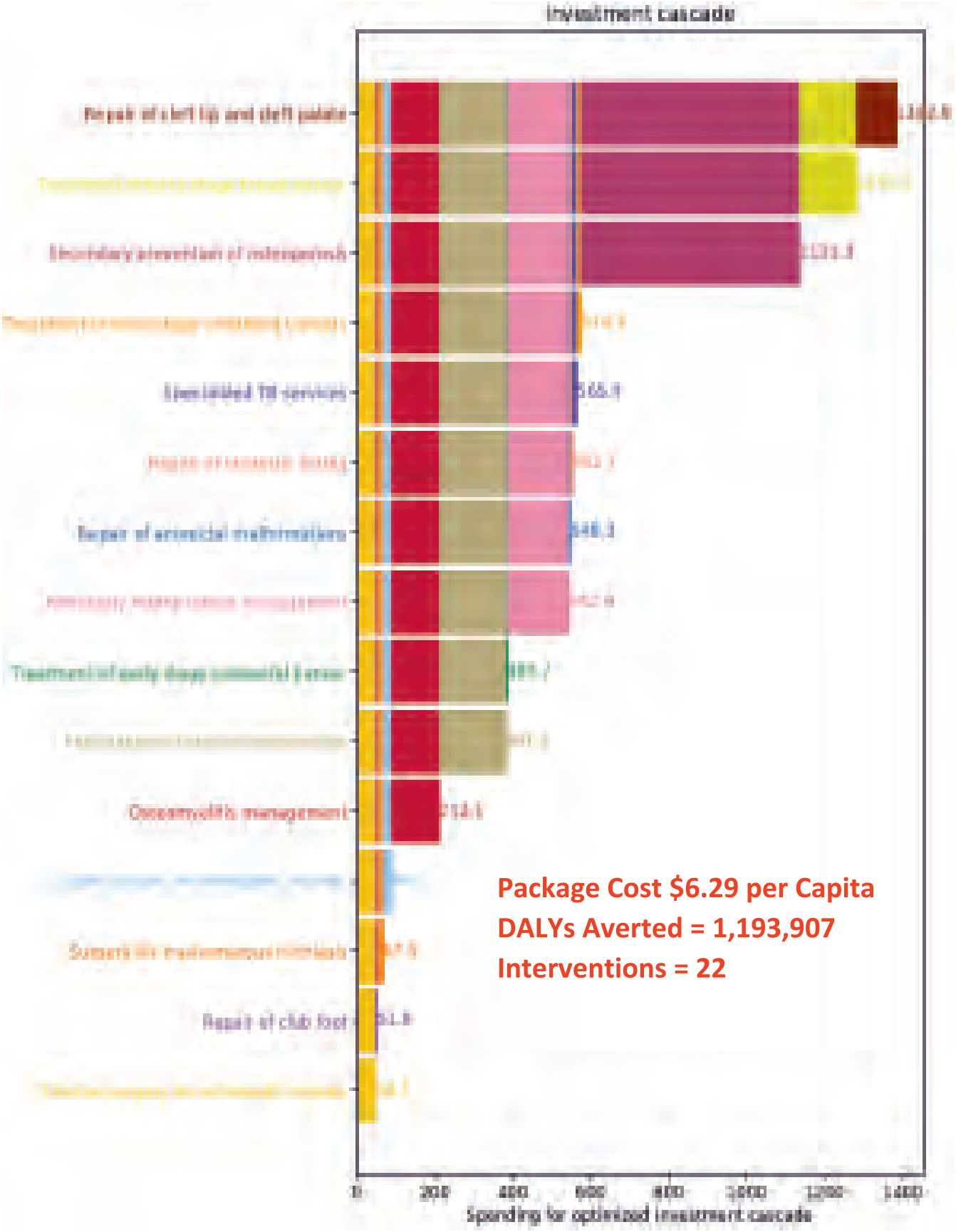
Note: Health System cost is included

Tertiary Hospital Level Prioritized Interventions Synopsis

Intervention Platform	Current Spending	Optimized spending	Current DALY`s Averted	Optimized DALY`s Averted	Cost Per Capita including Health System Cost
Tertiary Hospital	**1,382,298,995**	**1,383,084,528**	**1,192,491**	**1,193,907**	**$6.29**

Note: Health System cost is included

Prioritized Interventions at Tertiary Hospital



List of 12 Prioritized Interventions at Population Level

Platform	Interventions
Population level	12
Grand Total	**12**

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

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