National Action Plan for Health Security (NAPHS)

A SHARED OPPORTUNITY FOR SUSTAINABLE IMPLEMENTATION OF IHR (2005)

Updated Federal Level Costing Plan

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List of Acronyms

ABS	Annual Budgeted Statement
ADP	Annual Development Programme
AGPR	Accountant General Pakistan Revenues
AMR	Antimicrobial Resistance
CDC	Centers for Disease Control and Prevention
COA	Chart of Accounts
CPI	Consumer Price Index
DSRUs	Diseases Surveillance and Response Units
EBS	Event-Based Surveillance
EPI	Expanded Programme on Immunization
FABS	Financial Accounting & Budgeting System
FAO	Food and Agriculture Organization
FATA	Federal Administrative Tribal Areas
FCF	Federal Consolidated Fund
FELTP	Field Epidemiology & Laboratory Training Facility
FP	Focal Persons
FY	Financial Year
GDP	Gross Domestic Product
GFS	Government Finance Statistics
GHSA	Global Health Security Agenda
GLASS	Global Antimicrobial Resistance Surveillance System
HCAI	Healthcare Associated Infection
HSFA	Health Security Financing Assessment
IBS	Indicator Based Surveillance
IDSR	Integrated Disease Surveillance and Response
IFMIS	Integrated Financial Management Information System
IHR	International Health Regulations
IMF	International Monetary Fund
JEE	Joint External Evaluation of the IHR
JSI	John Snow Incorporation
KPK	Khyber Pakhtunkhwa
M/o NHSR&C	Ministry of National Health Services, Regulation & Coordination
NAM	New Accounting Model
NAPHS	National Action Plan for Health Security
NDMA	National Disaster Management Authority Pakistan
NHEPRN	National Health Emergency Preparedness and Response Network
NHPI	National Public Health Institutes
NHSP	National Health Sector Planning
PBSA	Pakistan Biological Safety Association
PC	Planning Commission
PDMA	Provincial Disaster Management Authority Pakistan
PFM	Public Financial Management
PHE	Public Health England

PHIS	Pakistan Health Information System
PHL	Public Health Laboratories
PHLN	Public Health Laboratory Network
PIFRA	Project to Improve Financial Reporting & Auditing
PKR	Pakistani Rupee
POE	Point of Entry
PSDP	Public Sector Development Programme
SNA	System of National Accounts
TECH	Transformation & Excellence Centre for Health
TNA	Training Need Assessment
TWG	Technical Working Group
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children Emergency Fund
USAID	United States Agency for International Development
USD	United States Dollar
WHO	World Health Organization

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Executive summary

The first National Action Plan for Health Security (NAPHS) was approved three and a half years ago, in December 2016[1]. It was developed through an all-inclusive, fully consultative, and participatory approach, with active collaboration between federal and provincial entities. It aimed to address health security, by building international health regulations (IHR, 2005) core capacities across the country, with a focus on timely preparedness, and a consistent and coordinated response in the event of a public health concern.

Since then, many proposed activities under the NAPHS have been completed through domestic resources or jointly with external resources and the support of development partners. Given this, and in an effort to ascertain the progress made so far in achieving the desired level of IHR core capacities, a decision to update the NAPHS was made in early 2020. The revision took place between February and December 2020. The process was led by the Ministry of National Health Services, Regulations, and Coordination (M/o NHSR&C) with financial support from the World Bank.

The original NAPHS costing was a comprehensive activity, with the formation of a technical working group and a formal National Consultative Meeting at the federal level to endorse the One Health and multisectoral approach adopted in the NAPHS methodology. Updating the NAPHS, however, would ensure that costs were rationalized based on current economic indicators, and allow the progress of NAPHS implementation to be assessed. In order to facilitate this process, a tool was calibrated to update the costing, in close collaboration with the M/o NHSR&C.

During the updating process, it was observed that 32% of NAPHS activities have been completed, at an estimated cost of PKR. 1,223 million; approximately PKR. 1,149 million (93.94%) from the Government of Pakistan (GoP) and approximately PKR. 74 million (6.06%) from external financing.

The updated costing is estimated to be Rs. 3,850 million, a reduction of 15% from original NAPHS costing. There were some calculation discrepancies in the original costing, pertained to errors in the application of accounting formulas. During the revision, these discrepancies were removed. In addition, costs were rationalized to account for the impact of current economic indicators (i.e., Inflation, consumer price index, and foreign exchange rate, etc.).

Core capacities that benefited the most from the financing were points of entry (PoE), antimicrobial resistance (AMR), surveillance, and workforce development. A PC1[2] for points of entry has been approved and will strengthen core capacities at PoE. Similarly, the proposed setup in the integrated disease

[1] http://phkh.nhsrc.pk/sites/default/files/2020-12/Pakistan%20National%20Action%20Plan%20for%20Health%20Security%202005.pdf. Accessed: 26/04/2021.

[2] Planning Commission document -1 (PC1) is a "planning tool designed by planning commission of Pakistan for the development and execution of any project of Government of Pakistan. All development expenditures incurred by government of Pakistan are executed through PC1 ." www.pc.gov.pk. Accessed: 26/04/2021.

surveillance and response system (IDSR) approved PC1 will support and enhance Pakistan's surveillance decision-making process.

Notwithstanding progress, the overall implementation of the NAPHS has been slower than expected. Five major themes emerged during the revision process, which shed some light on constraints and challenges faced during NAPHS implementation. These are summarized below.

Firstly, the proposed monitoring and evaluation (M&E) framework to assess the progress of NAPHS was not implemented as envisaged. The updated costing showed that while some M&E activities have been completed, many areas are pending, and require extended commitment from the GoP. These areas include notification of provincial IHR Task Forces, coordination with provincial chief secretaries on the allocation of resources, periodic supervision of NAPHS, and recruitment of necessary human resources. In the absence of these activities, the implementation of NAPHS will continue to be delayed. Resultantly, the country may miss the target of achieving international public health security standards outlined in IHR (2005).

The implementation of NAPHS also requires developing the financial proposal, building an investment case, and drafting a change management strategy. These interventions are needed to channel domestic and donor support, ensure economic and political assistance, and assure the committed engagement of relevant stakeholders. The International Working Group on Financing Preparedness (IWG) states:

"Each national government should develop an investment case, articulating the political and economic arguments for integrating the costed plan into national budget cycles and committing resources to reinforce and sustain preparedness, plus a change management strategy to engage and coordinate relevant stakeholders." [3]

However, such crucial steps were never pursued and as a result, the implementation of NAPHS was sub-optimal.

Second, in the absence of legislation governing the share of public spending on health security, it is being financed mainly by the GOP development budget[4]. Currently, three IHR core capacities, i.e., PoE, IDSR, and AMR, have been funded through the development budget. PC1s for other IHR core capacities are neither developed nor in the process being developed. Moreover, the focus on developmental budgeting for IHR activities precludes the possibility of institutionalizing the framework to ensure continued compliance with its requirements.

[3] From Panic and Neglect to Investing in Health Security: Financing Pandemic Preparedness at a National Level (IWG, 2017s)

[4] The Federal Budget of the country consists of Revenue Budget and Development Budget. Revenue Receipts and non-development expenditures are the main components of the Revenue Budget. While the Development Budget comprises capital receipts and developmental expenditures. “The Developmental Budget is used to improve and extend the physical resources, assets, skills, and productivity of the people. The purpose of the developmental budget is to create material assets which could be added to the economic potential of the country”. www.finance.gov.pk/Budget_Manual_1stEdition_2020.pdf, Accessed: 26/04/2021.

Third, the current Public Financial Management (PFM) System is unable to track donor funding. During the desk review carried out as part of the NAPHS updating process, it was observed that almost 33 development partners are currently contributing to IHR core capacities. These funds are channeled through the World Health Organization (WHO). WHO, in turn, distributes funds to federal and provincial governments. This contribution, however, is not reflected in the books of accounts[5] of the GoP. The government's budget manual states that:

"Presently, neither the budget estimates nor actual disbursements of foreign loans and grants are recorded project-wise in the centralized IT system (SAP –ERP). The Ministry of Finance is always dependent on other sources of information. For efficient decision-making, it is inevitable to link the project's information of actual expenditure with the budgeted data and actual disbursement of loans and grants for each project. To ensure these linkages, it is mandatory to record the budget estimates for foreign assistance as well as the estimates for development expenditure with a project identification code. Therefore, each foreign loan and grant shall be assigned with a unique identification code."[6]

Due to the inherent limitation of the PFM system in tracking external financing, spending on JEE core capacities is underreported. The PFM system only provides function and object-based classification of expenses but does not provide activity and resource-based classification of expenses

Fourth, the non-availability of provincial-level costing documents has directly constrained implementation. The total cost of the original NAPHS was PKR 111,270 million; the provincial share was PKR 106,789 (96%) and the federal share was PKR 4,481 (4%). In the revision process, the federal costing was comprehensively updated, in collaboration with federal ministries and their line departments. During the revision of costing, provincial line departments were contacted to share the original NAPHS costing sheets in excel format. However, the original NAPHS costing sheets could not be accessed from the provincial line departments; Provincial Coordinators indicated that they had no record or knowledge of NAPHS costing. Further, only basic summary sheets in pdf format were available at the M/o NHSR&C, instead of detailed excel based costing sheets. In the absence of these costing sheets, it has been challenging for the provinces to update the costing and develop PC1s. This has proven to be a major hurdle in the implementation of NAPHS at the provincial level.

This challenge is further complicated by the fact that provincial coordinators responsible for implementing NAPHS have either been transferred or moved, to other departments. Their successors have little understating of NAPHS execution and implementation processes. Resultantly, the progress of NAPHS, at the provincial level, is behind the curve.

[5] Government of Pakistan prepares its "books of accounts" by using financial accounting and budgeting system (FABS) which consist of new accounting model (NAM) and government financial rules (GFRs). All receipts / income and payments / expenditures are reported using this system. www.fabs.gov.pk/downloads/03-Accounting-Policie-and-Procedures-Manual.pdf. Accessed: 26/04/2021.

[6] page 63 "Loan and/ Grant Reference for Projects" Budget manual, first edition 2020, Government of Pakistan Finance Division.

Fifth, multisectoral communication and coordination - a top priority for successful implementation of the NAPHS- has been sub-optimal. Federal and Provincial non-health line departments are not very clear about their role in implementing the NAPHS. PoE is one such area where in addition to M/o NHSR&C the M/o Interior, M/o Maritime Affairs, Civil Aviation Authority, and Port Authorities have important roles to play in implementing IHR. This disconnect results from these entities being governed by their respective legislations and lack of a formal coordination mechanism between the M/o NHSR&C and these Ministries/departments.

Way forward

Based on the challenges outlined above and the NAPHS costing revision process, the following priority actions are recommended for improved implementation of the NAPHS.

- **Digitalization of NAPHS for better visibility.** The existing digital platform, Pakistan Health Information System (PHIS)[7] of the M/o NHSR&C, could be used to monitor the progress of NAPHS implementation. Currently, this platform reports data on immunization, nutrition, and some other health areas[8]. A separate dashboard could be added to this platform, to document the progress of NAPHS at the federal and provincial levels. Each ministry and line department would then be responsible for updating the data against their respective IHR core capacities. In this way, NAPHS activities, funding sources, and other relevant information would be updated periodically. Digitization would improve NAPHS implementation and monitoring.

- **Expedite the process of PC1s.** To expedite the preparation of PC1s, NAPHS costing should be embedded in the Financial Accounting and Budgeting System (FABS) of the GoP. This will ease the preparation of PC1s and accelerate the approval process by the planning commission of Pakistan by providing IHR specific heads in the FABS against which allocations may be made. The planning commission is more comfortable accepting PC1s that are embedded in FABS.

- **Identification of funds allocated and spending against IHR core capacities.** There is an immense need to revise the existing chart of accounts of the current PFM system, to ensure that it can track and report on funds that have been allocated and spent on health security. Currently, the Auditor General of Pakistan[9] (AGP) is using the New Accounting Model (NAM) framework for accounting and reporting[10] . While this is a robust system, it does not consider the IHR core capacities. Pakistan is working to achieve universal health coverage and reporting on health security spending will be crucial in the coming years. Without aligning the chart of accounts with the IHR core capacities, it will be difficult to track health security expenditures in the books of accounts of GoP. Consultative sessions should be conducted by M/o NHSR&C with relevant stakeholders to

[7] www.nhsrc.pk. Accessed: 26/04/2021.
[8] These areas include MNCH, HIV/ Aids, malaria, polio, hepatitis, TB and, logistic management information system (LMIS).
[9] https://www.agp.gov.pk. Accessed: 26/04/2021.
[10] https://paaa.gov.pk/downloads/. Accessed: 26/04/2021.

assess the reporting requirements of IHR capacities. In parallel, a comprehensive desk review should be carried out, to understand GoP mechanisms for upgrading the existing chart of accounts. Finally, the proposed chart of accounts should be shared with the office of AGP, controller general of accounts (CGA), and finance ministry for implementation.

- **Strengthening coordination mechanisms.** The coordination mechanism between ministries and line departments both at the provincial and federal levels should be strengthened. Periodic IHR coordination meetings should be conducted, under the leadership of the M/o NHSR&C[11], to assess the progress on the implementation of NAPHS.

[11] www.phkh.nhsrc.pk. Accessed: 26/04/2021.

1. Introduction

International Health Regulations (2005) are a binding instrument of international law with the purpose and scope 'to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade'.[12] IHR (2005) set the tone for member states to build, strengthen and maintain health security at the national and global level. It also emphasized the importance of mobilizing the resources needed to prevent, detect and respond to the international spread of diseases, infections, or contamination, within five years after signing the regulations. Pakistan signed IHR (2005) on June 15, 2007[13]. Initially, Pakistan's performance in achieving the core capacities was not exemplary, but momentum was built in early 2014 when M/o NHSR&C notified the IHR focal persons, and Diseases Surveillance and Response Units (DSRUs) were established[14].

M/o NHSR&C designated the National Institute of Health as a focal point to oversee the implementation of IHR in 2014[15]. In the same year, M/o NHSR&C also notified the multisectoral national IHR Task Force to carry out a quick assessment of ten IHR core capacities [16]. Given that the scope of IHR was cross-sectoral, a range of stakeholders from the health and non-health sectors was involved in the assessment. However, as the concept of IHR was relatively new to the country, participation was limited to the public sector only. As such, the representation of development partners, community-based organizations, civil society, and the private sector was absent.

In 2014-2015, the Ebola outbreak significantly changed the implementation of IHR in response to threats posed by infectious diseases. In 2015, 69 countries came together with a vision to respond to global health threats[17]. There was consensus on the urgent need to address gaps and improve the prevention and early detection of, and effective response to, infectious disease threats. Resultantly, the global health security agenda (GHSA) was launched as a framework for IHR implementation.

Being an active member of IHR, Pakistan convened meetings across the country in 2016. The goal was to sensitize relevant stakeholders on GHSA as a framework for IHR implementation. Meanwhile, WHO finalized the Joint External Evaluation (JEE) tool to monitor and evaluate the progress on IHR/GHSA. Pakistan volunteered for the JEE assessment and became the first country in the Eastern Mediterranean

[12] http://www.emro.who.int/pak/pakistan-news/international-health-regulations-ihr-2005-are-a-commitment-of-the-government-of-pakistan-regarding-global-communicable-disease-control.html. Accessed: 26/04/2021.
[13] https://www.who.int/ihr/legal_issues/states_parties/en/. Accessed: 26/04/2021.
[14] Reference to letter No. F.1-83/IHR-NFP/2014, M/o NHSR&C, government of Pakistan, Islamabad, June 13, 2014
[15] Ministry of National Health Services, Regulations and Coordination. (2018). Pakistan National Action Plan for Health Security (NAPHS).
[16] These areas include i) National legislation, policy and financing ii) Focal points communications iii) Surveillance iv) Response v) Preparedness vi) Risk communication vii) Human resource viii) Laboratory and ix) Potential Hazards and x) points of entry.
[17] www.ghsagenda .org

Regional Office (EMRO) region to complete the evaluation. The evaluation helped Pakistan to broaden the scope for the implementation of GHSA.

In August 2016, M/o NHSR&C re-notified the multisectoral IHR National Task Force[18]. The task force invited participants from the public sector and development partners. The assessment also resulted in the development of the NAPHS. The NAPHS aimed to strengthen the IHR core capacities in Pakistan, across the 19 JEE technical areas.

As a final step, the NAPHS was costed in conjunction with provincial stakeholders in August 2017, with technical support from the Centers for Disease Control and Prevention (CDC) and WHO. The total cost of NAPHS was estimated at USD 1 billion for implementing the 5-year plan of IHR/GHSA. NAPHS was costed based on funding requirements for the implementation of IHR core capacities at both the federal and provincial levels.

In reality, however, domestic and external financing have been inadequate to support the implementation of the NAPHS. The National Institute of Health (NIH), for example, which is responsible for managing seven IHR core capacities, is underfinanced. Funds allocated to NIH by the government cover only administrative expenses[19]. Furthermore, the National Health Emergency Preparedness and Response Network (NHEPRN) is underfinanced and insufficiently manned to deal with the mandate of Emergency Preparedness and Response (EPR).

This report aims to document progress made in the implementation of NAPHS over the last three and half years and update cost data as needed. In so doing, the report also highlights challenges in the execution of NAPHS, posits suggestions for why such challenges have not been addressed, and which reforms are required to overcome these challenges. Besides that, this report presents the result-based monitoring of JEE technical indicators after the updated costing. Further, the report also highlights the need to rationalize the NAPHS costing and document the results of rationalization activities.

1.1. The rationale for Revision of NAPHS Costing

It has been three and a half years since the costed plan was first presented to the Pakistan Health & Population Interagency Coordination Consortium in August 2017. Since then, some activities proposed in the original NAPHS, against JEE technical areas, have been completed with the support of government and development partners. Progress in converting costed activities into the actionable plan (i.e., through the preparation of PC1s, etc.) has been sub-optimal. While the original NAPHS stipulated that 60% of activities should have been completed by 2020, for example, the NAPHS revision revealed that only three PC1s have been approved at the federal level. No PC1 was approved for provinces. The analysis also found that there were some difficulties in converting the original NAPHS costed plan into actionable documents. In discussion with the Deputy Director (the Desk officer for IHR at the M/o NHSR&C), the following issues underpinned the need to revise the NAPHS costing.

[18] Reference to letter No. F.4-71/GHSA-DD(P-I), M/oNHSR&C, government of Pakistan, Islamabad, August 10, 2016
[19] For details see: Federal Budget 2020 -2021, "Details of Demands for Grants and Appropriation", Volume IV Current Expenditure, Government of Pakistan, Finance Davison, Islamabad

- **Approval of PC1s for IHR core capacities**: During the NAPHS implementation period, some activities have been completed through approved PC1s (related to AMR, IDSR, and PoE), and their costs have been actualized. Given this, there was a need to update actual costs against budgeted costs, and also highlight the activities that remain unfunded.
- **Avoidance of duplication:** Development partners have taken an active role in supplementing the funding gaps in the IHR core capacities. While, for example, the CDC is supporting workforce development, Public Health England (PHE), John Snow Inc. (JSI), WHO, United Nations Population Fund (UNFPA), and United Nations International Children Emergency Fund (UNICEF) are all supporting real-time surveillance. While surveillance activities supported by partners are captured under the approved ISDR PC1, the potential for overlapping financing, to similar activities, needed to be addressed in the updated costing.
- **Refinement of lump-sum costs:** The Planning Commission of Pakistan (which falls under the ministry of planning, development, and special initiatives) requires a complete breakdown of costs as a prerequisite for PC1 approval. Since the original NAPHS costing, however, did not include a breakdown of costs, many PC1s have been rejected by the Commission for failing to include this breakdown. To avoid this issue in the future, and facilitate the development of PC1s, the updated costing could be done in accordance with the requirements of the Planning Commission.
- **Removal of activities financed by recurrent budget:** Some activities costed in the original NAPHS were part of the recurrent budget[20] and should not have been costed in the NAPHS. Costs to advocacy, for parliamentarians, was one such example. These costs are part of the parliamentary secretariat and are usually financed by their respective recurrent budgets. Further, since standing Committees are already functional, their advocacy costs should not have been part of NAPHS. Consequently, there was a need to identify all such activities, and adjust the NAPHS costing accordingly.
- **Benchmark rates of Planning Commission:** The Planning Commission has benchmarked costs for some activities (e.g. training, HR and technical assistance, etc.). As such, there was a need to align these benchmarks, with the estimated costs in the NAPHS. In addition, there was also a need to align the duration and rates of consultancy services with historically approved PC1s.
- **Devolved setup of the country:** Due to the devolved structure in Pakistan, the NAPHS was bifurcated into the federal and provincial levels. There were, however, some activities related to the provincial domain that were accounted for in the federal NAPHS. It was necessary to identify these activities and then park them in respective provincial NAPHS.
- **Segregation between health and non-health activities:** The cost plan was based on the JEE technical areas, but costing was not bifurcated into human and animal health for some activities. Therefore, recognizing that different departments deal with human and animal health, there was a need to split costs into human and animal health.

[20] Recurrent budget is used to meet the regular ongoing expenses of government.

1.2. Benefits of revision to the country

The NAPHS was costed to achieve the IHR capacities. In last three and half years, many activities have been completed either through PC1s or by development partners. The revision has replaced the budgeted cost with the actual cost to reflect the actual funding requirements. In the updated costing, activities are updated and rationalized to reflect more realistic costs.

The original plan was costed for five years, with yearly milestones developed to assess implementation progress. Updated costing has documented the progress against proposed JEE activities during the last three and half years and reassessed the JEE scores of the country. The revision identified problems in the implementation of the NAPHS and guides policymakers in addressing these issues.

The costing plan was developed according to JEE technical areas. In some instances, like AMR, immunization, and food safety, combined costing was done for both human and animal health. However, separate departments are responsible for these two areas. While developing PC1s, it was difficult for departments to isolate their respective costs; hence there was a need to bifurcate costs by departments to prepare PC1s. To overcome this problem, the revised costing bifurcated the cost of human and animal health and facilitates the preparation of PC1s.

Finally, some activities in the original costing were either duplicated or not aligned with the government policies and procedures. The updated costing aligned the activities with the government policies and regulations, and also eliminated duplications and redundant activities.

1.3. Country Profile

Pakistan is situated in Southern Asia and covers an area of 7,96,095 km^2. Pakistan has 2,430 Km border with Afghanistan in the north, 423 Km with China in the northeast, 2,912 Km with India in the east, 909 Km with Iran in the southwest, and 1,046 Km coastline alongside the Arabian Sea in the south. Geographically, Pakistan is subdivided into four provinces, Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan, with two main federally administered areas: Gilgit Baltistan and Azad Jammu and Kashmir.

1.4. Socio-economic Context

Pakistan follows a mixed economy model, where a significant chunk of GDP is contributed by state-owned entities, organizations, and enterprises. At the time of independence, Pakistan inherited an agricultural economy, but now it has been significantly diversified. Industrialization in the 1980s played a pivotal role in the paradigm shift of the economy. A large portion of the GDP comes from the services and manufacturing sectors, while agriculture contributes only 25% to the GDP. But still, agriculture is the backbone of the country's economy as most of the manufacturing concerns, i.e., sugar and textile industries, etc., are heavily reliant on agricultural products.

In 2020, like the rest of the world, Pakistan's economy suffered from the catastrophic impact of Covid-19. Pakistan has witnessed negative GDP growth (i.e., -0.4%) in FY 2019 -2020. A brief snapshot of the economy of Pakistan is provided in Table 1.

TABLE 1: ECONOMIC INDICATORS OF PAKISTAN 2016 -2020

Indicators	2016	2017	2018	2019	2020
GDP (billion USD)[21]	279	305	315	278	284
GDP per capita	1440	1545	1566	1360	1186 (e)[22]
Public debt (%age of GDP)[23]	65.5	65.1	69.9	83.7	87.2
Policy interest rate[24]	5.75 %	5.75 %	6.5 %	12.25 %	7 %

1.5. Road map of IHR (2005) in Pakistan

Health security has evolved in the country for the last two decades. In 2007 Pakistan became the signatory of the IHR convention to address the public health risks in response to the international spread of disease. As a follow-up, focal points for implementing IHR were nominated, and a multi-sectoral national IHR Task Force was identified across Pakistan. In 2014 Pakistan was identified as the Phase-I country supported under Global Health Security Agenda (GHSA). Subsequently, in 2017 Pakistan became the first country in the Eastern Mediterranean Regional Office (EMRO) to undergo the JEE assessment to achieve GHSA targets. The JEE assessment resulted in the development of a five-year NAPHS in 2018. The revision of the NAPHS and HSFA at federal and provincial levels are among the ongoing initiatives of GoP. The figure below shows the road map of IHR in Pakistan.

[21] http://www.finance.gov.pk/survey_1920.html
[22] Estimated
[23] http://www.finance.gov.pk/survey/chapter_20/09_Public_Debt.pdf
[24] https://www.sbp.org.pk/m_policy/index.asp

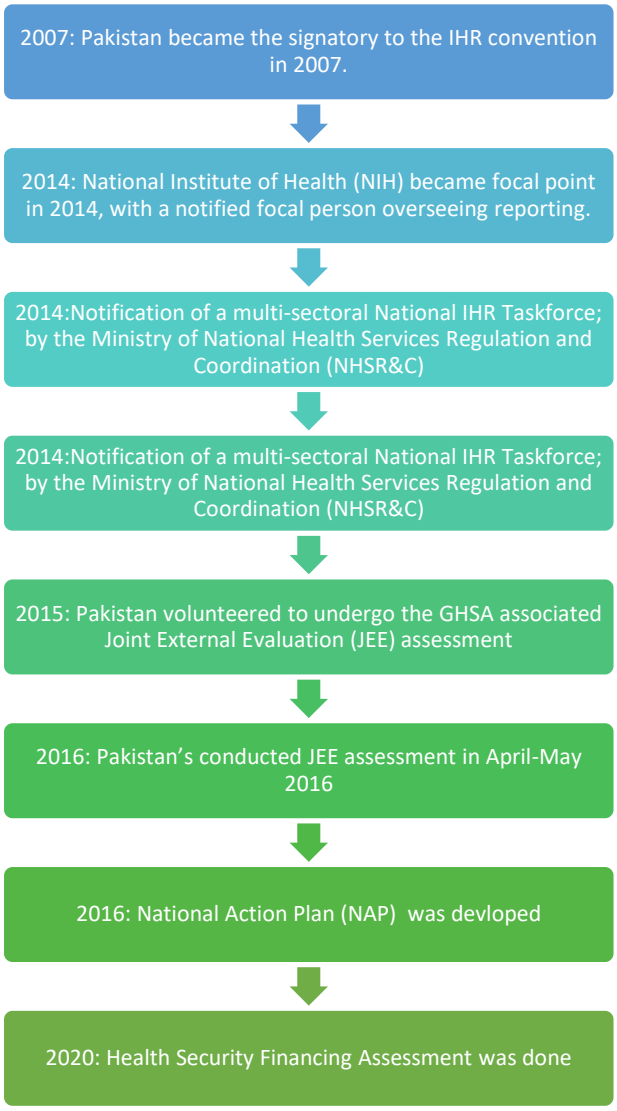

FIGURE 1. ROAD MAP OF IHR IN PAKISTAN.

1.6. Budgeting and Reporting structure of Pakistan

The general budget is referred to as the Federal Budget in Pakistan. The Federal Government prepares and presents the Annual Budgeted Statement (ABS) before the National Assembly every year in accordance with Article 80 of the Constitution. In Pakistan, the financial year starts on 1st July and ends on 30th June. The ABS reflects the estimated receipts and expenditure of the Federal government in a financial year.

According to Articles 78 and 81 of the Constitution, all receipts and expenditures incurred in a particular financial year should be routed through the Federal Consolidated Fund (FCF) of Pakistan. All receipts, loans, and revenues received by the Federal Government are credited in the FCF. The custody of the FCF is governed and regulated by article 79 of the constitution and the Act of Parliament. The Federal Budget

of the country consists of Revenue Budget and Capital Budget. Revenue Receipts and the Current/Non-development expenditures are the main components of the Revenue Budget. While the Capital Budget comprises Capital receipts and Developmental expenditures.

The division between current/non-developmental and developmental expenditure is consequential. In aggregate, these two expenditures constitute the total budgetary expenditure of the federal budget. Current expenditures are for day-to-day recurring expenses or non-developmental expenditures of the government. This includes, among others, General Public Services such as maintaining executive, administrative, and legislative organs of the country, foreign loan repayment, servicing of foreign and domestic debt, maintaining public affairs, and national defense of the country. More importantly, it also includes various areas of economic affairs, i.e., agriculture, mining, manufacturing, energy, transport and communication, housing and community amenities, health and education, environment protection, etc. The current expenditures are meted through the revenue budget. If revenue receipts are greater than the current and non-development expenditures, the surplus amount is transferred to Capital Budget to meet the costs of developmental spending. If revenue receipts are less than current expenditures, the government must meet the deficit through borrowing[25].

Developmental expenditures/ capital expenditures are used to improve and extend the physical resources and assets, skills, and productivity of the population. The purpose of the developmental budget is to create material assets that could be added to the country's economic potential. It includes the construction or acquisition of permanent assets of public utility. This process is executed through the Public Sector Development Programme (PSDP). Capital expenditures are generally funded from revenue surplus, reserve funds, and general-purpose or specific borrowing.

Planning Commission of Pakistan prepares the Annual Development Programme (ADP), in consultation with MoF and provincial governments. The National Economic Council (NEC) of Pakistan approves the ADP prepared by the Planning Commission. The provision for the capital expenditures in the ABS is calculated based on the ADP.

The budget cycle in the country starts by formulating a budget strategy and concludes when the National Assembly approves the budget. Broadly, the budgeting cycle consists of six processes outlined below. The budget calendar is diagrammatically represented in Figure 2.

[25] Budget Manual ,First Edition, January 2020, Government of Pakistan

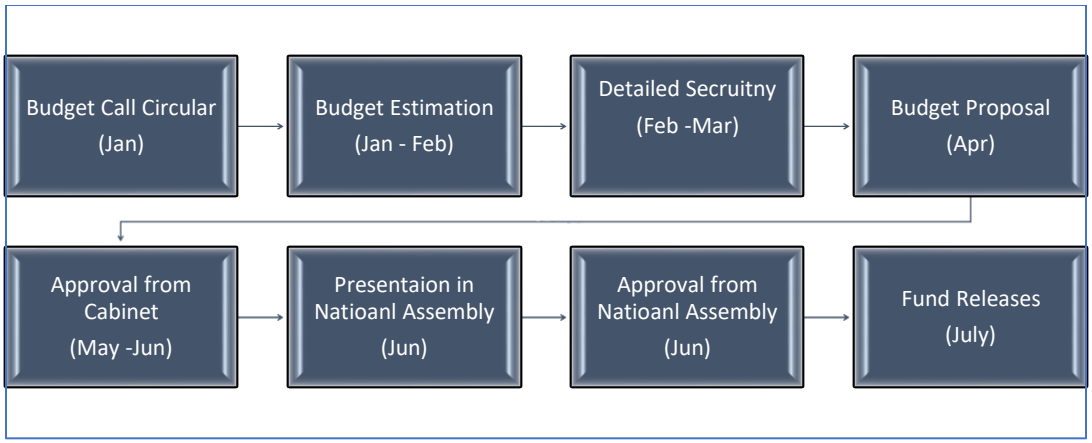

FIGURE 2:BUDGET CALENDAR OF PAKISTAN

1.7. Challenges of budgeting for health security

From the budgeting point of view, the current system follows the New Accounting Model (NAM) – an accounting framework administered by the Auditor-General office of Pakistan. This accounting system uses Multidimensional Code Classification for Budgeting. This classification helps to trace the expenditure as well as revenues from the government accounting system. All the expenditure can be traced by six different elements within the budget namely;

i. Entity Elements (like government, ministries to spending Units)
ii. Fund Element (government funds and grants)
iii. Function Element (prescribed under IMF's System of national accounts/government finance statistic manual 1986/2001)
iv. Object Element (expenditure and receipts)
v. Program-cum-Project Element (development and non-development projects by sector like defense, health education, etc.) and
vi. Geographically Element (by district and union council, etc.)

This classification system of budgeting is comprehensive however it is not compatible with the IHR core areas. IHR-GHSA requires that the expenditure, as well as the allocation, is identifiable through 19 core areas (JEE areas) e.g. food safety, real-time surveillance, biosafety, and biosecurity, etc. However, in the current public financial system, it is not possible to track the allocation as well as spending through these areas.

Each ministry receives the allocations as per the approved budget ceiling by the finance division at the start of the financial year. Moreover, the budget is allocated to ministries, divisions, and departments as per their role defined in the rules of business. These allocations are not bifurcated by the JEE areas or any format needed to map IHR core capacities. Some of the programs approved under the development budget (approved through the PC-1) are aligned with the JEE areas like Immunization, AMR, and PoE. However, most of the core IHR areas are not funded by the development or recurrent side of the Government budget.

This limitation of PFM was a challenge in the revision of NAPHS as some of the activities were completed by the government from domestic funding but were not reflected in the system.

2. Methodology for revision of NAPHS

Original NAPHS costing was done in close collaboration with relevant ministries, line departments, and development partners. It was a comprehensive activity that included a prioritization exercise, a series of consultative meetings, and a technical working group (TWG). The prioritization exercise was conducted to ensure timely, sequential, and progressive implementation of the NAPHS. Further, several consultive sessions and meetings were conducted to estimate the cost for the 19 JEE technical areas. Finally, a technical working group assessed and reviewed the NAPHS costing. In contrast, the scope of the updated costing was limited to:

a) assessing the progress of NAPHS implementation; and
b) rationalizing the NAPHS to align costs with current economic indicators and
c) revising the JEE's result-based monitoring indicators after the updated costing.

Keeping in mind the scope, the updated costing included a desk review, consultative meetings, and one-to-one interview sessions with the relevant desk officer at the M/o NHSR&C. In addition, a series of consultative meetings were conducted with relevant stakeholders at the federal level. A brief description of the methodology is discussed below.

2.1. Desk Review

The revision process started with a desk review; initially, PC1s and other plans developed during the last three years were reviewed. Activities completed by government and development partners were also mapped against the original NAPHS and marked as "complete" in the updated costing. In this process, the sources and amount of funding for completed activities were tracked.

2.2. Redesigning the costing template as per M/o NHSR&C requirement

The original costing sheets were comprehensive, and each JEE technical area was separately reported. However, as discussed in the previous chapter, the costs were not broken down as per the requirements of the Planning Commission of Pakistan. To overcome this problem, a new excel-based template was designed in consultation with the M/o NHSR&C. Annex-1 shows the snapshot of the updated template.

2.3. Data transferring

The updated template was approved by M/o NHSR&C and endorsed by federal-level stakeholders. The data was reorganized and transferred from old costing sheets into the approved template.

2.4. Revision of Costing

The implementation of JEE technical areas is the responsibility of the GoP, with major components falling to three key ministries: M/o NHSR&C, M/o Climate Change (MoCC), and M/o National Food Security & Research (M/o NSFR). However, most activities were related to the M/o NHSR&C and its attached departments. The M/o NHSR&C has been designated as the lead ministry for implementation for IHR. All

NAPHS related plans are routed through the M/o NHSR&C[26]. The Federal Secretary at the M/o NHSR&C is the principal accounting officer responsible for submitting approved PC1s to the Planning Commission.

Relevant stakeholders from M/o NHSR&C, M/o NFSR, MoCC, and other line departments were consulted during the costing revision process.

2.5. Consultation with federal stakeholders

The updated costing was shared with all federal stakeholders and respective IHR focal persons, including M/o NHSR&C, M/o NFSR, MoCC, and other relevant ministries for their review and comments.

2.6. Final costing plan and endorsement

The updated costed NAPHS document was shared with the M/o NHSRC, other relevant ministries, and line departments for final review and endorsement. It was decided that the final endorsement of the updated NAPHS will be taken at the next IHR Task Force Meeting[27].

2.7. NAPHS at the Provincial level

NAPHS was developed by considering the devolved and decentralized setup of Pakistan. In this setup, the provision of health services is the responsibility of the provincial governments. They are responsible for the development of their health-related strategies and the management of programs and initiatives. In this arrangement, the federal government plays only a regulatory and supervisory role. In this context, the original NAPHS costing was bifurcated into the federal and provincial levels. The provincial part constituted 96 percent (PKR 106,789 million) of the total cost, while the federal share was 4 percent (PKR 4,539 million).

Revision of costing requires comprehensive consultative sessions, meetings, discussion with the focal persons and other relevant stakeholders at the federal and provincial/ federally administered areas. During the revision, the federal level was updated entirely and rationalized after due consultation with federal focal persons and stakeholders from relevant line departments and ministries.

Every province/ federally administered areas has its own political and administrative structure. Personnel at the federal level, however, do not have complete and in-depth information regarding provincial affairs. As such, provincial/ federally administered areas-level costing was only rationalized for two cost drivers, i.e., meetings and workshops. The revision for other cost drivers requires in-person consultative sessions with provincial counterparts. Due to the COVID-19 pandemic, travel to the provinces, and in-person consultations with focal persons and relevant stakeholders, a significant part of the NAPHS costing at the provincial level (approx. 90 percent) could not be updated.

[26] Ministry of National Health Services, Regulations and Coordination. (2018). Pakistan National Action Plan for Health Security (NAPHS) p.45

[27] The 1st meeting of National IHR Task Force was held in Islamabad on 20th February 2018. Since than Task Force meeting has not been scheduled yet.

A comprehensive data collection tool has been developed to update the provincial NAPHS costing. Due to travel restrictions, the tool couldn't be used for data collection; however, as the situation will get better, the tool will be used to collect the data from provinces.

One of the major challenges encountered during the revision of NAPHS was restrictions and traveling due to Covid-19. Provincial NAPHS constituted 96% of total NAPHS costing and can only be revised through in-person meetings and consultive sessions with relevant stakeholders. Due to travel restrictions, it was not possible to collect data for updating the NAPHS costing. There were some other limitations, i.e., transfers of provincial coordinators to other departments, non-availability of costing sheets, etc.

2.8. Revising JEE scores after the revised costing

During the revision of NAPHS, activities funded through government or other sources were marked as complete. As a result, there was a need to revisit the JEE scores to reflect the developments against each technical area. The original JEE report had given the score of 1 to the technical areas with no capacity and 5 where sustainable capacity was present. The revised costing has resulted in the upgrading of scores for some technical areas. On the recommendation of M/o NHSR&C, a self-estimated rough evaluation was conducted to check the current status of JEE scores. The original and updated estimated score were compared side by side to see the progress. A narrative portion was added for those areas where considerable progress was made and resulted in a revised score.

3. Results of NAPHS Revision

3.1. NAPHS Progress to date

The original national action plan was developed in consultation with federal and provincial stakeholders. Several stakeholders representing federal-level ministries, provincial line departments, and development partners participated in developing the plan. The JEE assessment identified the gaps in implementing the IHR/GHSA agenda, and subsequently, priority actions were finalized. This helped to convert priority actions into measurable activities. An excel-based template was developed, and each activity was costed in consultation with federal and provincial stakeholders.

It was agreed that M/o NHSR&C would administer the progress on NAPHS by establishing a multisectoral national IHR Task Force. Key progress indicators were designed to check the progress against the proposed activities. The improvement to date against the set of agreed targets is outlined in Table 2 below.

TABLE 2: PROGRESS ON MONITORING AND EVALUATION (M &E) ACTIVITIES OF NAPHS

Proposed M & E activities in original NAPHS	Progress to date
Refortification of National IHR Task Force and annual progress meeting	**Completed** - IHR Task Force was notified in 2017.
NIH takes National public health institutes (NHPI) status by implementing JEE technical areas like surveillance & response; public health labs network; Emergency Operations Centre (EOC); biosafety & biosecurity; health workforce development for IHR; AMR, etc.	**Incomplete** - NIH Ordinance has been approved but, NHPI status is pending.
Notification of Provincial IHR Task Forces.	**Incomplete** - Provincial IHR task Forces have not been notified yet.
Notification of IHR focal persons in health and other sectors at the federal and provincial level (One Health Stakeholders)	**Incomplete** - IHR focal persons have not been notified yet.
Communication to the chief secretaries of each province for inter-sectoral coordination and resource allocation	**Incomplete** - Letters to provincial chief secretaries were circulated; however, resources are not allocated yet.
Development of PC1s for key prioritized technical areas (IDSR; AMR; PoE; NPHI)	**Completed** - Three PC1s have been approved, including PoE, AMR, and IDSR. IDSR PC1 also includes Field Epidemiology & Laboratory Training Program (FELTP) and Public Health Labs (PHL).
The IHR/GHSA National Action Plan will also be made a part of the 12th Five Year Plan of the Government of Pakistan	**Completed** - IHR agenda included in the 12th five-year action plan [28]

[28] See 12th Five year Plan 2018-2023 of government of Pakistan

Periodic supervision to ensure activities are implemented according to target. These activities will be integrated into the routine quarterly supervision schedules within respective sectors. The supervision will be carried at all levels, starting from the National level, i.e., Ministry, down to provincial and district levels.	**Incomplete -** Activity has not started yet.
Recruitment and deployment of the required human resources for health security and one health at all levels.	**Incomplete -** Recruitment has not started yet.

3.2. Budgeting for Health Security Financing in Pakistan

There are no specific rules and regulations that govern the share of health security in the current budgeting process. The current budgeting processes strictly follow the rules and regulations outlined in the budget manual issued by the MoF. Although the budgeting system is comprehensive, it is not compatible with the IHR core capacities. IHR/GHSA requires that expenditure, as well as budget allocation, be identifiable by JEE areas. It is, however, impossible to track health security allocation and expenditure in the current budgeting system.

Annex 2 shows the format of budget order through which the budget is allocated to ministries and line departments. The budget is identifiable by ministry, division, department, DDO codes[29], functional and object codes classification. Spending on JEE areas can only be traced through this classification. To identify spending on JEE areas, a comprehensive mapping exercise is required to align the JEE areas with the budgeting process of the GoP.

3.3. Multisectoral communication and Lack of Coordination

Pakistan became a member of IHR,2005 on June 15, 2007; nonetheless, ministries and line departments at the federal and provincial levels are not very clear about their role and responsibilities. Therefore, the benefits of embracing the "One Health" approach are not well-known. Coordination between ministries and line departments responsible for the implementation of NAPHS is sub-optimal. The last meeting of the IHR Task Force was held in 2017. Since then, not a single session has been conducted to discuss IHR core capacities and NAPHS implementation. Further, NHEPRN and National Disaster Management Authority (NDMA) are both working on emergency response operations (ERO), but no formal information-sharing mechanism exists between these two departments.

[29] DDO is the basic unit or cost center in the government's system of budgeting and expenditure recording.

3.4. Summary of NAPHS Costing (Federal)

The following table shows the original and updated NAPHS costing at the federal level by JEE technical areas. A comparison of original and updated costing is given side by side. There were 19 JEE technical areas; however, 17 were selected in original NAPHS costing. Chemical events and Radiation emergencies were not part of the original NAPHS. Therefore, in the updated costing, these areas were not included.

TABLE 3: SUMMARY OF NAPHS COSTING

Technical Areas	Original Costing 2017	Updated Costing 2021
	PKR in million	
National Legislation, Policy, and Financing	71.98	76.99
IHR Coordination	37.23	31.20
Antimicrobial Resistance (AMR)	215.5	156.85
Zoonotic Diseases	277.6	440.33
Food Safety	353.3	81.16
Biosafety& Biosecurity	137.9	132.90
Immunization	366.4	263.70
National Laboratory System	144.6	178.17
Surveillance	276.4	144.84
Reporting	57.8	108.18
Workforce Development	68.5	40.14
Preparedness	577.3	320.53
Emergency Response Operations	148.5	9.82
Linking public health and security agencies	50.71	34.95
Medical Countermeasures and Personnel Deployment	118.3	61.38
Risk Communication	76.07	104.40
Point of Entries (PoEs)	1,562	1,664.90
Total	**4,539.88**	**3,850.42**

The revision of federal-level costing resulted in a reduction of PKR 689 million (15%) from the original NAPHS costing. Key reasons for the reduction in costs are as follows:

- There were calculation errors in the original costing. These calculation errors occurred mainly due to applying the wrong formulas and errors in the transposition of data from the detailed working sheets to the summary sheets. Cumulatively, the effect of the calculation errors was PKR 123 million. During the revision of the NAPHS costing, all the calculation and transposition errors were rectified.
- The impact of macroeconomic indicators, i.e., inflation, fluctuation in exchange rates, and Consumer Price Index (CPI), were accounted for during the revision and rationalization of costing. Since the original costing was done, a considerable change has occurred in the macroeconomic indicators. During revision, the impact of these indicators was accounted for, and the costs were adjusted accordingly.

- There were some tasks and activities which were duplicated i.e., cost of advocacy and awareness of stakeholders was incorporated in multiple JEE technical areas which causing duplication of costs. With the consultation of M/o NHSR&C, duplicate and redundant activities were identified and removed from the costing.

3.5. Updated NAPHS Costing 2021 by JEE Thematic Areas

Figure 3 below shows the breakdown of revised NAPHS costing by thematic areas, at the federal level. The highest cost is allocated to the "PoE and Other[30]" thematic area as it constitutes 43% of total costs. Prevention activities come second and account for 31% of total costs. Response and detection activities have been allocated 14% and 12% costs, respectively.

At the federal level, the updated costing revealed that PKR 3,850 million (USD 22.86 million) is required over five years to implement the NAPHS. The highest cost is allocated to "PoE and Other" IHR thematic areas. PoE accounts for almost 43% of the total NAPHS costing.

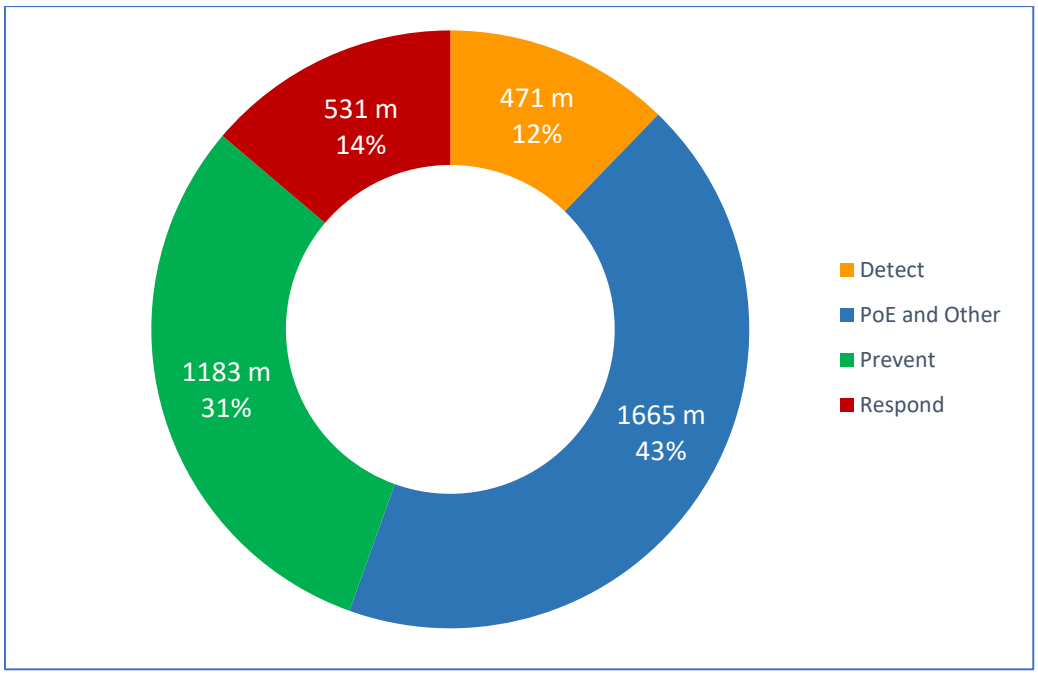

FIGURE 3: NAPHS COSTING BY JEE THEMATIC AREAS

3.6. Updated NAPHS Costing 2021 by Technical Areas

Figure 4 shows the revised costs of JEE technical areas in PKR million. It indicates the costs are required for the implementation of JEE technical areas to achieve IHR core capacities. For graphical presentation, PoE has been excluded from the graph.

[30] Other includes Chemical Events and Radiation Emergencies.

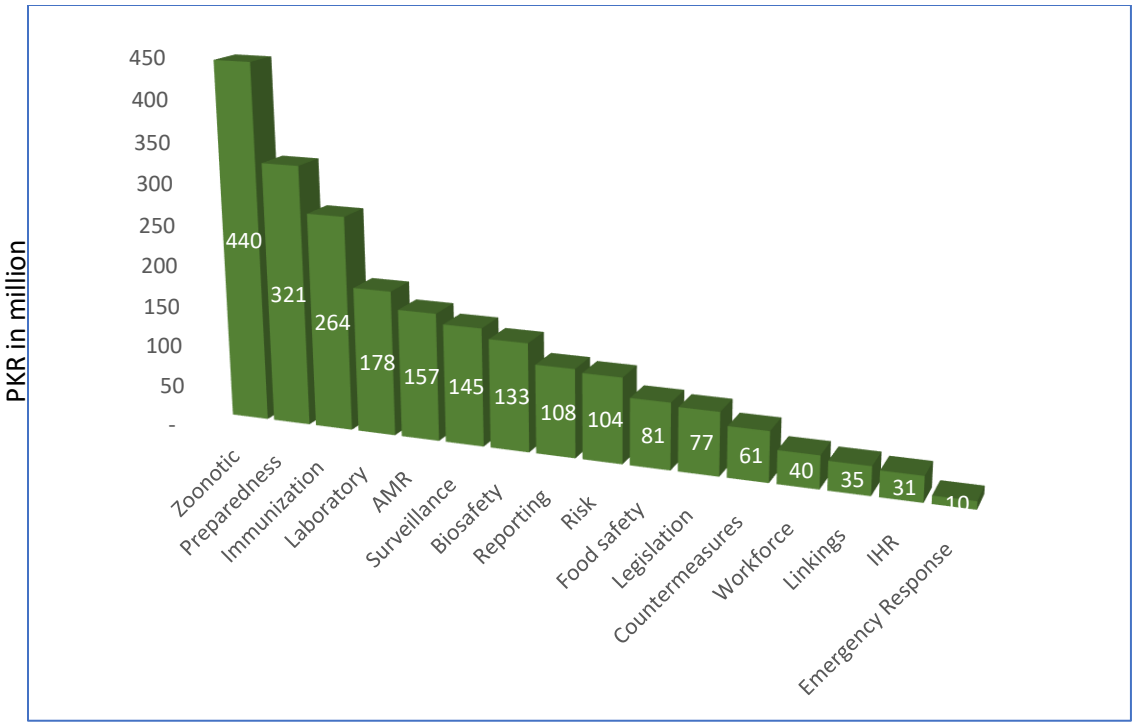

FIGURE 4: UPDATED NAPHS COSTING BY TECHNICAL AREAS

PoE accounts for PKR 1,665 million (43% of the total NAPHS costing). A significant portion of the cost attributed to PoE is related to the detailed assessment of all PoE in terms of human resources, logistics, medical facilities, quarantine facilities, and coordination mechanisms, as well as, the costs involved in enhancing the PoE's capacities to ensure prevention, detection, and response to public health threats.

Apart from PoE, the second-highest cost is attributed to zoonotic diseases. A large portion of this cost is allocated to workshops, tabletop exercises, equipment costs, and technical assistance. These are required for the establishment of a One Health Hub and the development of a joint surveillance mechanism.

The cost allocated to preparedness mainly comprises the establishment of cold storage facilities in designated hospitals, the establishment of preparedness and response units, and simulation exercises for emergency preparedness and response. Regular surveys, operational research, and vaccine efficiency assessment through seroconversion study is the major cost drivers for immunization.

3.7. Cost Drivers of updated NAPHS Costing 2021 by technical areas

The graph shows the breakdown of JEE technical areas by cost categories. The major cost categories included: technical assistance, training, meetings, workshops, equipment cost, HR cost, civil works, and M&E-related cost. Workshops, human resources, and meetings are the major cost drivers that account for 32%, 22%, and 11%, respectively.

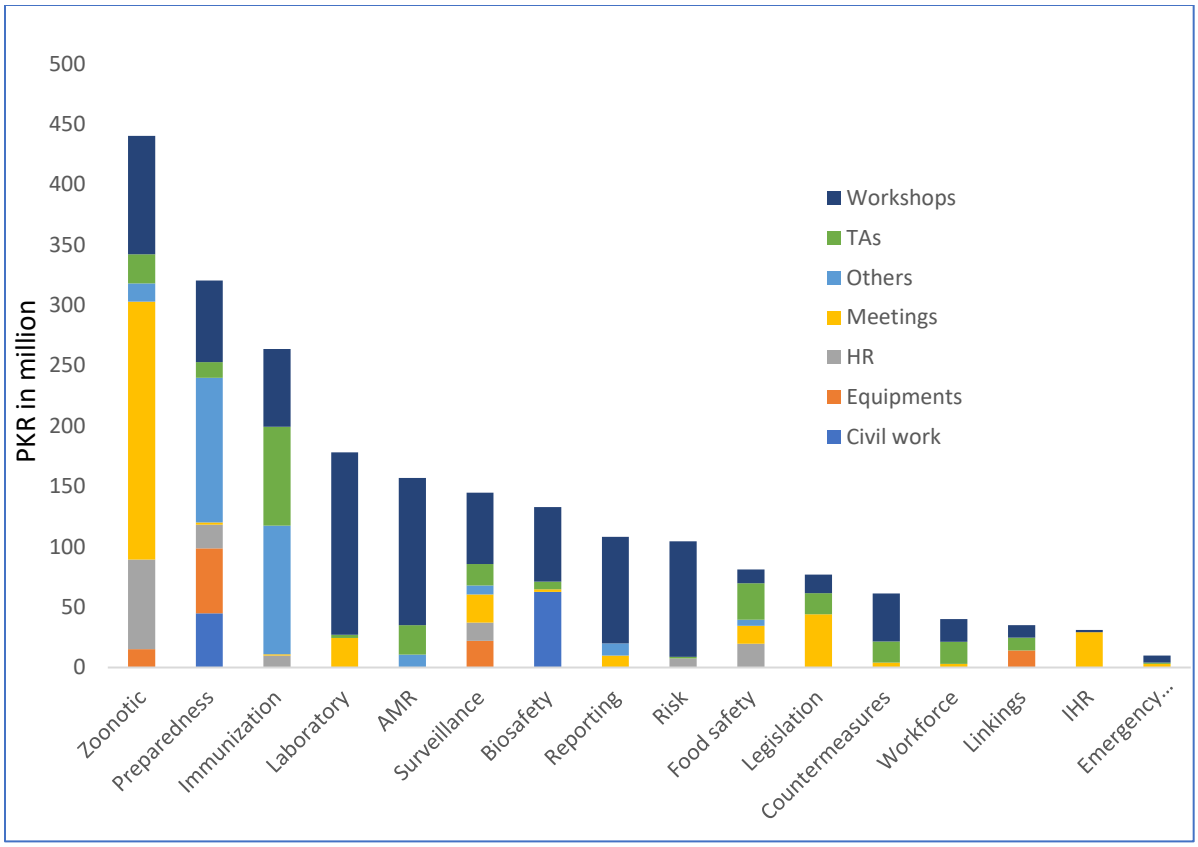

FIGURE 5: COST DRIVERS NAPHS COSTING BY TECHNICAL AREAS

3.8. Completed vs. uncompleted Activities

Activities are implemented by domestic funding from the GoP (approximately PKR 1,149 million) as well as external funding from development partners (approximately PKR 74 million). The total cost of completed activities is PKR 1,223 million, as shown in Figure 6. The distribution of funding by development partner is shown in Figure 7. The estimated cost of uncompleted activities is PKR 2,627.

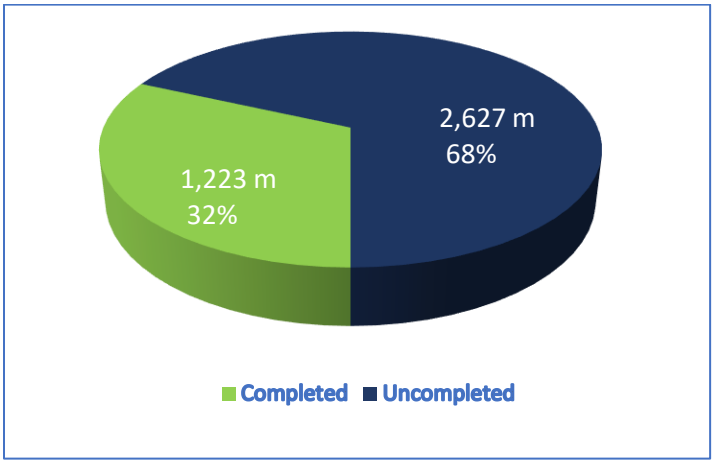

FIGURE 6: STATUS OF ACTIVITIES

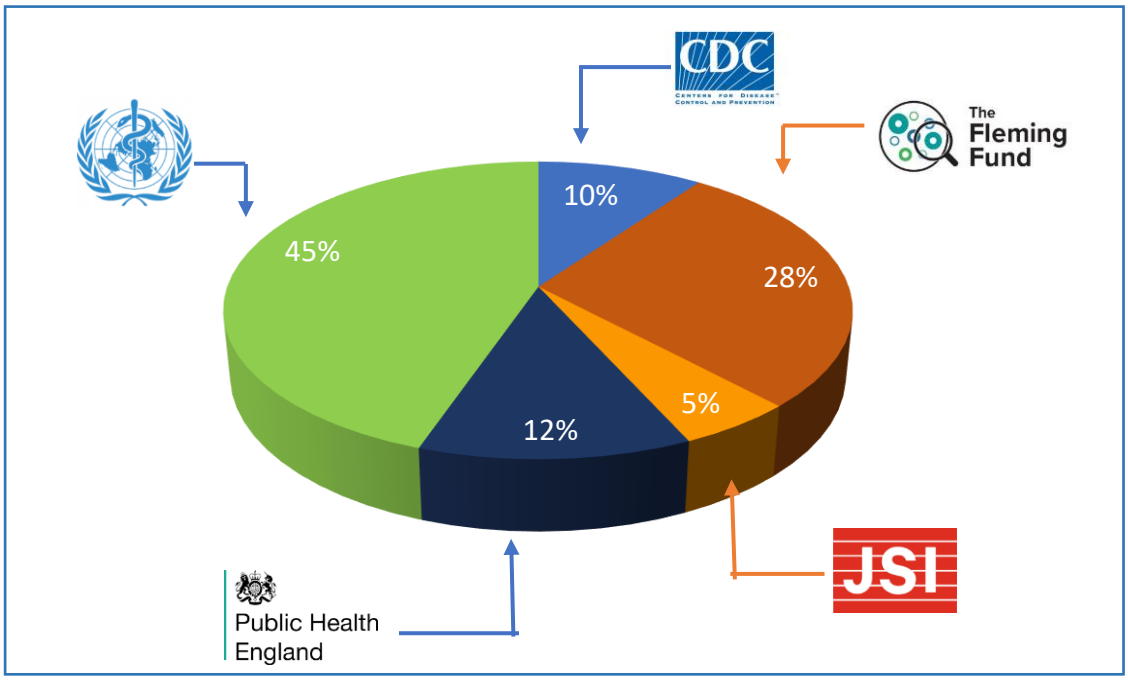

FIGURE 7: SHARE OF DEVELOPMENT PARTNERS

3.9. Revised provincial costing

Based on the available information regarding the provincial NAPHS, a preliminary revision of available data was carried. Provincial costing sheets were redesigned based on the available information and a comprehensive data collection toolkit was developed to collect data from provinces. During this process, it was observed that there were some calculation errors in the original NAPHS costing. These calculation errors occurred mainly due to the application of incorrect formulas. Cumulatively the effect of the calculation errors was PKR 2,061 million, as shown below:

TABLE 4. NAPHS AT PROVINCIAL LEVEL[31]

Province / Federally Administered Area	Original Cost*	Calculation Errors**	Corrected Original Cost***
	PKR in million		
Punjab	14,653	250	14,903
FATA	15,967	260	16,227
Balochistan	16,082	263	16,345
KPK	15,584		15,584
Sindh	12,100	59	12,159
GB	13,961	968	14,929
AJK	14,701	261	14,962
Grand Total	**103,048**	**2,061**	**105,109**

* Original NAPHS cost as per costing sheets of 2017.
**Calculation errors in original NAPHS costing sheets

[31] The information shown on this table does not imply any judgment on the part of the World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

*** Corrected cost after rectification of calculation errors.

3.10. Result-based Monitoring indicators after the updated costing.

The JEE report developed indicators against each technical area and scored them on a scale of one to five. A score of 1 shows that no capacity in a particular technical area and a score of 5 indicates sustainable capacity. Keeping this score in mind, the NAPHS was developed. During the revision of the NAPHS, it was observed that many JEE proposed interventions have been completed at the federal level. Hence there is a need to revisit the JEE scores. Although a comprehensive JEE assessment is required to assess the current status of IHR core capacities, a self-estimated rough evaluation was conducted with the help of (M/o NHSR&C). The rationale is to check the current status of JEE scores. Table 5. shows the original and updated estimated score of JEE areas. A green arrow indicates that the score has improved, and the black double sideways indicator shows no change in score.

TABLE 5:COMPARISION BETWEEN ORIGINAL AND UPDATED JEE SCORE

Capacities	Indicators	Score		
		Baseline 2016	Updated 2021[32]	Change
National legislation, policy, and financing	P.1.1. Legislation, laws, regulations, administrative requirements, policies, or other government instruments in place are sufficient for the implementation of IHR	2	3	↑
	P.1.2. The state can demonstrate that it has adjusted and aligned its domestic legislation, policies, and administrative arrangements to enable compliance with the IHR (2005)	3	3	↔
IHR coordination, communication and advocacy	P.2.1. A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR.	3	4	↑
Antimicrobial resistance	P.3.1. Antimicrobial resistance (AMR) detection	1	4	↑
	P.3.2. Surveillance of infections caused by AMR pathogens	1	4	↑
	P.3.3. Healthcare-associated infection (HCAI) prevention and control programs	1	4	↑
	P.3.4. Antimicrobial stewardship activities	1	4	↑
Zoonotic diseases	P.4.1. Surveillance systems in place for priority zoonotic diseases/pathogens	3	3	↔
	P.4.2. Veterinary or Animal Health Workforce	3	3	↔
	P.4.3. Mechanisms for responding to zoonosis and potential zoonosis are established and functional	2	2	↔
Food safety	P.5.1. Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination.	2	3	↑

[32] Revised score is based on self-assessment after the revision of NAPHS costing in 2020

Biosafety and biosecurity	P.6.1. Whole-of-Government biosafety and biosecurity system is in place for human, animal, and agriculture facilities	2	3	↑
	P.6.2. Biosafety and biosecurity training and practices	2	3	↑
Immunization	P.7.1. Vaccine coverage (measles) as part of the national program	2	2	↔
	P.7.2. National vaccine access and delivery	4	4	↔
National laboratory System	D.1.1. Laboratory testing for detection of priority diseases	4	4	↔
	D.1.2. Specimen referral and transport system	3	3	↔
	D.1.3. Effective modern point of care and laboratory-based diagnostics	2	3	↑
	D.1.4. Laboratory Quality System	2	3	↑
Real-time surveillance	D.2.1. Indicator and event-based surveillance systems	3	4	↑
	D.2.2. Inter-operable, interconnected, electronic real-time reporting system	2	4	↑
	D.2.3. Analysis of surveillance data	2	4	↑
	D.2.4. Syndromic surveillance systems	4	4	↔
Reporting	D.3.1. System for efficient reporting to WHO, FAO, and OIE	2	2	↔
	D.3.2. Reporting network and protocols in-country	2	2	↔
Workforce development	D.4.1. Human resources are available to implement IHR core capacity requirements	3	3	↔
	D.4.2. Field epidemiology training programme or other applied epidemiology training programme in place	3	4	↑
	D.4.3. Workforce strategy	2	3	↑

Preparedness	R.1.1. Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed and implemented	1	2	↑
	R.1.2. Priority public health risks and resources are mapped and utilized	1	1	↔
Emergency response operations	R.2.1. Capacity to activate emergency operations	2	2	↔
	R.2.2. Emergency Operations Centre operating procedures and plans	2	2	↔
	R.2.3. Emergency operations program	3	3	↔
	R.2.4. Case management procedures are implemented for IHR relevant hazards	2	2	↔
Linking public health and security Authorities	R.3.1. Public health and security authorities (e.g., law enforcement, border control, customs) are linked during a suspect or confirmed biological event	3	3	↔
Medical countermeasures and personnel deployment	R.4.1. The system is in place for sending and receiving medical countermeasures during a public health emergency	4	4	↔
	R.4.2. The system is in place for sending and receiving health personnel during a public health emergency	4	4	↔
Risk communication	R.5.1. Risk communication systems (plans, mechanisms, etc.)	1	2	↑
	R.5.2. Internal and partner communication and coordination	2	2	↔
	R.5.3. Public communication	2	2	↔
	R.5.4. Communication engagement with affected communities	2	2	↔
	R.5.5. Dynamic listening and rumor management	3	3	↔
Points of Entry (PoE)	PoE. 1 Routine capacities are established at PoE.	2	3	↑

	PoE.2. Effective public health response at Points of Entry	2	3	↑
Chemical events	CE.1. Mechanisms are established and functioning for detecting and responding to chemical events or emergencies	2	2	↔
	CE.2. Enabling environment is in place for the management of chemical events	2	2	↔
Radiation emergencies	RE.1. Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies	5	5	↔
	RE.2. Enabling environment is in place for the management of radiation emergencies	5	5	↔

No Capacity – 1: Attributes of a capacity are not in place Color Code: **Red**

Limited Capacity -2: Attributes of a capacity are in the development stage (some are achieved, and some are ongoing; however, the implementation has started). Color Code: **Yellow**

Developed Capacity – 3: Attributes of a capacity are in place; however, sustainability is measured by lack of inclusion in the operational plan in National Health Sector Planning (NHSP) and secure funding. Color Code: **Yellow**

Demonstrated Capacity – 4: Attributes are in place, sustainable for a few more years, and can be measured by the inclusion of attributes or IHR (2005) core capacities in the national health sector plan. Color Code: **Green**

Sustainable Capacity – 5: Attributes are functional, sustainable and the country supports other countries in its implementation. This is the highest level of the achievement of implementation of IHR (2005) core capacities. Color Code: **Green**

Baseline: JEE Report 2016

Target: JEE Report 2022

Indicator improved: ↑

No Change in Indicator: ↔

The above scores show that some of the areas, including AMR, preparedness, and risk communication, were given 1 score during the baseline assessment in 2016. The updated score shows considerable improvement compared to the baseline score. A brief justification for the updated score is as follows:

- **National legislation, policy, and financing:** The National Health Emergency Response Act, 2020 has been drafted to minimize the impact of an emergency on the loss of life and property and to

reduce the risks associated with disease outbreaks. Further, the Act aimed to mitigate the effects of an outbreak in Pakistan. The draft act has been sent to the parliament for approval. In addition, the National Institution of Health Ordinance was promulgated on 17th December 2020 by the President of Pakistan to deal with IHR core capacities, including surveillance, declaration of health emergency or epidemic, national health laboratories, vaccine, and biological centers.

- **IHR coordination, communication, and advocacy**: the IHR Task Force has been re-notified with the inclusion of development partners.

- **Antimicrobial resistance:** The M/o NHSR&C has initiated various activities to build capacities under AMR. One such initiative was the development of a global antimicrobial resistance surveillance system (GLASS) to establish a standardized, comparable, and validated data collection system for priority AMR pathogens. Further, with the help of development partners, various plans and policies addressing AMR have been developed, including the national AMR strategic framework for containment of antimicrobial resistance 2016 and an operational AMR national action plan 2017.
  The NIH adopted GLASS in 2016. This led to the development of the Pakistan AMR surveillance system (PASS) in 2018. Based on the AMR national action plan (2017), M/o NHSR&C costed the AMR national action plan[33], and subsequently, the AMR PC1 was approved. The completion of these plans and frameworks has resulted in the revision of the AMR score.

- **Food safety**: Food Safety Act has been drafted and is in the process of approval.

- **Biosafety and biosecurity:** The National laboratory biosafety and biosecurity policy have been developed with the help of WHO and other development partners. The policy aims to ensure the safety and security of laboratory workers and the environment in Pakistan. Similarly, the training manual for lab safety was developed in collaboration with the Pakistan Biological Safety Association (PBSA) and the National Institute of Health USA.[34]

- **National Laboratory policy**: A National laboratory policy has been developed to guide laboratory strengthening efforts for all laboratories involved in human, animal, agricultural, food safety, and environmental care. The policy follows the "One Health" approach and ensures the development of a sustainable system of laboratory services in line with international standards. This will also ensure efficient use of government funds and donor investments"[35]. Further, a reference lab has been established with the support of the CDC.

[33] www.nih.org.pk/wp-content/uploads/2018/08/AMR-National-Action-Plan-Pakistan.pdf

[34] For details see BioPrism Manual on https://pbsa.org.pk/

[35] See National Laboratory Policy Government of Pakistan 2017, Page 7

- **Real-time surveillance:** A PC1 for IDSR was approved in April 2021. Event-based surveillance systems are included as part of the approved PC1 interventions. Further, a Transformation and Excellence Center for Health (TECH) is under the process of development at NIH with the aim of conceiving, designing, developing, and implementing interoperable and robust healthcare systems with the support of USAID (GHSC-PSM - Chemonics Inc). Moreover, in the approved PC1, the IDSR and public health laboratory network (PHLN) proposed setup will generate, disseminate, and report disease surveillance data for better and effective decision-making in Pakistan's health system. The PHLN will help in early outbreak detection and response, thereby preventing the associated morbidity and mortality. The system will be linked with international disease control organizations like CDC and WHO. These interventions have improved the score of real-time surveillance indicators.

- **Workforce development**: The development of the workforce strategy has been approved under IDSR PC1. Further, the field epidemiology training program, which was previously funded by CDC has become part of the government development program, thereby ensuring sustainable funding.

- **Preparedness:** The draft plan for multi-hazard national public health emergency preparedness has been developed by M/o NHSR&C with the support of the World Bank.

- **Risk Communication:** The risk Communication strategy is in the process of development and is expected to be finalized by the end of 2021.

- **Point of Entry:** In the last three years, two PC1s for point of entry have been developed. The planning commission has approved one, and the second one, addressing quarantine facilities, is in the process of approval. Both PC1s aim to prevent and provide a public health response to the international spread of disease, while avoiding unnecessary interference with international traffic and trade through strengthening core capacities at PoE. These PC1s will ensure the strengthening of routine capacities at all PoE, but new points of entry will also be identified, and an e-reporting system established and implemented. These interventions are expected to upgrade the JEE assessment score.

4. Findings and Recommendations

The NAPHS is a living document for monitoring progress against pre-defined targets. During the revision of NAPHS costing, it was found that most of the provincial and federal IHR coordinators have been transferred or shifted to other departments, and the costing sheets were not available with the relevant line departments. In the absence of costing sheets, it was challenging for provinces to either update their costing or develop PC1 based on the NAPHS.

One way forward is to digitalize the NAPHS using the current digital platform of the M/o NHSR&C. Currently, the ministry is maintaining a Pakistan Health Information System (PHIS) to report progress on immunization, nutrition, and other health areas. Digitalization of NAPHS will ensure the routine monitoring of NPHS. Progress on activities will be updated periodically by the relevant ministry or line department. An online dashboard will also help to identify completed activities, sources of funding, implementing agency, and project name, etc. Each provincial line department will be responsible for updating the data on the dashboard, and the gap will be highlighted automatically. Through digitalization, a mechanism could be developed that could link the revised costing with the JEE score to review implementation progress towards IHR capacities. These results could then be fed into operational planning and prioritization. The digitalization of the NAPHS will also support the second JEE assessment due in 2022.

Achieving the preparedness level for health security is a sequential process. Its starts with JEE assessment that evaluate the country's preparedness capacities across 19 domains and recommend priority actions. The recommendations are then translated into NAPHS – a planning tool to accelerate the implementation of IHR core domains. Once the costed plan has been developed, the next step is to prepare a financing proposal to work out how to finance this plan. The financial proposal is followed by the investment case to bring together the political and social support in implementing the plan. Finally, a change management strategy is required to engage and coordinate with the relevant stakeholders.

Pakistan started well and conducted the JEE assessment in 2016, developed NAPHS in 2017, and accordingly costed the plan. However, it did not follow through on the development of the financial proposal for sustained financing. Consequently, a significant portion of NAPHS remained unfunded till 2021, and only 38% of activities were financed by the government or through the assistance of development partners. The investment case was never initiated, which could attract political and economic support for improving preparedness. Thereby, the costed plan never becomes part of the national budget cycle to secure sustained financing. Finally, the change management strategy was never drafted that facilitates the committed engagement of relevant stakeholders.

Pakistan is currently pursuing the revision of NAPHS at the federal and provincial levels to document progress made in the implementation of NAPHS over the last three and half years. The federal revision has is completed, and the provincial is underway. One way forward is to link the revision exercise with the development of the financial proposal, build the investment case, and articulate a change management strategy. This will ensure continuity in efforts to achieve the IHR core capacities.

The rationale for developing the NAPHS costing was to provide detailed funding requirements for implementing IHR core capacities in Pakistan. However, progress to date has not been substantial. Relevant departments at the federal level that are responsible for IHR core capacities, were found to be under-financed and under-resourced. As such, there is a dire need to strengthen the institutions working on the IHR core capacities. This can be achieved by expediting the process of approval of PC1s.

Another area that needs immediate attention is the revision of the chart of accounts for the current PFM system to track and report the spending and fund allocation on health security. Currently, the financial system of the government comprises FABS and NAM. The former is used for budgeting, and the latter is used for accounting and reporting. This system does not cater to the reporting requirements of the JEE technical areas. A detailed assessment of the current PFM system is required to assess how it can be aligned with the JEE technical areas.

A comprehensive data collection tool has been developed to update the provincial NAPHS costing. Due to travel restrictions, the tool couldn't be used for data collection; however, as the situation improves, the tool may be used to collect the data from provinces.

The original NAPHS costing was done using a quantitative tool. However, during the revision of costs, it was observed that the qualitative aspect of NAPHS was missing. In particular, the federal and provincial stakeholders highlighted many issues during the revision that could not be explained through the quantitative assessment, and that would have benefitted from more in-depth probing and discussion. Some of these issues, for example, included reasons for inadequate communication between ministries; slow progress of NAPHS implementation, lack of periodic supervision, and failure to nominate provincial IHR focal persons. Given this, as a next step, it would be helpful to supplement the existing quantitative NAPHS tool with a qualitative assessment for better implementation of NAPHS. For this purpose, a comprehensive questionnaire has been developed (Annex-3). This questionnaire will be used to perform the qualitative assessment of NAPHS at the federal level.

There is a need to build a uniform benchmarked coordination mechanism among key sectors like M/o NHSR&C, the M/o NFSR, MoCC, and relevant provincial departments to implement IHR core capacities based on One Health Approach via NAPHS. This could easily be done if the regular IHR Task Force meeting is conducted as all relevant government departments and development partners are part of the Task Force.

One of the aims of the report was to revisit the JEE technical area's score after the revised costing. It was found that 11 JEE technical areas need upgradation after the revision as most of the proposed interventions in NAPHS were completed in the last three years. The JEE scores were revised for those IHR areas where significant progress was observed. However, not all the IHR core capacities benefited equally, and their scores remain unchanged.

5. Annexes

Annex 1. Snapshot of costing template

The snapshot of the approved template is given below. The costing is organized under three levels. Level 1 provides the cumulative costs against each JEE technical area i.e., AMR, PoE, etc. level 2 provides the list of activities under each technical area and their respective costs. Finally, level three provides the detail of the activity and the breakdown. In the figure below the total cost of AMR is PKR 32.66 million (Level 1), one of the activity under AMR is "Advocacy & Knowledge Dissemination on the Concept of AMR Stewardship" (Level 2), and to complete this activity a workshop will be held (Level 3) with an estimated cost of PKR 149,000.

1	**Row Labels**	**Sum of Total Cost**
Level 1 → 2	**⊟Antimicrobial Resistance (AMR)**	**32,668,802**
Level 2 → 12	**⊟Advocacy & Knowledge Dissemination on the Concept of AMR Stewardship.**	**1,348,500**
Level 3 → 17	**⊟Workshop Cost**	**149,500**
18	Facilitator	10,000
19	Food Charges	75,000
20	Multimedia	10,000
21	Stationery/Miscellaneous	4,500
22	Venue	50,000
1951	**⊞National Legislation, Policy and Financing**	**13,578,292**
1952	**⊞Point of Entries (POEs)**	**512,580,060**
1953	**⊞Preparedness**	**113,733,062**
1954	**⊞Reporting**	**4,432,692**
1955	**⊞Risk Communication**	**8,608,648**
1956	**⊞Surveillance**	**35,787,254**
1957	**⊞Workforce Development**	**12,190,038**
1958	**⊞Zoonotic Diseases**	**68,057,008**
1959	**Grand Total**	**1,032,428,584**

Annex 2. Format of budget order

FORMAT FOR BUDGET ORDER / NEW ITEM STATEMENT

Government of Pakistan

Ministry : _____

Division : _____

Department : _____

No. _____ Islamabad, the

From : _____

_____

_____

To : _____

_____

_____

BUDGET YEAR: 2019-20

1 Type of Document (Tick the Box Applicable) ☐ BO ☐ Add. BO ☐ NIS ☐ Add. NIS

2 Fund Information : Demand No. _____ Fund Code _____ Fund Description _____

	Code	Description
3 Attached Department / Sub-Detailed Function		
4 Fund Center / DDO		
5 Circle		

6 Notes (If any) _____

_____

_____

TO BE FILLED IN ONLY BY BUDGET WING (MOF)

Document with Multiple DDOs / Departments ☐ (Tick the box where applicable)

New Diary No. _____

Old Diary No. _____

Checked By (Name) _____

Entered By (Name) _____

15

Annex 3. Qualitative assessment questionnaire

(I) General

1. What is your understanding of NAPHS?
2. What is the scope of NAPHS, and how is it defined?
3. How successfully has NAPHS been operationalized?
4. To what extent has NAPHS met its mandate of preventing, detecting, and responding objectives?
5. To what extent have planned program activities been implemented and program outputs achieved?
6. Are the processes in place for prioritizing/determining activities undertaken appropriate?
7. Is the complete NAPHS available to relevant stakeholders?
8. Is there any mechanism for information sharing/ communication between line departments/ ministries?
9. Is there a multisectoral plan to update and improve NAPHS? How often are they updated? What is the process for updating plans?
10. Are periodic NAPHS progress reports are being prepared?
11. Are NAPHS progress reports available to stakeholders?
12. Are program outputs and outcomes likely to be sustained?
13. Are there any feedback mechanisms in place to receive comments and feedback from stakeholders?
14. Are there regular deadlines in place to review the progress of specific actions within the NAPHS?
15. Have there been efforts to evaluate the effectiveness of specific policies and interventions implemented?

(II) National legislation, policy, and financing

16. Have the relevant ministries and departments reviewed their existing legislation or legal instrument and suggested improvement required for compliance with IHR?
17. Has the focal point/Legislation cell examined the proposal received, started the legislative processes, and submitted to the law department?
18. Has the legal system operationalized for IHR implementation at the Provincial level? Have deputy Commissioners of districts have developed a mechanism for IHR implementation?
19. Have the funding gaps been identified for IHR core capacities/technical areas (PC-I and donor contribution) and linked with legislation?
20. Are Advocacy/Awareness & Capacity Building activities being conducted for all stakeholders (relevant department staff) on different aspects of IHR covering all sectors?

(III) IHR coordination

21. Has the notification for the composition of the Provincial Task Force been issued to include additional sectors against the 19 technical areas with defined ToRs?
22. Has Sectoral Technical Working Groups notification at the provincial level (Health and non-Health) been issued?

(IV) Antimicrobial Resistance (AMR)

23. Have the provinces endorsed the National AMR Framework for all sectors (Health and non-Health); an action plan has been devised based on endorsement.?
24. Have the potential labs at federal and provincial levels Identified and designated for AMR surveillance at public and private sector with ONE HEALTH approach for Global AMR Surveillance System (GLASS) Implementation in Pakistan. Has the AMR reference lab been established?
25. Are the Standards for control of HCAI (Health Care-Associated Infections) been developed and implemented?
26. Have the regulations to monitor & control Use of AMR in the Animal & Human Sector (Health and non-health) been updated Issued.

(V) Zoonotic diseases

27. Has the national Zoonoses Framework been Developed & Endorsed by all sectors?
28. Has the One Health hub/dashboard (OHP) been established with defined ToRs and operational mechanisms?
29. Have the lab capabilities upgraded for tier-based Zoonoses and Bio-Safety Level-III plus lab been established?
30. Have joint surveillance and response mechanism by Medical and veterinary groups for major zoonoses been developed and implemented?
31. Has one health concept included in teaching and training curricula for medical and veterinary sciences?

(VI) Food safety

32. Has National Policy for food safety management and a strategy for food safety been developed?
33. Have the food testing laboratories been identified, designated, and established at the national and provincial levels?

(VII) Biosafety& biosecurity

34. Has the Biosafety Framework endorsed by all sectors and Translated into the national strategic framework and provincial operational plans?
35. Have database and facilities housing dangerous Pathogens at the national and provincial level established.

(VII) Immunization

36. Have Immunization centers been established in government facilities not providing vaccination services (health and non-health)?
37. Is the survey, operational research, studies are being conducted for the vaccine coverage and seroconversion?

(IX) National Laboratory System

38. Has the National Laboratory Framework endorsed by all sectors and Translated into the national strategic framework and provincial operational plans?
39. Have training plans been developed for all field and laboratory staff in the relevant discipline, including annual task-based training, refresher training, or mentoring in their appropriate technical and administrative areas?
40. Is a laboratory quality management system been established?

(X) Surveillance

41. Has Public Health Act 2010 been reviewed and finalized in the post-devolution context?
42. Has the list of notifiable diseases/events (Health and non-health) been reviewed?
43. Have the functional surveillance units been established at the district/provincial/national level?
44. Have the case definitions of identified priority diseases reviewed and finalized?

(XI) Reporting

45. Are clearly defined national/provincial and local reporting mechanisms established, and SOPs for the reporting is drafted.
46. Are Specialized HR units/departments/sections at national /provincial/regional levels established?

(XII) Preparedness

47. Have the hazard mapping and risk analysis been conducted at the national and provincial levels to support the development of multi-hazard?
48. Has the comprehensive multi-hazard, the multi-sectoral, multi-disciplinary plan developed after reviewing the existing plans.
49. Is a regular mechanism established for resource mapping -stockpiling of essential medicine and supplies, budget allocation

(XIII) Linking public health and security agencies

50. Are administrative linkages developed through the establishment of defined strategy/SOPs/protocols to guide actions of different stakeholders?

(XIV) Medical Countermeasures and Personnel Deployment

51. Are counter measures distribution plans developed & required infrastructure for medical counter measures is arranged?

(XV) Risk Communication

52. Is the dynamic risk communication strategy developed to link all stakeholders including UN agencies, INGOs, Private and Public Sector?
53. Is the mechanism for field testing and dissemination of IEC material (Disease/event specific, Health issues related and Disease Prevention and Control) developed?

(16) Point of Entries (PoEs)

54. Is the Stakeholder mapping and engagement (national & international) completed?
55. Has the Inter province & inter country coordination mechanism been developed at POE to maintain focal contact with counterparts.
56. Does the functional surveillance units at district/provincial/national level established?
57. Have the existing gaps in inspection and supervision including Food Safety (one health), Zoonotic and Vector Control facilities (at legal trade points) been addressed?
58. Is the comprehensive Contingency Plan developed for PoEs?

Annex 4. Inventory of costed activities

Table 8 below provides a detailed breakdown of the costed activities, by technical areas, over the 5-year implementation period. Activities with no costs represent the routine activities of ministry hence no costs are added.

Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	.....PKR in million.....					
National Legislation, Policy and Financing	**14.00**	**21.00**	**14.00**	**14.00**	**14.00**	**76.99**
All stakeholders to review their existing legislation or legal instrument and suggest improvement required for compliance with IHR.	5.19	12.19	5.19	5.19	5.19	32.96
Nominate focal point in all relevant Departments (health/non-health) to review existing legislative/administrative tools, develop and implement outstanding policies lead by secretary health / Provincial IHR Focal person. Consultation with the law departments for technical inputs	-	-	-	-	-	-
The focal point/legislation cell examines the proposal received, start the legislative processes, and submit to the law department for further tabling/ vetting before parliament for necessary enactment.	-	-	-	-	-	-
Make the legal system operational for IHR implementation at the provincial level. The deputy commissioner office will develop a mechanism for IHR implementation with health/ non health sectors at district level and will be the focal point for coordination. The deputy commissioner will be responsible and accountable for implementation of IHR at district level	2.92	2.92	2.92	2.92	2.92	14.61

Identification of funding gaps for IHR core capacities/technical areas (PC-I and donor contribution) is available/required. It is to be linked with legislation.	-	-	-	-	-	-
Conduct advocacy/awareness & capacity Building activities of all stake holders (relevant department staff) on different aspects of IHR covering all sectors	5.98	5.98	5.98	5.98	5.98	29.9
IHR Coordination	**6.14**	**6.31**	**6.31**	**6.31**	**6.14**	**31.20**
Strong advocacy for IHR coordination across all sectors including legal mandate for multisectoral coordination and collaboration with one health approach	-	-	-	-	-	-
Revise & notify the composition of Provincial task force to include additional sectors against the 19 technical areas with defined ToRs. Renotify points of contacts (by designation) from all sectors/stakeholders Notification of sectoral technical working groups at Provincial level (Health and non-Health)	-	-	-	-	-	-
Quarterly coordination meetings of the technical working groups (health and non-health)/national IHR Task Force	5.85	5.85	5.85	5.85	5.85	29.23
Establish/re-activate national emergency committee for assessment of infectious diseases/public health events of national/international concerns	-	-	-	-	-	-
Strengthen IHR provincial focal point for effective implementation of IHR With Legal mandate to coordinate with all stake holders (health and non-health).	-	-	-	-	-	-
Develop a mechanism for information sharing/ communication between line departments/ ministries	-	-	-	-	-	-

Tabletop exercises on IHR coordination to strengthen IHR reporting, preparedness, and response, etc.	0.30	0.46	0.46	0.46	0.30	1.98
Antimicrobial Resistance (AMR)	**41.63**	**46.07**	**35.90**	**26.17**	**7.06**	**156.85**
Endorsement of national AMR framework by all sectors (Health and non-Health) at Provincial levels supported by appropriate legislation and designated AMR over-sight committee representing all relevant sectors	6.80	4.40	-	-	-	11.19
Development of AMR national action plan based on the endorsed AMR Framework at the national and provincial level and aligned with the WHO AMR global action plan	-	3.87	-	-	-	3.87
Translation of AMR national action plan into provincial/areas operational plans highlighting integration and intersectoral coordination mechanism.	-	-	8.83	-	-	8.83
Identification and designation of potential labs at federal and provincial levels for AMR surveillance at public and private sector with ONE HEALTH approach for Global AMR Surveillance System (GLASS) Implementation in Pakistan**.** Establishment of AMR reference lab with one health approach	2.40	2.40	2.40	2.40	-	9.60
Establish sentinel lab-based surveillance for AMR to implement GLASS	17.57	16.10	14.61	14.61	-	62.90
Standardize Laboratory Methods/SOPs & unified Interpretation Matrix (CLSI/EUCAST)	2.94	-	-	-	-	2.94
Develop lab capacity through HR training and capacity building	-	-	-	-	-	-
Development and implementation of Standards for control of HCAI (Health Care Associated Infections) (Human & veterinary hospitals)	2.94	2.94	2.94	2.94	2.94	14.71
Development and up-gradation lab infrastructure as per required standards & Provision of lab supplies and equipment with sustainable funding	-	2.10	-	-	-	2.10
Advocacy & Knowledge Dissemination on the Concept of AMR Stewardship	2.10	1.20	2.10	1.20	1.20	7.78

Revise & issue regulations to monitor & control use of AMR in animal & human sector (Health and non-health)	5.89	5.89	-	-	-	11.77
Train drug inspectors/specialists (antimicrobial, fertilizer, chemical agents)	1.00	7.18	-	-	-	8.18
Train infection control specialists/ professionals in hospitals (health & non health) and other scientists in health-related sectors	-	-	5.02	5.02	2.92	12.97
Zoonotic Diseases	**87.19**	**100.35**	**86.82**	**83.22**	**82.75**	**440.33**
Development & endorsement of national zoonoses framework by all sectors (Health and Non- Health) at all levels (Federal & Provincial) supported by appropriate legislation.	5.25	2.92	-	-	-	8.17
Establish One Health hub/dashboard (OHP) with defined ToRs and operational mechanism in collaboration and coordination with provinces (Federal through Mo NHSR&C., provincial through DoH)	62.68	56.77	56.77	56.77	56.30	289.30
Identify federal, provincial & district focal points in all the concerned departments of health and non-health sectors	0.10	0.90	0.80	0.80	0.80	3.40
Develop national contingency plan supported by legal framework to encounter zoonoses, (to be linked with the legislation)	-	-	-	-	-	-
Review of priority zoonoses and expand the existing list at national and provincial level	0.02	0.02	0.02	0.02	0.02	0.10
Report sharing mechanism with relevant stakeholders	-	9.20	-	-	-	9.20
Develop and implement mechanism for joint surveillance and response by medical and veterinary groups for major zoonoses.	0.54	15.23	16.43	12.83	12.83	57.86
Engage on-going surveillance activities under FELTP and other One Health related projects at NIH, NARC and other organizations of public and private sector at national & provincial Levels	-	-	-	-	-	-
Develop and implement short in-service and refresher training modules on zoonotic disease (surveillance, lab diagnosis sample shipment etc.) for health & non health professionals	-	2.40	-	-	-	2.40
Increase strength of medical & veterinary epidemiologists under FELTP and at other institutions.	1.10	1.10	1.00	1.00	1.00	5.20

Include one health concept in teaching and training curricula for medical and veterinary sciences	-	-	-	-	-	-
Up gradation of lab capabilities for tier based zoonoses diagnosis and testing linked with National lab system, dedicated labs for zoonotic diseases and R&D. capacity building of lab and field staff on personal protection	10.08	4.38	4.38	4.38	4.38	27.62
Establishment of Bio-Safety Level-III plus lab for handling & diagnosis of priority zoonotic diseases and new emerging threats in human health and livestock	4.41	4.41	4.41	4.41	4.41	22.07
Awareness/advocacy sessions for the administrations, professionals (health & Non health) & communities on prevention and reporting	3.00	3.00	3.00	3.00	3.00	15.00
Food safety	**26.58**	**13.46**	**15.26**	**12.93**	**12.93**	**81.16**
Development of national policy for food safety management through consultation with allied sectors of human health, animal health & agriculture at all levels (federal & provincial)	8.91	-	-	-	-	8.91
Develop mechanism of cross sectoral coordination and collaboration	2.00	2.00	2.00	2.00	2.00	10.00
Enacting and implementing existing laws related to Food safety (review, amendments and development of new laws). Policy towards seed certification (GMO), fertilizer, and pesticide, and Quarantine.	-	-	-	-	-	-
Development of strategy for food safety	7.94	5.00	5.00	5.00	5.00	27.94
Develop communication strategy for Food safety (advocacy, awareness campaigns and risk communication)	4.93	4.93	4.93	4.93	4.93	24.64
Identification/designation/establishment and strengthening of food testing laboratories at national, provincial/regional and Divisional level in provinces (health and non-health) Halal certification. Need assessment for Pesticide/drug residuals testing, soil testing, nutrient analysis, chemical/metal analysis, contaminants, heavy metals, grain testing, disease diagnosis, microbial analysis	1.80	0.54	2.34	-	-	4.67
Develop better linkages between health and agriculture (health and non-health) sectors for achieving food safety across the food chain.	1.00	1.00	1.00	1.00	1.00	5.00

Develop lab capacity through skilled training and strengthening lab testing capabilities.	-	-	-	-	-	-
Standardize and harmonize laboratory Methods to the international standards	-	-	-	-	-	-
Biosafety& Biosecurity	18.34	30.18	30.08	27.14	27.14	132.90
Endorsement of biosafety framework draft by all sectors (Health and non-health) at all levels (Federal & Provincial) supported by appropriate legislation (In line with national laboratory strategic frameworks)	-	-	-	-	-	-
Translation into national strategic framework and provincial operational plans highlighting intersectoral coordination mechanism.	0.20	0.10	-	-	-	0.30
Biosafety training need assessment (TNA) and planning of trainings (health and non-health)	-	-	-	-	-	-
Institutionalize regular training programs on bio-risk management.	1.80	10.30	10.30	10.30	10.30	43.00
Establishment of an updated database and Facilities Housing Dangerous Pathogens at national and provincial level (Including GMO) (In line with national laboratory strategic framework)	2.94	5.89	5.89	2.94	2.94	20.60
Development of standards for management and control of dangerous pathogens (including GMO)	-	-	-	-	-	-
Develop laboratory capacity at all levels (public and private sectors) for safe handling of dangerous pathogens according to specific tier-based requirements. (infrastructure development, equipment, PPE etc.) (In line with National Laboratory Strategic framework)	13.40	13.90	13.90	13.90	13.90	69.00
Immunization	**43.35**	**29.84**	**130.34**	**29.84**	**30.34**	**263.70**
Strengthen existing immunization through fixed centers in terms of logistics, Skilled Immunization Staff (SIS) and infrastructure (Health)	7.19	-	-	-	-	7.19
Strengthen existing immunization through fixed centers in terms of logistics, Skilled Immunization Staff (SIS) and infrastructure (non-Health)	6.17	-	-	-	-	6.17
Establish Immunization centers in government facilities not providing vaccination services (health and non-health)	-	-	-	-	-	-

Service delivery expansion through Public Private Partnership where govt facilities setup not available/ functional.	5.82	5.82	5.82	5.82	5.82	29.11
Enhance capability for out -reach and mobile vaccination services	2.00	2.00	2.00	2.00	2.00	10.00
Enhance capacity of district in management, forecasting, surveillance, monitoring and supervision	-	-	-	-	-	-
Engage community in demand generation	0.50	-	0.50	-	0.50	1.50
Improve Data quality at all levels, data quality Self-Assessment as part of DQA Improvement plan, training of DHMT for capacity building DQA Training. HR for data management and analysis.	2.40	2.40	2.40	2.40	2.40	12.00
Strengthening M&E mechanisms	3.40	3.40	3.40	3.40	3.40	17.00
Strengthen vaccine preventable disease surveillance ensuring timeliness and completeness of VPD reports at national level and provincial levels.	-	-	-	-	-	-
Linking EPI with ERU (EOC)	5.32	15.67	15.67	15.67	15.67	68.00
Regular conduction of survey, operational research, studies for the vaccine coverage and seroconversion	0.55	0.55	100.55	0.55	0.55	102.73
Utilization of polio resources for RI including demand generation and community advocacy & VPD surveillance.	10.00	-	-	-	-	10.00
Utilizing Polio micro-census for routine immunization	-	-	-	-	-	-
National Laboratory System	**24.31**	**51.52**	**42.71**	**41.51**	**18.13**	**178.17**
Endorsement of NL framework by all sectors (animal, human & agriculture) at all levels (Federal & Provincial) supported by appropriate legislation through consultative process	-	-	-	-	-	-
Translation of national strategic framework into integrated provincial operational plans for tiered lab network	4.38	8.21	4.38	4.38	4.38	25.74
Designation of laboratory tiers/levels in national and provincial laboratory network as per operational plans and scope of testing	-	-	-	-	-	-
Strengthening of inter and intra sectoral laboratory network and collaboration system including data sharing for real-time response for health and non-health backed up with legal/legislative cover	-	8.77	8.77	8.77	-	26.30

In-service training plans will be developed for all field and laboratory staff in the relevant discipline including annual task-based training, refresher training or mentoring in their appropriate technical and administrative areas	6.19	20.80	14.61	14.61	-	56.21
Procedures for clinical specimens from investigation of urgent public health events delivery and testing to appropriate provincial, national and/or international reference laboratories within the appropriate timeframe of collection to be improved and implemented (extension/expand existing polio-based sample transport/referral to cover other diseases in health and non-health sectors)	5.89	5.89	5.89	5.89	5.89	29.43
Strengthening of national and provincial labs in terms of infrastructure, HR, equipment & supplies based on need assessment	5.89	5.89	5.89	5.89	5.89	29.43
Establishment of laboratory quality management system at all levels	-	-	-	-	-	-
Development of tier-based multi sectoral priority disease testing capabilities	1.97	1.97	1.97	1.97	1.97	9.86
Development of biomedical engineering capacity to ensure lab equipment maintenance	-	-	1.20	-	-	1.20
Surveillance	**51.46**	**53.92**	**16.94**	**11.50**	**11.02**	**144.84**
Review and finalize Draft Public Health Act 2010 in the post-devolution context. Legislation is recommended since IHR is a national mandate and should be uniformly standardized and applied to the provincial context. Adaptation into individual provincial context	5.81	5.81	-	-	-	11.61
Notify and review TWG at national and provincial levels with TORS, with representation from all the relevant sectors. Review and recommend list of notifiable diseases/events (Health and non-health)	40.15	8.43	8.43	8.43	7.95	73.39
Review and integrate existing surveillance mechanisms	-	22.82	-	-	-	22.82
Establish functional surveillance units at district/provincial/national level with fulfillment of HR and logistics requirements	5.51	5.51	5.51	3.01	3.01	22.53
Develop and Strengthen Integrated disease/event surveillance and response system (Real time) at all levels.	-	-	-	-	-	-

Establish/expand electronic reporting at all levels and sectors and linking with the national dashboard Integrate vertical program data into the main national dashboard. Establish Linkages with NHEPRN & NDMA-PDMAs/One Health for timely planning and response activities						
Increase the capacity for disease surveillance and risk analysis at all levels (health and non-health)	-	0.06	0.06	0.06	0.06	0.24
Review and finalize case-definitions of identified priority diseases	-	2.94	2.94	-	-	5.89
Define Mechanisms at all levels Community based Surveillance, Event-based Surveillance (EBS) and Indicator Based Surveillance (IBS)/ Syndromic surveillance. National, Sub-national and District level (Health and non-health) for both public and private sectors Parastatal organizations, (Health and non-health), Armed forces, Private sector involvement	-	8.35	-	-	-	8.35
Reporting	**21.64**	**21.64**	**21.64**	**21.64**	**21.64**	**108.18**
Ensure legislative/legal cover including mandatory reporting and feedback in public and private sector (health and non-health). Establish clearly defined national/provincial and local reporting mechanisms. Develop standard reporting templates**.** Develop SOPs Conduct relevant staff trainings. Conduct Exercises on developed SOPs. Authorize PFP IHR as reporting authority to National IHR Authority	6.92	6.92	6.92	6.92	6.92	34.61
Develop and strengthen joint reporting mechanisms in health and non-health sectors at all levels Development of standardized joint reporting tools Involvement of the private stakeholders in reporting mechanisms Development of the lists of priority diseases/events of public health importance	14.71	14.71	14.71	14.71	14.71	73.57
Workforce Development	9.97	8.75	9.52	4.34	7.54	40.14
Establishment of Specialized HR units/departments/sections at national /provincial/regional levels.	-	-	-	-	-	-

Reactivation of HSRU to function as focal unit for framework development and implementation for all public health related issue and HR. Activation and strengthening of the existing HR directorate; Revision of the TORs of HRD (HRD strategy/policy); Establishment/ Reactivation of HSRU to function as a focal unit for framework development and implementation for all public health-related issues and HR.	-	-	-	-	-	-
Development of a comprehensive Public Health Workforce policy/ HR strategy at national/provincial/regional levels, including the training strategy, performance-based incentives mechanism, employing human resource inventory for strategic decision making for training and managing HR in all One health sectors	1.46	1.46	4.34	4.34	4.34	15.94
Revision and upgradation of HR strategy for health and Non-health sector. Development of integrated institute for One health concept.	2.91	2.91	-	-	-	5.82
Development of specific eligibility and qualification standards for all cadres relevant to GHSA technical areas.	-	1.98	1.98	-	-	3.96
Develop protocols to post qualified persons with notified responsibility on each position.	-	-	-	-	-	-
Promote and implement the concept of deploying the existing HR as an integrated multi-disciplinary health workforce at district and community levels.	2.40	2.40	-	-	-	4.80
Enhance training opportunity for public health professionals (both human and animal) in areas of surveillance, IPC, and medical entomology (One Health)	3.20	-	3.20	-	3.20	9.60
Regular monitoring and quality assessment of the training programs.	-	-	-	-	-	-
Accreditation of training programs with relevant Regulatory Bodies	-	-	-	-	-	-
Preparedness	**132.43**	**75.51**	**40.29**	**37.83**	**34.46**	**320.53**
Advocacy to promote and prioritize the preparedness planning, budgetary allocation and ensure linkages between health & non health sectors	-	10.26	10.26	10.26	10.26	41.03
Review the legislation of NDMA/PDMA/NHEPRN for all public health related functions and how to delegate powers to DoH.	-	-	-	-	-	-

Conduct risk/ hazard mapping at the national and provincial level to support the development of multi-hazard national public health emergency preparedness and response plan	9.80	11.82	1.46	-	-	23.08
Develop a comprehensive multi hazard, multi sectoral, multi-disciplinary plan after reviewing the existing plans	60.27	24.68	14.68	14.68	14.21	128.52
Translate into provincial operational plans for implementation	-	-	-	-	-	-
Harmonization of existing information systems for integration & establishment of an integrated early warning system at district, provincial and national levels	-	11.39	3.89	2.89	-	18.17
Establishment of regular mechanism for resource mapping, stockpiling of essential medicine and supplies, budget allocation, Establish inventory and logistics management system at national, provincial, and district level	55.00	10.00	10.00	10.00	10.00	95.00
Training of CHW especially LHWs on DRR for early detection and prevention of any risk	7.36	7.36	-	-	-	14.71
Emergency Response Operations	**1.66**	**4.58**	**3.58**	**-**	**-**	**9.82**
Define the scope and mandate of ERU to effectively prepare and respond to Public Health Emergencies	0.20	0.20	-	-	-	0.40
Review and incorporate the role of other bodies such as NHEPRN/PHERN, PDSRU/FDSRU, EoC, working for public health response to establish/ support ERU as a coordinating body among relevant stakeholders	1.46	1.46	-	-	-	2.91
Delegation of authority to ERU through the NDMA/PDMA legislation for preparedness & management of One Health events	-	-	-	-	-	-
Develop and define ERU operating procedure and plans using One Health approach, including - Incident management structure/mechanism - Logistics, financial planning (operated by all line departments/ ministries) - Routine events, disaster drills, and exercises	-	2.91	3.57	-	-	6.48
Capacity building on, Risk communication, Community engagement for management of public health hazards. Response of relevant line departments to Public Health Emergencies	-	-	-	-	-	-

Test and implementation of Multi hazard national emergency, preparedness, and response Plan through full scale integrated exercises	-	-	-	-	-	-
Linking public health and security agencies	**21.88**	**3.39**	**3.39**	**3.39**	**2.91**	**34.95**
Developing administrative linkage through establishment of defined Strategy/SOPS/Protocols to guide actions of different stakeholders (Public health with Security agencies) for a coordinated multisectoral response to public health emergencies/events (health and non-health)	21.88	1.93	1.93	1.93	1.45	29.1
Incorporate linkages within the framework of multi-hazard, multisectoral, multi-disciplinary national public health emergency and preparedness Plan. Review and finalize provincial public health emergency and preparedness plans. develop district-specific plans and merge in provincial plans	-	-	-	-	-	-
Regular reviews to update scope within developed plans for including emerging/re-emerging public health emergencies	-	1.46	1.46	1.46	1.46	5.85
Medical Countermeasures and Personnel Deployment	**22.31**	**22.66**	**5.47**	**5.47**	**5.47**	**61.38**
Define standards and review the current status/capacity of medical countermeasures at provincial and district levels	-	-	-	-	-	-
Review and develop countermeasures distribution plans & required infrastructure for medical counter measures	15.97	15.77	4.47	4.47	4.47	45.16
Development of a comprehensive plan for the deployment of health personnel	6.34	5.89	-	-	-	12.22
Development of a regulatory mechanism for foreign health personnel, orientation background checks. Plan for movement inside the country and liaison with law enforcement agencies	-	-	-	-	-	-
Employment of roster experts in areas/ countries with established public health emergencies for exposure and experience sharing	-	1.00	1.00	1.00	1.00	4.00
Risk Communication	**18.88**	**23.60**	**20.64**	**20.64**	**20.64**	**104.40**
Development of dynamic risk communication strategy to link all stakeholders including UN agencies, INGOs, Private and Public Sector	1.20	5.93	2.96	2.96	2.96	16.01

Development, field testing, and dissemination of IEC material (Disease/event-specific, Health issues related and disease prevention and control). Community engagement through Social Mobilization involving community stakeholders	7.41	7.41	7.41	7.41	7.41	37.03
Nomination of dedicated/designated federal/provincial and district spokespersons to communicate with print/social media, line departments, and community	-	-	-	-	-	-
Develop/review/update integrated Risk communication plan involving all stakeholders	-	-	-	-	-	-
Establishment of national, provincial/district risk communication system assessment of existing capacities to establish Provincial and district Risk communication Units. Development of guidelines, TORs, and SOPs	-	-	-	-	-	-
Coordination and information risk communication/dissemination mechanism among health and non-health sectors to implement One Health approach	10.27	10.27	10.27	10.27	10.27	51.36
Dissemination of seasonal/event alerts to all stakeholders including Health (public, private, and academics) and non-health sectors for preparedness and timely response	-	-	-	-	-	-

Point of Entries (POEs)	607.71	308.38	282.69	236.4	230.1	1,664.9
Identify and designate points of entries	-	-	-	-	-	-
Stakeholder mapping and engagement (national & international)	14.89	14.89	14.89	5.89	5.89	56.43
Inter province & inter country coordination mechanism development at POE to maintain focal contact with counterparts	3.00	3.00	3.00	3.00	3.00	15.00
Establish functional surveillance units at district/provincial/national level with fulfillment of HR and logistics requirements	-	-	-	-	-	-
Detailed assessment of all POEs including (HR, logistics, medical facilities, quarantine facility and coordination mechanism,)	564.78	204.09	211.84	191.8	185.8	1,358.4
Address the existing gaps in inspection and supervision including food safety (one health), zoonotic and vector control facilities (at Legal trade points)	8.83	26.48	26.48	17.66	17.66	97.11
Necessary arrangements for the control of emerging / re-emerging diseases	-	-	-	-	-	-
Integration of One Health response at POEs.	-	27.68	26.48	17.66	17.66	89.48
Development of comprehensive contingency plan for POEs and link with already existing contingencies plans (such as CAA plan)	16.21	32.24	-	-	-	48.45
Designation of the identified International POEs by WHO	-	-	-	-	-	-