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# **Assessment of the crowding out of childhood immunisation expenditures in Pakistan due to the COVID-19 response**

Final report

May 2023

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## List of abbreviations

ADB	Asian Development Bank
AfD	Agence Française de Développement
CARES	COVID-19 Active Response & Expenditure Support Program
COVIM	COVID-19 Inventory Management System
EPI	Expanded Programme on Immunization
FDI	Federal Directorate of Immunisation
FEC	Foreign exchange component
FY	Financial year
Gavi	Global Alliance for Vaccines and Immunization
GDP	Gross domestic product
HSS	Health system strengthening
IMF	International Monetary Fund
IPV	Inactivated poliovirus vaccine
IRMNCH&N	Integrated reproductive maternal neonatal child health and nutrition
IsDB	Islamic Development Bank
KII	Key informant interview
KP	Khyber Pakhtunkhwa
MoNHSR&C	Ministry of National Health Services Regulation and Coordination
NCC	National Coordination Committee
NCOC	National Command and Operation Centre
NDMA	National Disaster Management Authority
NEOC	National Emergency Operation Cell
NFC	National Finance Commission
NISP	National Immunisation Support Project
NVS	New and underused vaccines support
OFID	OPEC Fund for International Development

OPEC	Organization of the Petroleum Exporting Countries
PC-1	Planning Commission Form-1
PCV	Pneumococcal vaccine
PKR	Pakistan Rupee
PPE	Personal protective equipment
RFCC	Refinance Facility for Combating COVID-19
RFI	Rapid Financing Instrument
TCA	Targeted Country Assistance
TCV	Typhoid conjugate vaccine
UNICEF	United Nations Children's Fund
WHO	World Health Organization

# 1 Background and context

## 1.1 Country profile

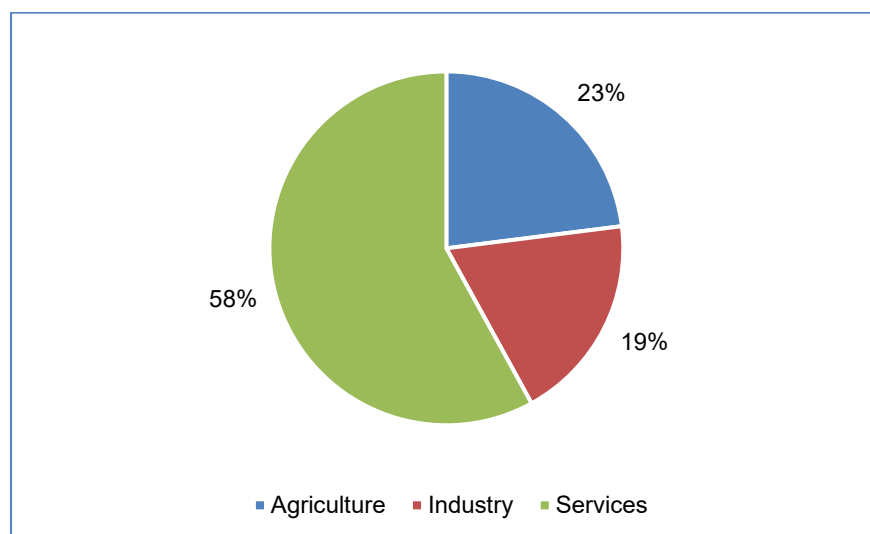
### 1.1.1 Macroeconomic country profile

Pakistan is the fifth-most populous country in the world, with over 207.8 million people and a population growth rate of 2.4% (Pakistan Bureau of Statistics, 2017). More recent sources estimate that the total population has increased to 220 million people today (United Nations, 2021). Within the country, Punjab has the highest population, at 110.0 million people, followed by Sindh, with 47.9 million, Khyber Pakhtunkhwa (KP), with 30.5 million, and Balochistan, with 12.3 million (Pakistan Bureau of Statistics, 2017).

Around 63.6% of the country's population reside in rural areas and 36.4% reside in urban areas. Administratively, Pakistan has four provinces – Punjab, Sindh, KP, and Balochistan – and three federating areas – Gilgit Baltistan, Azad Jammu and Kashmir, and the Islamabad Capital Territory.

The sector-wise contribution to the economy in financial year (FY) 2021-22 is as follows:

**Figure 1: Sectoral contribution to Pakistan's GDP**



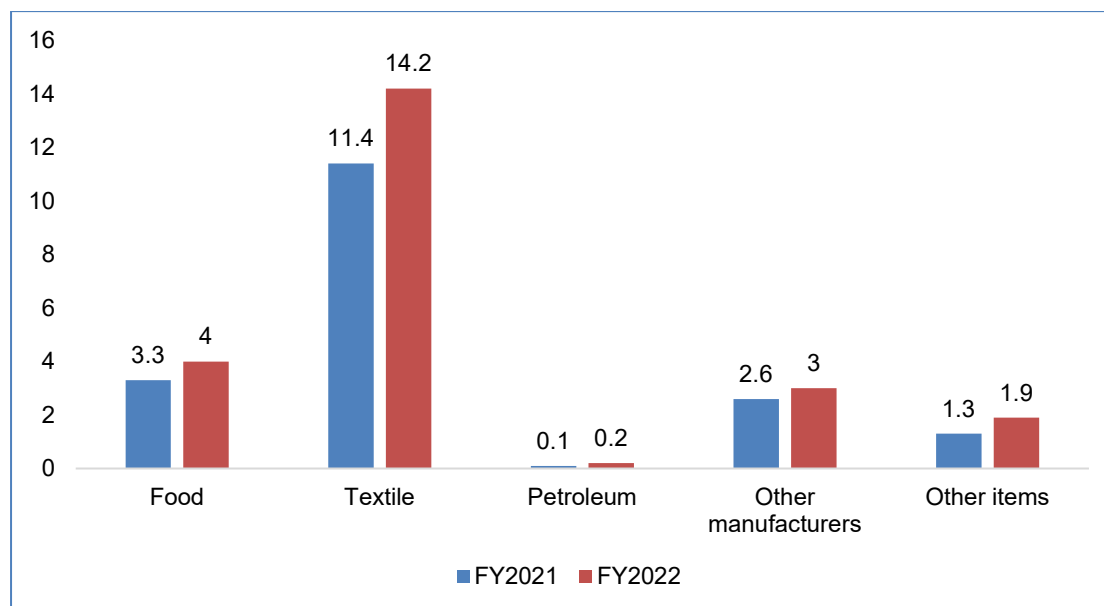
Source: Pakistan Economic Survey 2021-22.

In FY 2021-22, Pakistan's economy demonstrated a strong V-shaped recovery for the second year in a row, following the devastating impact of the global COVID-19 pandemic. The country's nominal gross domestic product (GDP) stood at US\$ 415.8 billion in FY 2021-22 (Pakistan Bureau of Statistics, 2023), with the GDP growth rate recorded at 6% that year (State Bank of Pakistan, 2022).

Pakistan's exports stood at US\$ 31.8 billion in FY 2021-22, increasing by 25.6% compared to the previous year (Pakistan Bureau of Statistics, 2023). Textiles were the leading export

product, accounting for 60.8% of total exports, increasing by 25.5% compared to the previous year (Pakistan Bureau of Statistics, 2023).

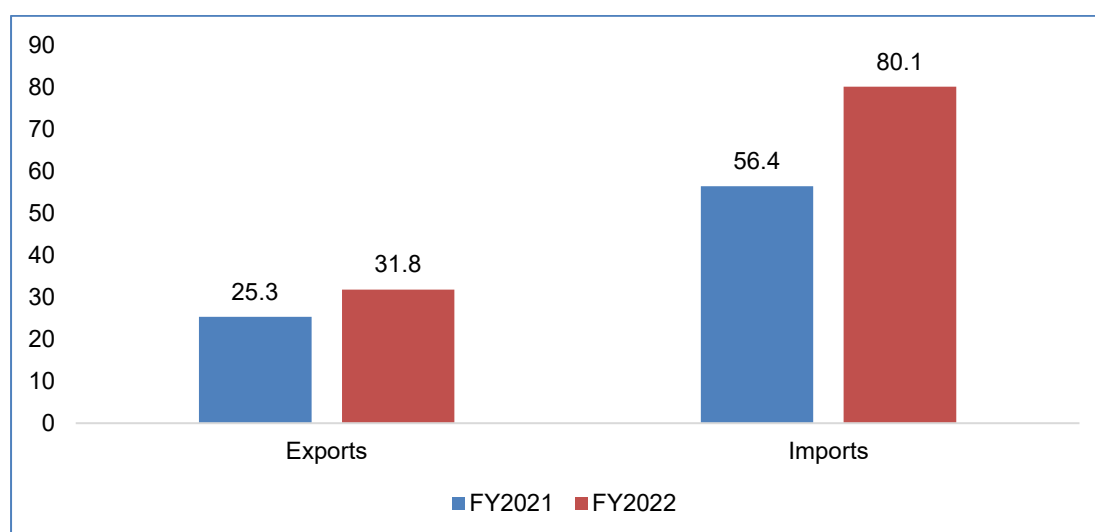
**Figure 2: Pakistan's exports by category (US\$ in billions)**



Source: Annual Analytical Report on External Trade Statistics of Pakistan FY 2021-22, Pakistan Bureau of Statistics.

Pakistan's imports stood at US\$ 80.1 billion in FY 2021-22, increasing by 42.1% compared to the previous year (Pakistan Bureau of Statistics, 2023). Food accounted for the highest share of overall imports, at 11.3% (Pakistan Bureau of Statistics, 2023). The country faced an estimated trade deficit of US\$ 48.4 billion in FY 2021-22 (Pakistan Bureau of Statistics, 2023). However, record-high workers' remittances of US\$ 31.2 billion in FY 2021-22 helped to balance this increase in the deficit (State Bank of Pakistan, 2022).

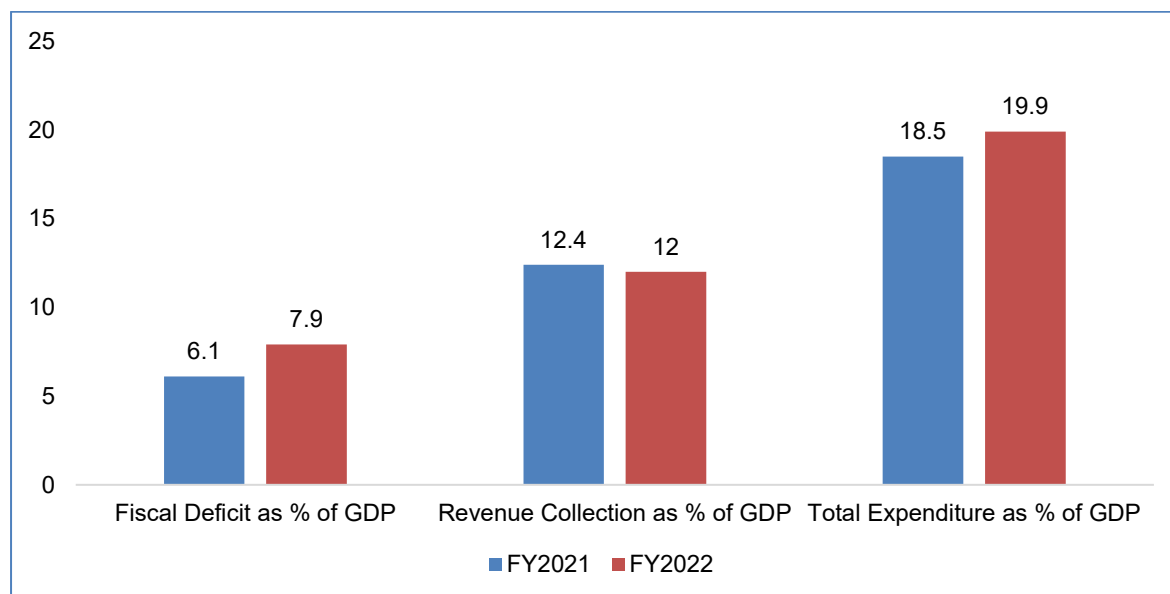
**Figure 3: Pakistan's trade deficit (US\$ in billions)**



Source: Annual Analytical Report on External Trade Statistics of Pakistan FY 2021-22, Pakistan Bureau of Statistics

The Federal Board of Revenue collected Pakistani rupees (PKR) 6.1 trillion net revenue in FY 2021-22, an increase of 29.1% compared to FY 2020-21 (Federal Board of Revenue, 2022). Despite increased tax collection, the fiscal deficit was 7.9% of GDP in FY 2021-22 (Finance Division, 2022).

**Figure 4: Pakistan's fiscal deficit (as % of GDP)**



Source: Asian Development Bank (ADB).

Pakistan's total debt-to-GDP ratio stood at 66.2% in FY 2021-22; the trend over previous years is set out in the table below.

**Table 1: Pakistan's total debt-to-GDP ratio**

Total debt-to-GDP ratio (US\$ in billion)			
Year	Total debt of government	GDP	Debt to GDP (%)
2017-18	189.5	322.6	58.7
2018-19	181.0	268.5	67.4
2019-20	197.6	282.6	69.9
2020-21	226.8	354.7	63.9

Source: Annual Debt Review and Public Debt Bulletin 2021-22, Ministry of Finance.

To fight the COVID-19 pandemic, the Government of Pakistan was supported through grants, loans and budgetary support provided by various donors and partners. The details of this support up to February 2023 are provided below:

**Table 2: Pakistan's COVID-19 financing**

Summary of Pakistan's COVID-19 financing* (US\$ in million)			
Assistance		Commitment	Disbursed
Grants	European Union	175.6	107.3
	USA	63.4	23.7
	Japan	32.3	7.4

<b>Summary of Pakistan's COVID-19 financing* (US\$ in million)</b>			
	World Bank	19.9	7.3
	ADB	7.8	0.5
	China	4.0	4.0
	UK (£2.6 million)	3.4	3.4
	Canada	2.4	2.4
	South Korea	0.9	0.9
	Islamic Development Bank (IsDB)	0.4	0.2
	United Nations	0.4	0.4
	<b>Total</b>	<b>310.3</b>	<b>157.4</b>
Project Loans	World Bank	490.0	273.4
	ADB	800.0	198.0
	France (Agence Française de Développement (Afd)) (€18 million)	21.4	21.4
	IsDB	122.5	61.6
	<b>Total</b>	<b>1433.9</b>	<b>554.5</b>
Budgetary Support Loans	International Monetary Fund (IMF) (Rapid Financing Instrument (RFI))	1,386.0	1,386.0
	ADB (COVID-19 Active Response & Expenditure Support Program (CARES))	500.0	500.0
	Asian Infrastructure Investment Bank (co-financing ADB and World Bank)	750.0	750.0
<b>Total</b>	<b>2,636.0</b>	<b>2,636.0</b>	
<b>Grand total of COVID-19 financing</b>		<b>4380.3</b>	<b>3347.9</b>

Source: Economic Affairs Division of Pakistan.

\*Table updated till February 2023.

All project loans given by the World Bank and ADB were concessional in nature, with a payback period of 25 years at an interest rate of 2.0%. The US\$ 21.4 million loan disbursed by the Government of France through AfD was a saving from existing/ongoing projects, disbursed to the National Disaster and Risk Management Fund. The US\$ 122.5 IsDB loan comprised US\$ 72.5 million (US\$ 70 million from IsDB and US\$ 2.5 million from IsDB's Islamic Solidarity Fund for Development), which was used for project management and the Contingency Emergency Response Component, and of US\$ 50.0 million from the Organization of the Petroleum Exporting Countries (OPEC) fund to support COVID-19 response efforts in Pakistan.

In regard to budgetary support, US\$ 1,386.0 million was provided by the IMF via the RFI, which was a short-term loan with a two-year grace period and a two-year repayment period. US\$ 500.0 million was provided by ADB for CARES and disbursed to the Ministry of Finance. This has commitment charges of 0.2% per annum, an interest rate of LIBOR + 0.5% and a payment period of 15 years (including a three-year grace period). The US\$ 750.0 million budgetary support provided by the Asian Infrastructure Investment Bank included US\$ 500.0 million co-financed with the ADB CARES Budgetary Support Facility

and US\$ 250.0 million co-financed with the World Bank's SHIFT Program Facility. Both amounts were concessional financing, in the form of budgetary support, and have been fully disbursed to the Ministry of Finance.

The loans taken out for the pandemic added US\$ 3.2 billion to the overall debt burden of the country. With the average inflation rate in Pakistan standing at 11.3% in FY 2021-22, compared to 8.8% in the previous year, and a significant depreciation of the PKR against the US dollar, the repayment of this debt will put an increasing burden on Pakistan's economy (Finance Division, 2022).

## 1.1.2 Childhood immunisation in Pakistan

Pakistan has the third highest burden of child mortality in the world, as well as the third largest number of under-vaccinated children in the world. It is one of only two remaining countries where polio is endemic. Around 15.0% of the country's population is under the age of five. Every year, almost 3 million children do not receive readily available vaccines, leaving them vulnerable to life-threatening diseases (Saeed and Hashmi, 2021).

The Expanded Programme on Immunization (EPI) was launched in 1978 to protect children in Pakistan from vaccine-preventable childhood diseases. While the private sector provides approximately 3.0% of immunisation services in the country, the EPI is the main programme through which routine immunisation is provided to the public (Wain *et al.*, 2016). Initially, the EPI provided protection against childhood tuberculosis, poliomyelitis, diphtheria, pertussis, tetanus, and measles. Later, with the support of development partners, a number of new vaccines were introduced: a hepatitis B vaccine in 2002, an haemophilus influenzae type b (Hib) vaccine in 2009, the pneumococcal vaccine (PCV) in 2012, and the inactivated poliovirus vaccine (IPV) 2015. The rota vaccine was introduced in 2017 and the typhoid conjugated vaccine (TCV) was introduced in 2019 in Sindh and Punjab and in Islamabad in 2021. A measles vaccine is being replaced with the Measles Rubella (MR) vaccine, which also protects against rubella and congenital rubella syndrome (CRS).

The EPI targets almost 7.5 million children annually across the country for routine immunisation and approximately the same number of pregnant women against tetanus. EPI services are delivered at community and health service delivery institutions; all public sector health facilities and union councils must have a functional EPI centre that serves the catchment population (Houdroge *et al.*, 2022). Outreach vaccination services are used to target the population that resides outside of the fixed centres' catchment areas. Mobile vaccination strategies are also used to reach remote areas, such as certain regions in Balochistan.

In 2012, Pakistan became one of the 194 countries that endorsed the Global Vaccine Action Plan, which sets out global and country-specific targets for immunisation. According to the plan, Pakistan committed to achieve the following targets by 2020:

1. achieve 90.0% national coverage and 80.0% coverage in every district with three doses of diphtheria-tetanus-pertussis-containing vaccines;
2. achieve 90.0% national coverage and 80.0% coverage in every district with all vaccines included in the national schedule; and

### 3. achieve a world free of poliomyelitis.

However, despite considerable progress in the last few decades, Pakistan has been unable to meet any of these targets, with childhood immunisation coverage remaining critically low compared to expected performance. According to the Pakistan Demographic Health Survey 2017-18, only 66.0% of children in the country were fully immunised in the year of the survey (National Institute of Population Studies, 2018). A more recent survey conducted at the national level found that 76.1% of children under the age of two had received the full course of vaccinations recommended by the government (Aga Khan University, 2021). Of the remaining children, more than one in every six, or 17.7%, were partially vaccinated, while 5.9% had never been vaccinated. Furthermore, severe regional disparities exist in immunisation, with the following vaccine coverage levels across regions: Punjab 89.9%, Azad Jammu and Kashmir 88.8%, KP 68.4%, Sindh, 61.1%, and Balochistan 37.6%.

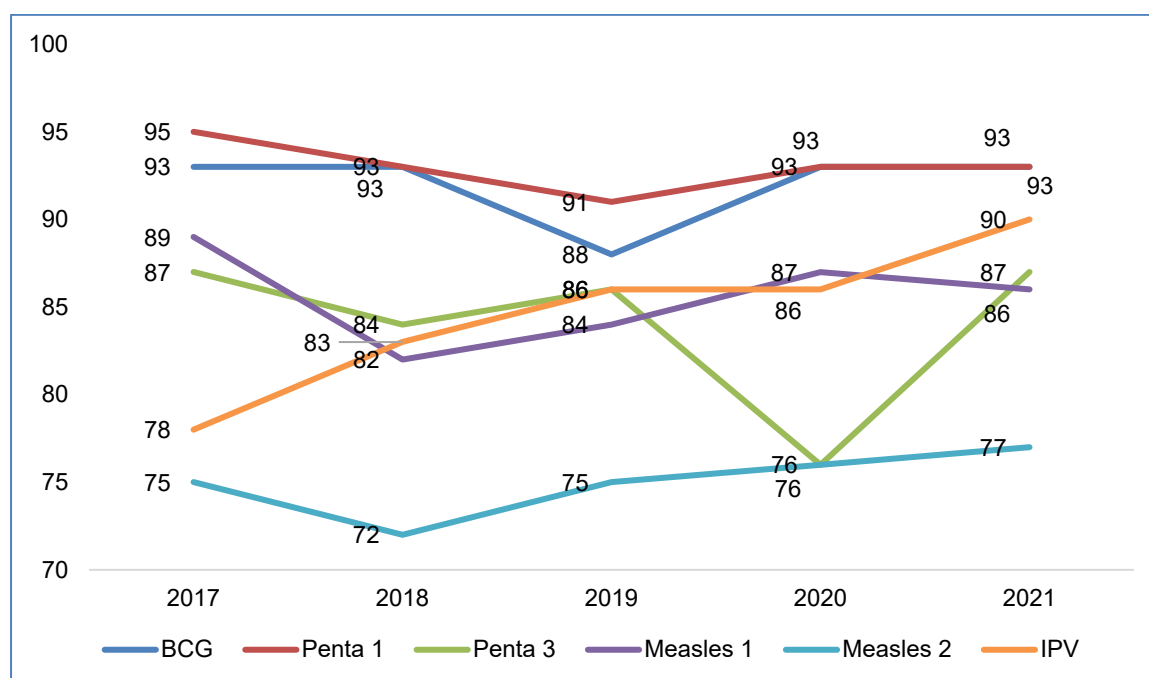
Immunisation is not only a cost effective and highly impactful initiative, immunising children with necessary vaccines can also avert up to 17.0% of childhood mortality in Pakistan, and can help contribute towards achieving Sustainable Development Goal 3 ('Good Health and Well-Being'). However, the EPI's success in the country is hindered by widespread vaccine hesitancy that is caused by several factors, such as low literacy rates, socio-economic disparities, misplaced cultural and religious beliefs, and a lack of parental awareness.

To increase equitable coverage of services for immunisation against vaccine-preventable diseases and to strengthen the existing EPI through relevant financial and programmatic reforms, in 2016 Pakistan adopted the five-year National Immunisation Support Project (NISP), with the support of Gavi, the World Bank, and the Bill and Melinda Gates Foundation. Under NISP, the programme's efficiency improved, as multiple donors and sources of funding were consolidated under the Multi-Donor Trust Fund for co-financing. Furthermore, 10 results-based disbursement-linked indicators were adopted to monitor progress on immunisation coverage performance and to determine the release of vaccine funds.

#### **1.1.3 Immunisation after COVID-19**

Vaccine coverage was hampered by the onset of the COVID-19 pandemic, not only in Pakistan but across the world. In 2021 alone, 25 million children worldwide missed out on routine immunisations against common diseases like diphtheria, tetanus, and pertussis, continuing a downward trajectory that began in 2019 (World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), 2022). As the largest sustained drop in childhood immunisation in 30 years, this historic backsliding signals a 'red alert' for global child health (WHO and UNICEF, 2022).

On average, immunisation coverage in Pakistan dropped by 16.0% (Gavi, 2020) and an overall disruption of 36.0% in routine immunisation was recorded during the national lockdown imposed during the pandemic (Rahman *et al.*, 2021). Immunisation coverage was impacted the most in Punjab and Sindh. Furthermore, rural areas, followed by urban slums, witnessed greater drops in the number of immunisations as compared to urban cities (Gavi, 2020).

**Figure 5: Immunisation coverage in Pakistan (% of children immunised)**

Source: National EPI Review Report 2021 (published in February 2022).

Figure 5 shows annual antigen-wise national immunisation coverage in Pakistan. Significant drops can be seen in yearly coverage of Penta 1, Penta 3, and IPV, following the onset of the COVID-19 pandemic in 2020. At the micro level, data show that during the period from January to June 2020, roughly 700,000 children missed their BCG dose, 1 million missed their Penta 1 vaccine, 1.3 million missed Penta 3 doses, and 900,000 missed their measles-1 vaccine (Gavi, 2020). More than 150 EPI polio health workers had contracted COVID-19 by mid-2020 (Gavi, 2020), and as many as 40 million children missed their polio vaccinations in April 2020 (Din *et al.*, 2020). A total of 1.3 million children were unvaccinated in Pakistan in 2020, an increase of 0.4 million compared to the previous year (UNICEF, 2021). Overall, the pandemic had a significant impact on vaccine coverage and put a critical strain on Pakistan's already overburdened health system.

However, it is important to note that robust recovery efforts were initiated by Pakistan to make up for lost progress on childhood immunisation coverage and to return to pre-pandemic levels of protection. Figure 5 illustrates that coverage of Penta 3 and IPV demonstrated a significant upward trend in 2021 compared to 2020. 'Zero-dose' children born during the pandemic were effectively tracked and vaccinated through the incorporation of mobile vehicles, dissemination of information, and door-to-door campaigning. The EPI's Enhanced Outreach Activities to cover missed children successfully vaccinated around 480,000 children between June and August 2020 (Gavi, 2020).

Once COVID-19 immunisation services started, outreach activities for routine immunisation were integrated within these efforts as well. Evening and weekend shifts were initiated at immunisation outposts to cover as many children as possible. Tailored services were devised and adapted to the needs of the community within the COVID-19 context. Such activities are still ongoing and districts in all provinces across the country have prioritised the vaccination of children through large-scale campaigns.

### 1.1.4 Health financing country profile

Public expenditure on health serves as an essential indicator of a country's progress towards meeting its health-related targets. Pakistan's healthcare delivery system is made up of both public and private sectors, with responsibilities shared across a devolved governance structure. In pursuance of the 18th Amendment of the Constitution, administrative and financial autonomy of the health sector has been devolved to the provinces, while areas and territories are managed by the federal government. The federal government continues to support various health-related projects through the Public Sector Development Programme to achieve the Sustainable Development Goals and improve the overall health status in the country.

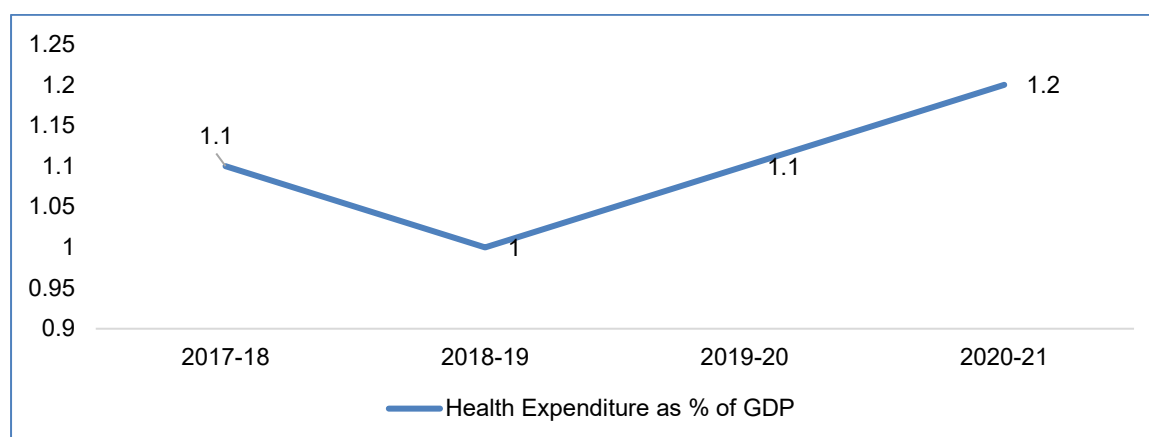
The WHO has recommended that a government should spend at least 5.0% of its GDP on health and ensure health expenditure of at least US\$ 60 per person if a country wants to achieve universal health coverage (WHO, 2010). This estimate was subsequently updated to US\$ 86 per capita (Chatham House, 2014). These are particularly challenging targets for low- and middle-income countries.

As evidenced by the details of federal and provincial spending on health set out in Table 3, Pakistan's total public expenditure on health is significantly less than the amount required to serve its large population and amounts to around 1.0% of its overall GDP. Furthermore, *per capita* spending on health is only US\$ 39.0 (Knoema, 2022).

**Table 3: Total public sector expenditure on health**

Fiscal year	Total public sector expenditure on health (US\$ millions)					Total health expenditure (federal and provincial)
	Federal	Punjab	KP	Sindh	Balochistan	
2017-18	315.6	1,872.1	432.3	747.3	182.4	3,549.7
2018-19	194.4	1,618.0	346.2	658.8	157.0	2,974.4
2019-20	156.1	1,564.0	352.5	717.8	175.1	2,965.5
2020-21	332.0	1,762.0	504.2	903.2	182.0	3,683.4
Per Capita Expenditure on Health (US\$)						
<b>2020-21</b>		16.0	18.9	16.5	14.8	

Source: Budget documents available on the websites of the finance departments/divisions of the respective governments.

**Figure 6: Health expenditure as % of GDP**

Source: Pakistan Economic Survey 2021-22.

Provincial shares in total public spending on health show that Punjab is spending the highest and Balochistan the lowest. However, when a comparison is done on the basis of population shares, it is seen that Balochistan (5.9% population share) spent 4.9%, KP (14.7% population share) 13.7%, Punjab (52.9% population share) 47.8%, and Sindh (23.1% population share) 24.5% in 2020-21. Sindh is the only province whose provincial share in total public spending is greater than its population share in the country (Pakistan Bureau of Statistics, 2017). Overall, Pakistan has only been able to allocate around 1.0% of its GDP to health, due to which out-of-pocket payments have a large share in the country's total health financing.

### 1.1.5 Public financial management/budgeting system in place

In Pakistan, the annual budget is presented in the first week of June each year by the federal government in the National Assembly, followed by each of the provincial governments in their respective Provincial Assemblies.

The government's budget cycle consists of six stages (Finance Division, 2020):

1. Setting of budget strategy, initiatives, and priorities by the federal government.
2. Preparation of budget by relevant divisions and ministries, and submission to Finance Division.
3. Submission of Annual Budget Statement to National Assembly for approval and authentication by the Prime Minister.
4. Implementation stage, whereby the approved budget is shared with relevant divisions and ministries for expenditure according to the strategy issued by the Finance Division.
5. Reporting of actual revenues and expenditures to monitor progress against budget throughout the financial year.
6. Mid-year budget review of revenue, financing, and expenditure placed before National Assembly by 28 February every year; Finance Division has also started undertaking quarterly budgetary reviews.

The components of the Federal Budget for Receipts and Expenditure are as follows:

**Table 4: Components of Federal Budget for Receipts and Expenditure**

Federal receipts	Federal expenditure
Federal Consolidated Fund (5+6)	Current Expenditure on Revenue Account
1. Tax Revenue Receipts Direct Taxes Indirect Taxes	1. General public service
2. Non-Tax Receipts Income from Property Receipt from Civil Administration Miscellaneous Receipts	2. Defense Affairs and Services
3. Total Revenue Receipts (1+2)	3. Public Order Safety Affairs
4. Capital Receipts (Recovery of Investment, Recovery of Loans and Advances Domestic Debt Receipts (net))	4. Economic Affairs
5. Total Internal Receipts (3+4)	5. Environment Protection
6. External Receipts (Loans, Grants)	6. Housing and Community
7. Public Account Receipts (net) (Deferred Liabilities (net) Deposits and Reserves (net))	7. Health Affairs and Services
8. Gross Federal Resources (5+6+7)	8. Recreational, Culture Service
9. Less Provincial Share in Federal Taxes	9. Education Affairs Services
10. Net Federal Resources (8-9)	10. Social Protection
11. Cash Balances built up by the Provinces	
12. Privatization Proceeds	
13. Credit from Banking Sector	

Source: Pakistan Institute for Parliamentary Services.

The most important component of provincial budgetary receipts is transfers from the federal government every year, which represent the share of the provinces in direct and indirect taxes and duties levied and collected by the federal government. This revenue distribution between the federation and provinces is made under the National Finance Commission (NFC) Awards.

According to the 7th NFC Award, the share of provinces in vertical distribution is 57.5%. Details of each province's share are provided below:

**Table 5: Provincial shares of revenue distribution according to 7th NFC Award**

Provincial shares of revenue distribution according to 7th NFC Award (%)			
Punjab	KP	Sindh	Balochistan
51.7	14.6	24.6	9.1

These shares are based on a multiple-criteria formula that gives weight to each province's population (82.0%), poverty and backwardness (10.3%), revenue collection/generation (5.0%), and inverse population density (2.7%).

## 1.2 COVID-19 pandemic and response

In Pakistan, a public health emergency was declared after the identification of the first case of COVID-19 in the country on 26 February 2020. The pandemic shed a spotlight on the government's emergency preparedness and response, and put the already overburdened health facilities in the country under severe stress. The rapid reorganisation of the country's health systems, including by mobilising health workers, to respond to the pandemic, while simultaneously ensuring ongoing provision of essential services and functional service delivery platforms, proved to be challenging.

The country's response to the COVID-19 pandemic focused on four major areas: surveillance, management, response, and coordination. During the initial stages of the pandemic, all concerned departments and stakeholders directed their efforts towards finding quick and deployable solutions. The adopted approaches and strategies aligned well with the internationally recognised primary principles of epidemic control and response across the domains of *prevent*, *detect*, and *respond*.

In March 2020, the Government of Pakistan adopted a National Preparedness and Response Plan for COVID-19 as a blueprint for ensuring pandemic preparedness in the country under the Global Health Security Agenda. An Incident Command and Control/Incident Management System, and a National Emergency Operation Cell for COVID-19 response, were established to monitor the daily situation of the outbreak. Policy frameworks were drafted for federal, provincial, and regional stakeholders, to build capacity at each level to prevent, detect, and respond to confirmed cases of COVID-19. Advice was continuously issued to all relevant stakeholders on taking necessary measures and was revised from time to time according to the evolving situation.

The Pakistan Preparedness and Response Plan for COVID-19 was prepared in line with the National Action Plan, with the support of the United Nations and guided by the WHO Strategic Preparedness and Response Plan. It outlined the international assistance required by the Government of Pakistan to stop the transmission of the pandemic and to respond to the emerging public health needs of the country. The Pakistan Preparedness and Response Plan helped to steer a coordinated international effort, in consultation with the Ministry of Foreign Affairs, supporting the Ministry of National Health Services Regulation and Coordination (MoNHSR&C), the National Disaster Management Authority (NDMA), Provincial Departments of Health, and Provincial Disaster Management Authorities, under the overall efforts of the Government of Pakistan.

The Government of Pakistan also established a National Coordination Committee (NCC) to act as a key body for policy- and decision-making. In order to assist the NCC and to implement its decisions, a National Command and Operation Centre (NCOC) was created. The NCOC served as the nerve centre of the COVID-19 response, synergising and articulating a unified national effort against COVID-19 and implementing the decisions of the NCC on COVID-19.

The NDMA was responsible for the procurement, inventory management, and proper distribution of COVID-19 emergency response supplies to the federal, provincial, and district governments. Moreover, the task of surveillance was also assigned to the NDMA, along with other departments. The NDMA was originally formed to tackle emergencies such as floods,

earthquakes, and conflict; the COVID-19 pandemic posed an entirely different and more far-reaching challenge as compared to these emergencies. The NCOC bridged any gaps and deficiencies that restricted the role of the NDMA, through its effective outreach, quick decision-making, and vertical and horizontal linkages at the federal and provincial level.

At the provincial level, linkages were established with districts through clearly defined terms of reference and standard operating procedures. Provincial governments constituted various committees, technical working groups, and task forces for advisory purposes and to implement a prompt response to the evolving nature of the pandemic.

On 1 April 2020, lockdown measures were put in place for over a month, followed by a 'smart lockdown' approach being applied in 30 cities in June 2020. This approach was based on a containment strategy involving testing, rapid contact tracing of confirmed positive cases, and effective quarantining of positive and suspected cases. The government requested people who had been diagnosed with mild or asymptomatic COVID-19 to quarantine at home as some of them did not require hospital care; this helped curb the patient influx in hospitals and at diagnostic centres, thus easing the burden on health workers and medical practitioners.

Once primary and secondary contact tracing was underway, the government took steps to control its borders. This was a crucial decision, in light of the large number of Pakistani students and pilgrims studying in and travelling from China, Iran, and Europe. Strict travel restrictions were imposed to limit the spread of the virus from other countries to Pakistan. Furthermore, quarantine houses were established near borders and airports to isolate people entering the country for a short period of time, to make sure they were not infected before they moved out into the community.

The NCOC issued several guidelines on COVID-19 prevention and established a dedicated helpline '1166' to provide information about registering for vaccines and accessing healthcare facilities. The Sehat Tahafuz helpline was also established, to provide technical advice. A comprehensive media strategy was deployed to inform and educate people about the virus and standard operating procedures required as precautionary measures. Under the NCOC, a state-of-the-art dashboard was developed which provided comprehensive live data that were continually updated regarding the population infected by COVID-19, patients who had recovered, those who were critically ill, and the availability of ventilators and quarantine facilities. A mobile app was also developed for citizens, providing the details of the facilities available in proximity to users.

Pakistan's COVID-19 laboratory testing capacity was enhanced, increasing from under 100 tests per day as at February 2020 to over 79,749 tests per day by 30 June 2021. Public-private partnerships for COVID-19 testing were established and memoranda of understanding were signed with private laboratories/hospital facilities for the requisitioning of additional testing capacity at subsidised prices across the country.

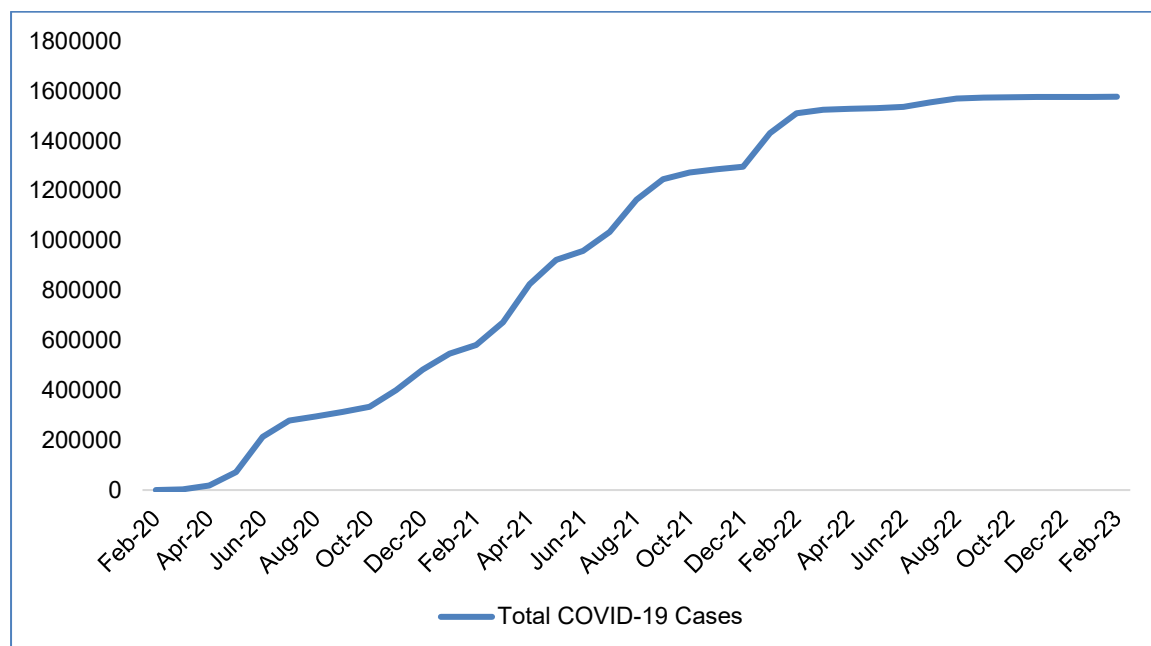
It later became clear that the only way to suppress the widespread infection and to achieve herd immunity was the development of a vaccine that was effective and widely available for distribution. According to WHO, vaccination is recommended as the best way to build collective immunisation and to prevent disease in vulnerable populations. Vaccines not

only provide individual protection for the persons who are vaccinated, they also provide community protection by reducing the spread of disease within a population.

### 1.2.1 COVID-19 cases and deaths

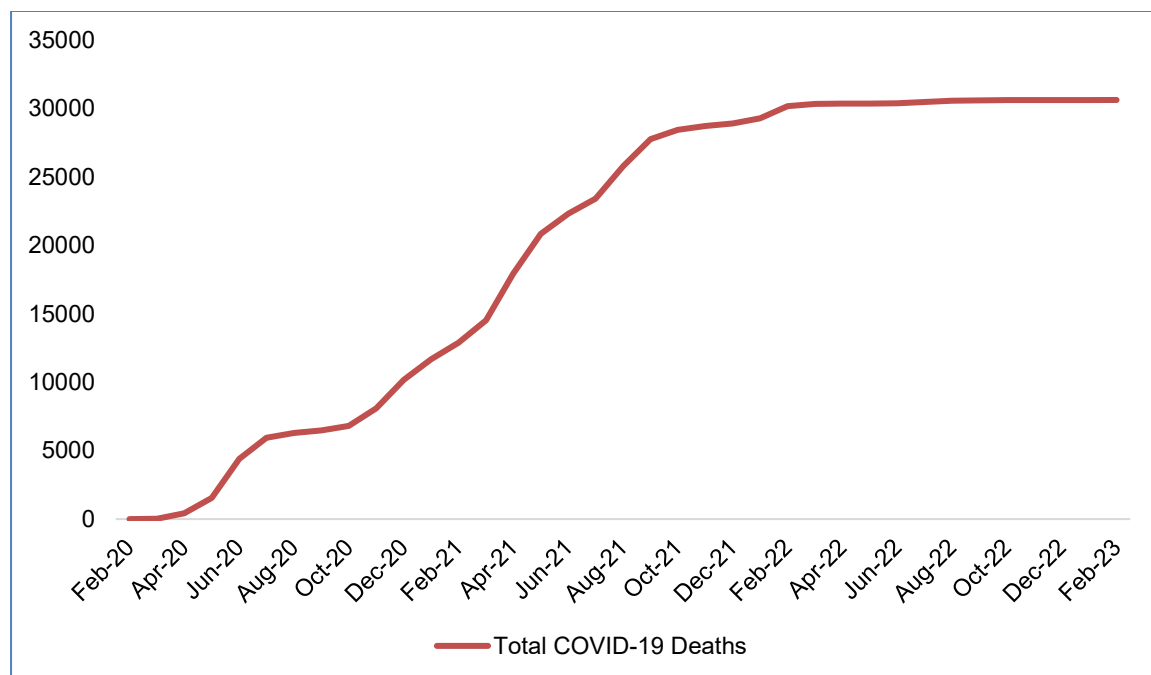
Up to February 2023, there had been 1,576,293 confirmed cases of COVID-19 and 30,640 deaths.

**Figure 7: Total cumulative COVID-19 cases in Pakistan**



Source: Our World in Data.

**Figure 8: Total cumulative COVID-19 deaths in Pakistan**



Source: Our World in Data.

## **1.2.2 Budgetary/fiscal measures introduced in response to the COVID-19 pandemic**

In Pakistan, COVID-19 was associated with a range of challenging macroeconomic repercussions, including reduced tax revenues, delayed disbursements, and a limited public budget (World Bank, 2020). For a country that spends less than 1.0% of its GDP on the health sector, the pandemic presented a major challenge in terms of resource allocation and coming up with an urgent response to the fiscal and monetary crisis.

In order to combat the pandemic, the Government of Pakistan approved a US\$ 8.0 billion (2.9% of GDP) Economic Stimulus Package on 24 March 2020, out of which US\$ 4.6 billion (1.7% of GDP) was envisaged for FY 2019-20. The unexecuted funds were to be carried forward to FY 2020-21. The key objectives of the relief package were to help the federal and provincial governments in their efforts to contain the COVID-19 pandemic, to provide medical and subsistence relief to citizens, and to support business and the economy. The package was divided into the following three components.

### **Emergency response**

An amount of US\$ 1.2 billion was announced for emergency response, which included US\$ 0.2 billion for the NDMA, US\$ 0.3 billion for medical equipment and incentives for workers, US\$ 0.6 billion for an emergency relief fund, and US\$ 0.1 billion for tax relief on food and health items.

In addition to the announced package of US\$ 0.2 billion for the NDMA, US\$ 51.0 million, along with a supplementary grant of US\$ 1.9 million, was also released, thereby bringing the total package to US\$ 0.2 billion. Out of the total released amount, US\$ 0.2 billion was utilised by the NDMA for the procurement of medical equipment and accessories (COVID-19 test kits, oximeters, scanners, ventilators (ICU, portables), oxygen cylinders, masks, thermal guns, gloves, gum boots, gowns (surgical, disposable), hand sanitiser, and disinfection of buildings etc.).

Out of the US\$ 0.3 billion allocated for the procurement of medical equipment and incentives for health workers, US\$ 55.0 million was released. From this amount, US\$ 52.0 million was placed with the Defence Services for the procurement of medical stores. The remaining US\$ 3.0 million was released as an incentive to the health workers of MoNHSR&C through provision of Health Risk Allowances to personnel combating COVID-19.

### **Relief to citizens**

The government allocated US\$ 3.7 billion for relief to citizens, including US\$ 2.3 billion for disbursement to vulnerable segments of the population, US\$ 0.5 billion for relief to the general public on petrol and diesel prices, US\$ 0.6 billion as a subsidy on gas and power, and US\$ 0.3 billion for funding to Utility Stores.

Out of the announced package of US\$ 2.3 billion for the vulnerable, US\$ 0.9 billion was allocated to the Benazir Income Support Programme for COVID-19 emergency cash

transfers for FY 2019-20. US\$ 271.3 million was also reappropriated from the regular Benazir Income Support Programme cash transfer programme. Overall, US\$ 856.8 million was utilised during FY 2019-20 and 13,162,695 beneficiaries received transfers.

Furthermore, the prices of petrol and diesel were reduced by the government in line with the US\$ 0.5 billion worth of relief announced to the general public. US\$ 96.4 million was released to the Power Division for a subsidy on power and gas against the announced package of US\$ 0.6 billion. Out of the package of US\$ 0.3 billion announced for the Utility Stores Corporation of Pakistan, US\$ 64.2 million was released by the Finance Division and utilised for the provision of basic commodities, including wheat, rice, ghee, pulses, and sugar, at subsidised rates.

## **Support to business and the economy**

The economic stimulus package to combat COVID-19 included US\$ 3.1 billion for support to business and the economy. This comprised US\$ 642.4 million as relief to exporters, US\$ 642.4 million for relief to small and medium-sized enterprises and the agriculture sector, and US\$ 1.8 billion for payment to farmers.

In addition to the US\$ 642.4 million allocated for relief to exporters, an additional supplementary grant of US\$ 2.7 billion was arranged by the Finance Division for combating the pandemic. US\$ 2.4 billion from this grant, along with US\$ 642.4 million obtained as a residual/emergency relief fund for emergency response, was shifted to create a fund to deal with COVID-19, in June 2020.

Furthermore, several other policy measures were taken to reduce the incidence of and deaths due to COVID-19 and to salvage the economy. An accommodative monetary policy was adopted, with the policy rate cut down from 13.3% to 7.0% within two months of the start of the pandemic. The State Bank of Pakistan introduced measures to support investors, exporters, and other traders who were severely affected by the pandemic. These incentives included the relaxation of credit requirements for exporters and importers, and relief for individual borrowers and the relaxation of the debt burden for consumer loans from 50.0% to 60.0%.

For the first time, the State Bank of Pakistan also initiated a refinance scheme for the health sector. The main objective was to enhance hospitals' capacities in regard to building COVID-19-specific isolation wards and increasing the provision of vital machinery, such as ventilators and oxygen-providing equipment. The health sector obtained approvals of US\$ 67.5 million out of US\$ 107.1 million under the Refinance Facility for Combating COVID-19 (RFCC).

Provincial governments also implemented supportive fiscal measures from the onset of the shock, including providing cash grants to low-income households, providing tax relief, and undertaking additional health spending (including a salary increase for healthcare workers). The Government of Punjab implemented a US\$ 115.6 million tax relief package and a US\$ 64.2 million cash grants programme. The Government of Sindh's measures included a cash grant and ration distribution programme worth US\$ 9.6 million for low-income households. The FY 2020-21 provincial budgets also relaxed taxes and provided sizeable increases in expenditure allocations, especially on health services.

### 1.2.3 Delivery of COVID-19 vaccination within the country

Pakistan launched its COVID-19 vaccination campaign on 3 February 2021, thanks to the donation of half a million doses of the Sinopharm vaccine by China. By the end of the year, seven vaccines considered to be effective against the deadly virus were registered for use in Pakistan: Sinopharm, Sinovac, AstraZeneca, Cansino, Sputnik, Pfizer-BioNTech, and Moderna. These vaccines were provided to the public at the Corona Vaccination Centres.

The COVID-19 vaccine delivery strategy in Pakistan was based on the following factors:

1. vaccine properties and availability;
2. characteristics of the target population;
3. existing platforms for delivering vaccination to different target groups; and
4. vaccine forecasting based on a near exact estimation of the priority population.

Due to the limited production of, as well as limited availability of, vaccine doses in the initial stages of the vaccination drive, frontline workers, followed by elderly people and other healthcare workers, were prioritised for vaccination, as they were deemed most susceptible to catching the infection. The roll-out of the vaccine then followed a decreasing age order (Pritchard, 2021) or groups' decreasing susceptibility to catching the virus. This idea of prioritising the population was in line with the WHO's Strategic Advisory Group of Experts on Immunization framework for the allocation and prioritisation of COVID-19 vaccination.

Policies for vaccine distribution to provinces were drafted in coordination with provincial health departments and the NCC, headed by the Prime Minister of Pakistan. The distribution of vaccines to provinces and federating areas was rationalised on the basis of the number of confirmed cases of COVID-19.

The overall COVID-19 response was spearheaded by the NCOC, which took immediate decisions on various matters, including the vaccine roll-out. The NCOC constituted an expert committee on vaccines and immunisation, comprising public health experts and researchers, as well as a National Vaccine Task Force that included local stakeholders and vaccine experts. A Development Partners Coordination Committee was also established, including representatives from the federal EPI, Gavi, the World Bank, UNICEF, WHO, ADB, the UK Foreign, Commonwealth and Development Office, and other partners. The Development Partners Coordination Committee led the development of several key resources, including the National Deployment and Vaccination Plan, the Vaccination Introduction Readiness Assessment Tool, the Vaccine Readiness Assessment Framework, the COVID-19 Costing Tool, and other planning, monitoring, and reporting documents. Furthermore, a cabinet committee was constituted to supervise and oversee COVID-19 vaccine deployment and to take necessary decisions related to administration and management under the supervision of the Prime Minister (MoNHSR&C, 2021).

To ensure COVID-19 vaccines were introduced successfully, without interrupting routine immunisation services drastically, the NCOC announced guidelines for EPI vaccinators to *not* engage in COVID-19 vaccination processes. It was the role of the provincial health departments to designate a focal person and nurse at each facility to administer COVID-19 vaccines, identify and enlist healthcare workers to be vaccinated in the first phase, provide space for Corona Vaccination Centres in health facilities, and so on. The role of the EPI was

to provide technical assistance, undertake vaccine supply chain management, share guidelines, draft applications to Gavi for the COVID-19 Vaccines Global Access (COVAX) facility, and document lessons learned. From the get-go, it was emphasised that diligence and commitment would be necessary from top to bottom to ensure only dedicated technical human resources were engaged in the COVID-19 response at all tiers, while actively protecting the resources required for routine immunisation.

The federal government relaxed the public procurement regulatory authority rules and the Ministry of Justice put in place indemnity and liability agreements for COVID-19 vaccines through COVAX and bilateral agreements. This helped to create an enabling environment for increasing vaccine availability.

COVID-19 vaccine procurement and negotiations with manufacturers fell under the ambit of the NDMA. The overall procurement process for COVID-19 vaccines was slow, since Pakistan remained heavily dependent on donations from the Chinese Government and the COVAX facility. To meet the target of vaccinating 70 million eligible people, the government committed to spending US\$ 1.1 billion to procure COVID-19 vaccines (Siddiqui *et al.*, 2021), and worked actively to secure loans from various donors and partners, such as the World Bank and ADB (see Section 3.3.6).

In April 2021, the government gave permission to private parties to procure Chinese- (AD5-nCoV) and Russian- (Sputnik V) developed vaccines for full vaccination. However, these vaccines were considered very expensive and were not seen as a viable option for a majority of the country's population. Unlike the pricing procedure for other medicines, the Drug Regularity Authority of Pakistan was not involved in the pricing mechanisms in respect of the COVID-19 vaccines; instead, the federal cabinet was involved in finalising and approving their capped price. There were concerns that the procurement of COVID-19 vaccines by private parties could eventually lead to the unequal distribution of vaccines to only the social elites. Hence, the need for a sustainable vaccination drive for the mass of the population, and local manufacturing of approved COVID-19 vaccines, was evident.

Pakistan signed an agreement with the manufacturer CanSinoBio for the import of a Chinese-developed vaccine, Ad5-nCoV, in bulk. The government started the co-production of the single-dose Ad5-nCoV vaccine and repackaged the vaccine as PakVac for the masses. This helped Pakistan provide the vaccine at a lower cost than the global price of the given vaccine.

Despite the availability of COVID-19 vaccines, vaccine uptake in Pakistan was slow due to the prevalence of several myths and misinformation regarding immunisation. Vaccine hesitancy has remained a significant challenge in eradicating endemic vaccine-preventable diseases like polio and measles, and continues to affect a majority of the country's population. To counter these beliefs, information, education, and communication campaigns were organised by provincial health departments and media channels across the country. A positive response was seen when the eligibility criteria for vaccines included those aged 30 years and below, since the younger segments of society are more educated and better informed of the benefits of vaccination.

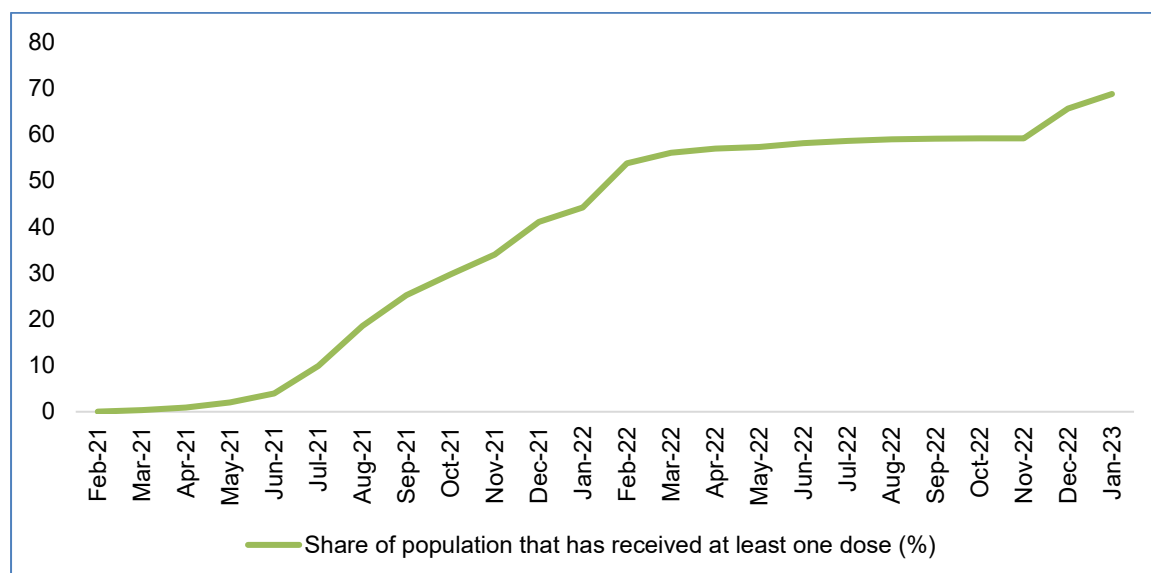
### 1.2.4 Trend of COVID-19 vaccination

For the year 2021, Pakistan aimed to vaccinate 70.0% of its eligible population of 119 million people, or a total of 83 million people. For the following year, this target was increased to the entirety of the eligible population.

However, once the vaccination campaign was initiated in February 2021, it was observed that there was widespread vaccine hesitancy in the country due to prevalence of misinformation and myths on social media. Numerous false perceptions, such as that the vaccine causes infertility in females and hormonal changes, or the idea of microchips being implanted in humans, were spread through such mediums; this further increased the gap between reality and false perceptions about the vaccine (Jin *et al.*, 2021). Religious beliefs and cultural norms also played a role in discouraging people from visiting Corona Vaccination Centres and getting themselves vaccinated.

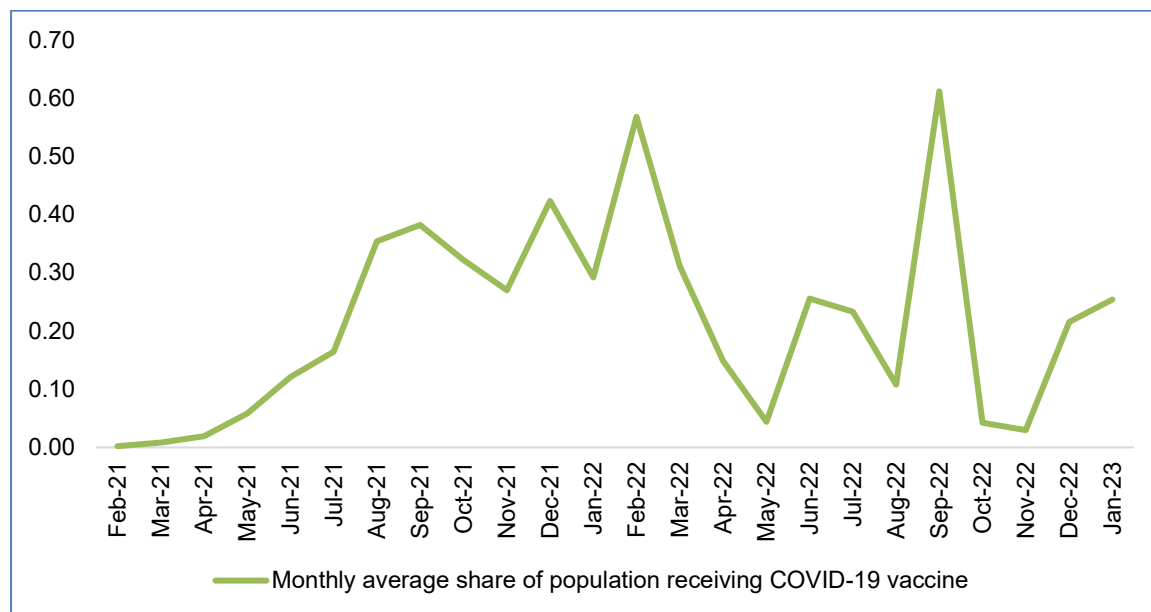
To combat such attitudinal barriers at the community level, behavioural and communication strategies were adopted, such as broadcasting vaccination messages through cellular networks. Influential community members, celebrities, and government leaders were engaged in awareness campaigns (Marten *et al.*, 2021). Announcements were made in residential areas and mosques were used to motivate people to immunise themselves against COVID-19 (Dagia, 2021). These campaigns helped to combat vaccine hesitancy to a large degree, but comprehensive and concerted efforts are needed to ensure sustainable attitudinal change in the country.

**Figure 9: Share (cumulative) of population that has received at least one dose of the COVID-19 vaccine (%)**



Source: Our World in Data.

**Figure 10: Monthly average share of cumulative population that received COVID-19 dose (%)**



Source: Our World in Data.

By December 2021, the country had managed to successfully vaccinate more than 58.0% of its eligible population, with over 150 million vaccinations carried out nationwide. Punjab led the way, with 68.0% of its eligible population vaccinated with at least one dose, followed by KP at 57.0%, Sindh at 51.0%, and Balochistan at 38.0%.

As at February 2023, nearly 69.0% of the population had received at least one dose of the COVID-19 vaccine, with a total of 333,085,477 vaccine doses administered across the country.

## 2 Methodology

The assignment reported on here aimed to investigate how investments in and expenditures for COVID-19 interventions, particularly COVID-19 vaccine procurement and delivery, have impacted investments in and expenditures for routine childhood immunisation in Pakistan.

The following scope of work was conducted:

- The assignment identified and described how programmatic areas of interest are budgeted for within the federal and provincial health budgets. Areas of interest included:
  - o childhood immunisation; and
  - o COVID-19.
- The assignment identified the trends (in an estimation exercise) in approved budget allocations for each programmatic area of interest in the period 2018–2021.
- The assignment assessed budget execution and expenditure in the programmatic areas of interest in the period 2018–2021.
- The assignment determined financing sources for the programmatic areas of interest (e.g. general revenue, loans, earmarked or special funds, and external funding), either provided through the national budget or directly to MoNHSR&C. External development partner support for relevant areas was quantified where possible, and financing flows to the health sector at the provincial level were established.
  - Based on the findings of the research, the assignment developed country-specific and globally relevant recommendations in protecting and maintaining investment in childhood immunisations.

An inception report was finalised in November 2022 that outlined the overall parameters of the assignment, as well as the scope of work and methodology to be adopted. Furthermore, as part of the report, study-specific tools for the collection of quantitative and qualitative data were developed and individuals were identified for key informant interviews (KIIs).

### 2.1 Data collection

The quantitative data collection tool had fields for information about budget estimates, released budget, and actual expenditure undertaken on EPI vaccines, as well as COVID-19 interventions. This template was shared with the relevant ministries/departments of the federal government and the provincial governments of all four provinces in the country: Punjab, Sindh, KP, and Balochistan.

As a starting point, relevant budget codes for areas of interest were identified. Data regarding allocations and expenditures were drawn directly from the federal EPI cell, now known as the Federal Directorate of Immunization (FDI), and provincial EPIs, as well as from budgetary documents collected from relevant stakeholders at the federal and provincial levels. Both budget and expenditure data were requested in a disaggregated format. Each of the line-items had the following descriptive data wherever applicable (Table 6).

**Table 6: Data elements and descriptions**

Data element	Description/example
Sector	Health, emergency, etc.
Administrative level	Federal/provincial
Funding source	Government funded/externally funded
Mechanism of execution	On-budget/off-budget
Economic classification/cost item	Medicines, pharmaceuticals, fuel, etc.
If programme-based budget	
Programme	Preventive health, child health, etc.
Sub-programme	Immunisation, infectious diseases, etc.

For convenience, data were collected in PKR and standardised to US\$ using the exchange rate as at 1 January for each financial year for the purpose of this report. All conversions were based on exchange rate data available online, as indicated in Table 7.

**Table 7: Exchange rates**

	US\$	PKR
01 January 2018	1	110.4
01 January 2019	1	139.5
01 January 2020	1	155.7
01 January 2021	1	161.0

Source: [www.exchangerates.org.uk](http://www.exchangerates.org.uk)\*

\* Exchange rate data for PKR to US\$ were not available on the IMF website, so an alternate source was used.

## 2.2 Data analysis

Federal and provincial budgets were reviewed in detail to identify financing flows to the health sector, comparisons between budgetary allocations, released funds, and expenditures in the four financial years between 2017-18 and 2020-21.

A quantitative analysis was carried out to examine trends in budget allocations and expenditures for each of the programmatic areas of interest. Domestic revenues channelled through the government and external resources made available through development partners were identified.

Using the available data, a time series was constructed on budget allocations, expenditures, and financing. Additional indicators combining data types were included within the analysis, such as expenditure as a percentage of budget allocation, and budget allocation as a percentage of the health sector budget.

Due to the requirements of the assignment to provide data in US\$ rather than in PKR, effectively mitigating the significant depreciation of the PKR against the US dollar between 2017-18 and 2020-21 was a concern in the representation of data trends. To avoid the

impact of a downward trend, comparisons were made in percentage terms wherever possible, for a more standardised analysis.

## **2.3 KIIs**

Using the qualitative guide developed during the inception phase, detailed KIIs were conducted with government officials and development partners to lend weight to quantitative information on the financing of routine immunisation and to fill in any data gaps. The interviews aided the identification of relevant line-items within the budget, assisted in the interpretation of current and historical trends, and provided insights into the process of prioritising resources for the COVID-19 vaccine procurement and delivery and for childhood immunisation, as well as any other programmatic areas of interest. Additional questions were included to probe any specific trends or gaps in the data, as required.

## **2.4 Summary report**

Information emanating from a desk review of relevant documents and the KIIs was triangulated with quantitative results. Key findings from the qualitative and quantitative data were consolidated in the form of a summary report, which was finalised in February 2023.

## **2.5 Final report and dissemination workshop**

A final report has been prepared that cohesively identifies issues related to budgetary processes, the adequacy and availability of funding from different sources, and any bottlenecks/constraints affecting expenditure, focusing on the financial mechanisms for childhood immunisation. The way forward, including recommendations to address the identified constraints, has also been considered. The final report will be presented in a dissemination workshop, where the key findings will be discussed with relevant stakeholders.

## 3 Findings

### 3.1 Identification of programme line-items within health sector budget

#### 3.1.1 Budget process for immunisation

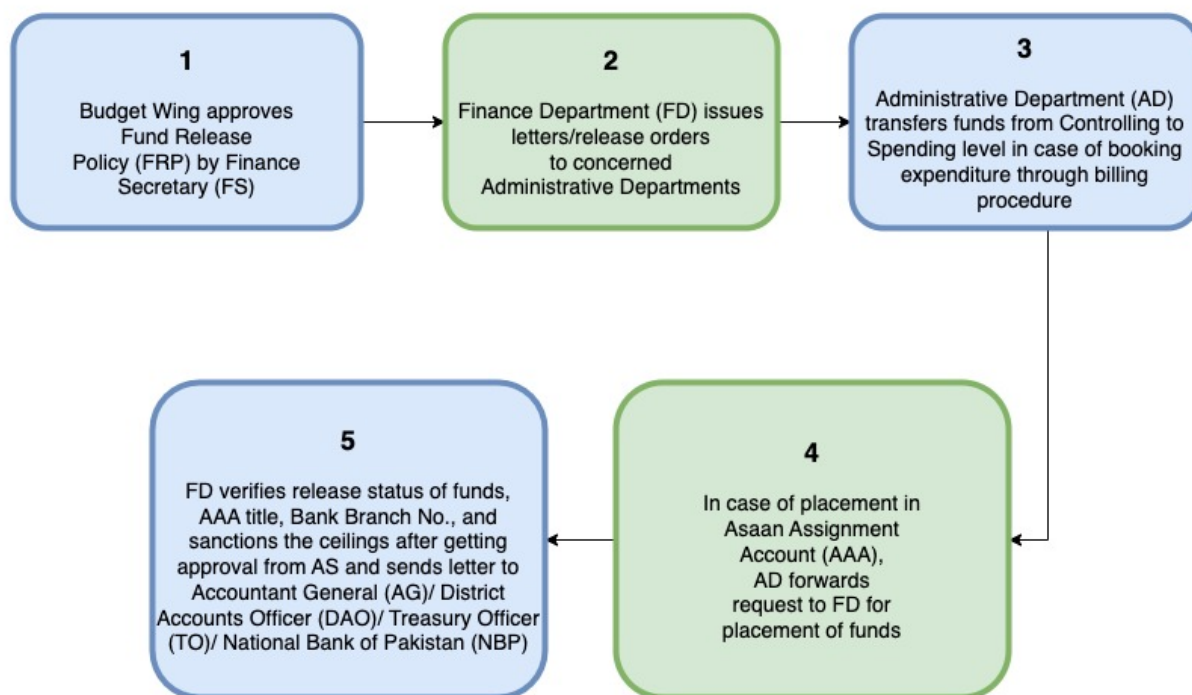
Following the devolution of social sectors, such as health, in 2010, provinces became responsible for financing their respective EPIs through their own funds, as well as through support from the foreign-funded component of the federal and provincial budgets (World Bank, 2020). Vaccines and operations (including all related human resources, training, and support costs) for federal territories and provinces are now primarily financed through provinces' respective recurrent budgets (World Bank, 2020). This shift happened in 2020-21 for provinces and in 2021-22 for the federal government.

EPI budgets for the period of interest were originally forecasted in Planning Commission Forms-1 (PC-1s) and funded through the development budget until 2019-20. These PC-1s were developed following a consultative process that included all primary stakeholders, such as the provincial health departments, the EPI, the Planning and Development Board, and development partners (World Bank etc.). PC-1s are detailed documents that not only include the financial outlay of the entire programme over its life, but also allocations and targets against specific performance indicators. Funding for each year is indicated in the PC-1; however, the annual budget allocation for the EPI may vary from the original forecast, based on actual expenditures incurred by the programme in the previous year, as well as the demand for funds from the programme for the next year. A KII held with the EPI Punjab revealed that, generally, the allocation of funds has been consistent each year; however, the programmes tend to request additional funding for the procurement of vaccines due to appreciation of the US\$.

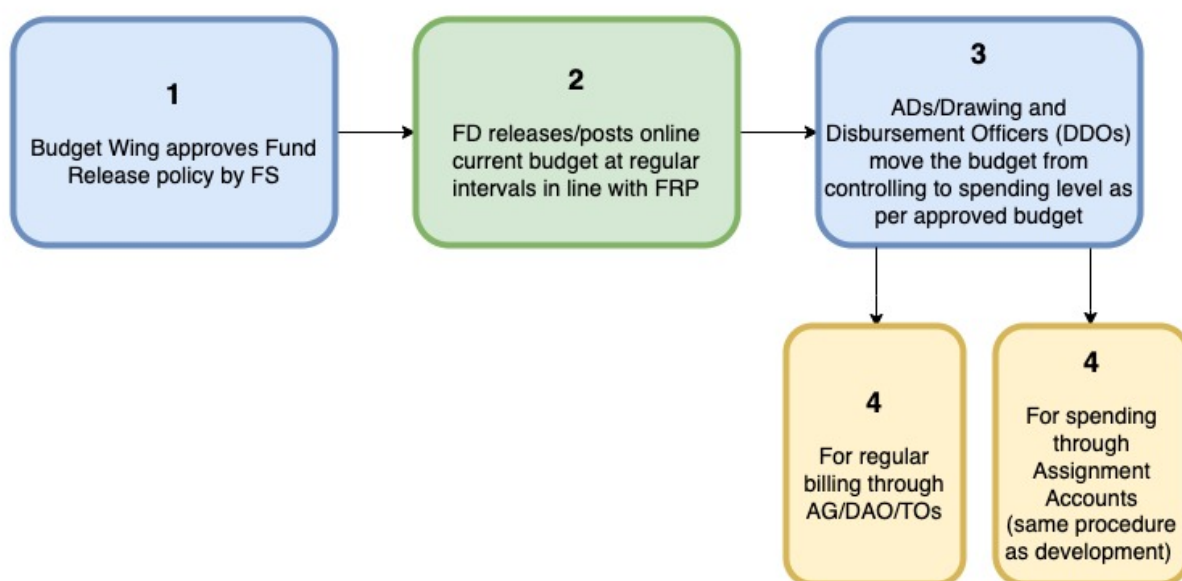
When the EPI moved to the current side in 2020-21, each province's health department shared a demand for funds with the finance department, based on actual expenditure over the previous year and projected need in the following year. This was then reviewed and allocated by the finance department in the budget for the financial year.

In light of the above, a KII was held with a representative from Punjab's Finance Department to determine the budget process for immunisation. Figure 11 indicates the funding process between 2017-18 and 2019-20, when the EPI budget was on the development side. Figure 12 shows how this process changed once funding moved to the recurrent budget side.

**Figure 11: EPI funding from the development side**



**Figure 12: EPI funding from recurrent side**

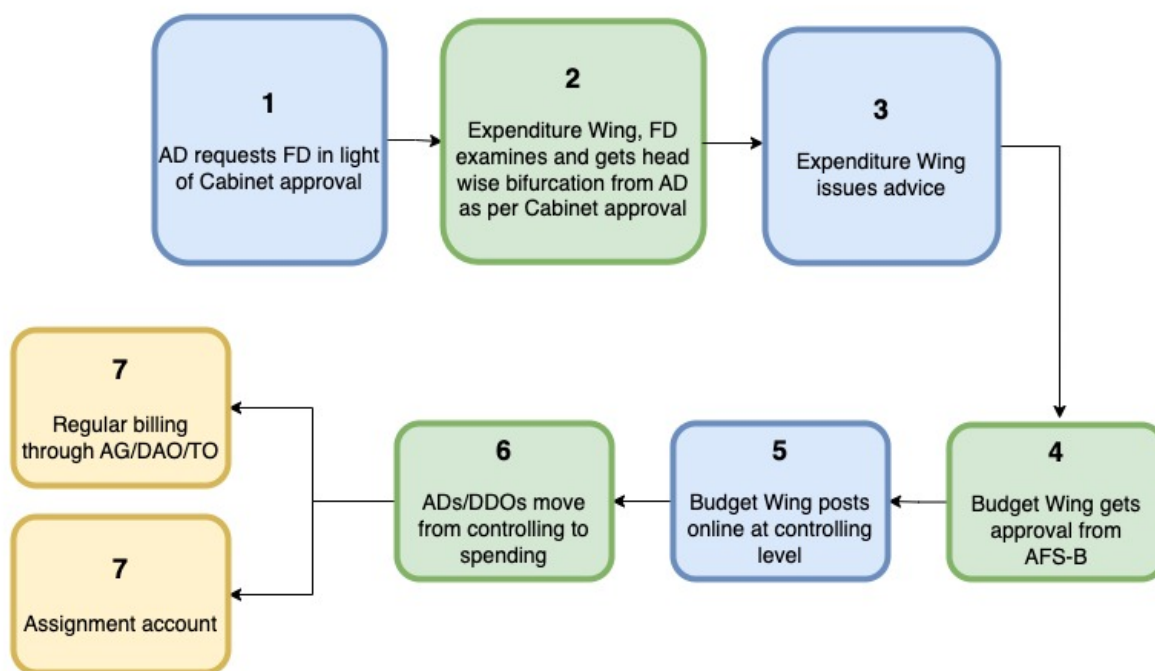


The COVID-19 pandemic started in the latter half of FY 2019-20, so funding for pandemic management was arranged as *additional funding* through supplementary grants under a *separate* head, specific to the COVID-19 response only. KIIs held with the Finance and Health Departments of Punjab revealed that these supplementary grants primarily dealt with the emergency response to the pandemic, and did not specify funds for COVID-19 vaccine procurement, as these vaccines were not available in the country until February 2021. Similarly, when the budget for 2020-21 was being made in June 2020, there was no specific

head/allocation for COVID-19 vaccines, for the same reason. Only a generic head for the purchase of drugs and medicines was included in the budget, which was not aimed at accounting for COVID-19 vaccine procurement.

The process of funding the COVID-19 response in 2019-20 is summarised in Figure 13.

**Figure 13: COVID-19 funding through supplementary grants**



Through KIIs held with relevant personnel from Punjab and KP, it was found that funding for both the EPI and COVID-19 was timely and there were no specific bottlenecks. Provincial EPIs had discretion in terms of the utilisation of funding, so reappropriation decisions were taken at the programme level. For COVID-19, supplementary grants helped provinces meet urgent and emerging spending needs in a timely manner.

A major proportion of the EPI budgets is for the procurement of vaccines. A KII held with a representative from MoNHSR&C revealed that provinces follow the Executive Committee of the National Economic Council’s decision dated 8 March 2016 for centralised procurement when it comes to purchasing vaccines. Addressed to all four provinces, the decision states that ‘the provincial government will transfer funds to M/O National Health Services, Regulation and Coordination along with demand for centralised procurement of vaccines on their behalf’.

In 2020-21, when EPI funding moved to the recurrent side, provincial governments agreed to continue the existing mechanism for pooled procurement established under the Executive Committee of the National Economic Council. Furthermore, certain governments gave consent for at-source deductions to the federal government. In such cases, the federal government makes an at-source deduction from the Federal Divisible Pool Transfers to the respective provincial governments against their share in pooled procurement.

Respective provincial shares in the pooled procurement of vaccines and syringes at the federal level are indicated in Table 8.

**Table 8: Provincial shares in pooled procurement of vaccines at the federal level**

Provincial shares in pooled procurement of EPI vaccines and syringes at the federal level (%)			
Punjab	KP	Sindh	Balochistan
53.2	15.5	22.7	4.8

Source: MoNHSR&C.

Furthermore, it was shared during the KII that procurement under this arrangement is through open tender for traditional vaccines, while the Gavi co-financing share of the vaccines is procured through UNICEF, for which advance payment is required.

### 3.1.2 Designation of budget for EPI and for COVID-19

Provincial EPIs fall under the administrative purview of the respective health departments. However, they exercise autonomy in spending and are given single line budgets by the respective finance departments directly.

Similarly, the FDI comes under the administrative purview of MoNHSR&C, but it exercises financial autonomy when it comes to decisions regarding programmatic expenditure.

Regarding COVID-19, supplementary grants were provided in 2019-20 and 2020-21 to the federal and provincial governments and placed at the disposal of the respective executing agencies. At the federal level, these agencies were the MoNHSR&C and the NDMA. At the provincial level, they were the respective health departments.

Table 9 provides the main entity codes that indicate budget allocations at the federal and provincial levels for different programmes.

**Table 9: Entity codes in budget**

Federal level	
Entity budget code	Description
IB0273	EPI Islamabad
IB5128	IVAC COVID-19 Vaccine Support for Pakistan
IB8779	COVID-19 Vaccine Support Project Under the Asia Pacific Vaccine Access Facility
Provincial level	
Entity budget code (current expenditure)	Description
074105	EPI Punjab
074105	EPI Sindh
074105	EPI Balochistan
074105	EPI KP

Source: Budget documents available on the websites of the finance departments/divisions of the respective governments.

### 3.1.3 Specific line-items for EPI and COVID-19

According to the disaggregated budget data from the EPIs, in 2020-21, the FDI had 12 line-items in use, Punjab had 50, KP had 80, Sindh had 48, and Balochistan had 52. Since provincial EPIs use the same budget codes, 25 heads were identified that were not only common across the four provinces but also accounted for 88% or more of each EPI's total budgetary allocation. This information is provided in Table 10.

**Table 10: Federal and provincial EPI line-items**

FDI specific line-items		
S. no.	Budget code	Description
1.	A01	Employee-related expenses
2.	A03	Operating expenses
3.	A032	<i>Communication</i>
4.	A033	<i>Utilities</i>
5.	A034	<i>Occupancy costs</i>
6.	A038	<i>Travel and transportation</i>
7.	A039	<i>General</i>
		<i>Drugs and medicines</i>
		<i>Foreign Exchange Component (FEC)</i>
8.	A04	Employment retirement benefits
9.	A063	Entertainment and gifts
10.	A09	Physical assets
11.	A12	Civil work
12.	A13	Repair and maintenance
Provincial EPIs' specific common line-items		
S. no.	Budget code	Description
1.	A01101	Basic pay of officers
2.	A01151	Basic pay of other staff
3.	A01202	House rent allowance
4.	A01203	Conveyance allowance
5.	A01217	Medical allowance
6.	A0121B	Health professional allowance
7.	A01224	Entertainment allowance
8.	A0122M	<i>Ad hoc</i> relief allowance 2016
9.	A0122Y	<i>Ad hoc</i> relief allowance 2017
10.	A0123G	<i>Ad hoc</i> relief allowance 2018
11.	A0123P	<i>Ad hoc</i> relief allowance 2019
12.	A01252	Non-practising allowance
13.	A03201	Postage and telegraph
14.	A03202	Telephone and trunk call

FDI specific line-items		
15.	A03303	Electricity
16.	A03805	Travelling allowance
17.	A03806	Transportation of goods (government)
18.	A03807	POL charges: a. planes, h. copters, s. car
19.	A03901	Stationery
20.	A03902	Printing and publication
21.	A03907	Advertising and publicity
22.	A03919	Payments to others for service rendered
23.	A03927	Purchase of drug and medicines
24.	A13001	Transport
25.	A13101	R&M of machinery and equipment

Source: FDI and provincial EPIs.

As compared to EPI, disaggregated line-item data for COVID-19 was only available for Punjab and KP, as seen in Table 11. All heads used by the two provinces were the same, with the exception of 'A03955—Computer stationery' and 'Advance payment for establishment of BSL labs in different districts', which were budgetary allocations specific to Punjab alone.

**Table 11: Punjab and KP COVID-19 line-items**

Punjab and KP specific line-items for COVID-19		
S. No.	Budget code	Description
1.	A01277	Contingent paid staff
2.	A03204	Electronic communication
3.	A03806	Transportation of goods (government)
4.	A03807	POL charges a. planes, h. copters, s. cars
5.	A03901	Stationery
6.	A03902	Printing and publication
7.	A03907	Advertising and publicity
8.	A03919	Payments to others for services rendered
9.	A03927	Purchase of drug and medicines
10.	A03942	Cost of other stores
11.	A03959	Stipend, incentives, awards, and allied
12.	A03970	Others
13.	A05270	To others
14.	A09203	IT equipment
15.	A09404	Medical and laboratory equipment
16.	A09601	Plant and machinery
17.	A09701	Furniture and fixtures
18.	A13001	Transport

Punjab and KP specific line-items for COVID-19		
19.	A13101	Machinery and equipment
20.	A13303	Other buildings
Additional line-items for Punjab only		
1.	A03955	Computer stationery
2.	Advance payment (establishment of BSL labs in different districts)	

Source: Provincial health departments.

## 3.2 Assessment of trends in approved budget

### 3.2.1 Aggregate budget of EPI and COVID-19 as a share of total budget and health budget

Budgetary allocations for EPI and COVID-19 of the federal government, and for all four provincial governments, along with respective total budgets and health budgets, are provided in Table 12.

**Table 12: Budgetary allocations for EPI and COVID-19**

Budgetary allocations (US\$ millions)		2017-18	2018-19	2019-20	2020-21
Federal	Total budget	47,023.1	44,253.5	54,113.9	54,573.3
	Health budget	578.7	314.6	152.4	248.6
	EPI budget	67.0	56.1	14.2	13.7
	COVID-19 budget			1,220.6	1,007.5
Punjab	Total provincial budget	17,848.9	13,463.6	13,283.1	13,140.6
	Health budget	2,053.0	1,827.6	1,751.5	1,753.8
	EPI budget	50.1	28.3	33.4	36.9
	COVID-19 budget			76.4	46.6
KP	Total provincial budget	5,461.5	4,428.8	5,492.7	5,732.9
	Health budget	470.7	416.1	429.3	504.3
	EPI budget	11.6	8.5	13.2	8.9
	COVID-19 budget			19.5	21.7
Sindh	Total provincial budget	9,448.3	8,201.6	7,824.1	7,709.0
	Health budget	908.0	820.1	871.7	1,053.8
	EPI budget	17.2	13.9	13.9	13.5
	COVID-19 budget			43.1	20.1
Balochistan	Total provincial budget	2,975.0	2,525.0	2,698.0	2,891.5
	Health budget	220.3	192.9	194.9	242.2

Budgetary allocations (US\$ millions)				
EPI budget	8.6	5.0	4.5	5.4
COVID-19 budget*			-	6.2
EPI funding from development budget				

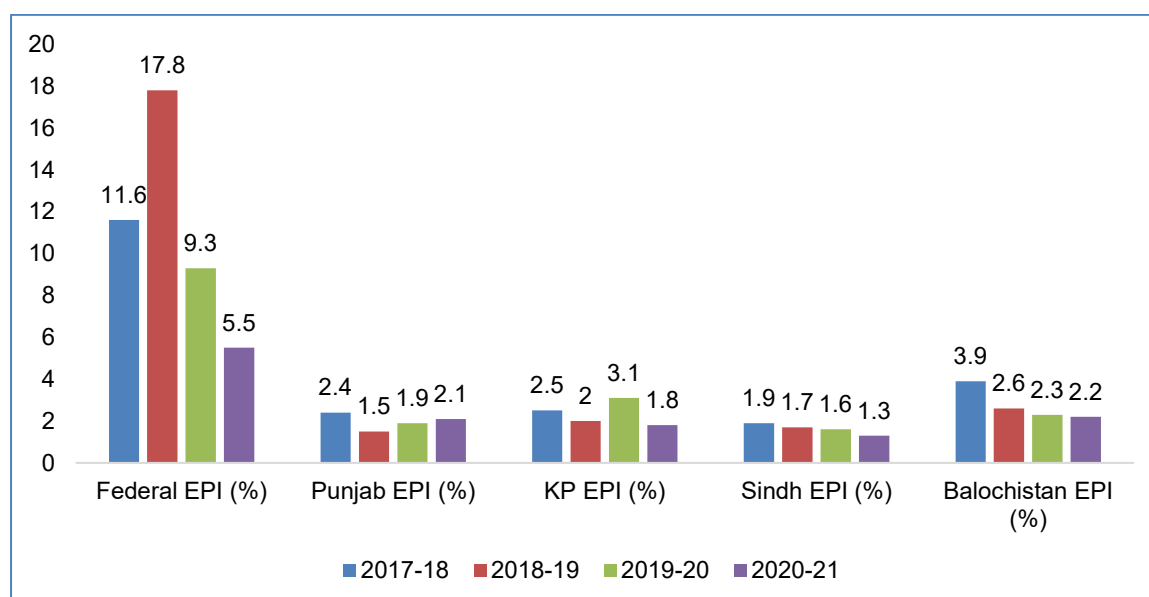
Source: Budget documents available on the websites of the finance departments/divisions of the respective governments, from FDI and provincial EPIs.

\*There was no allocation for COVID-19 in 2019-20.

Regarding EPI budgetary allocations for each area, budget estimates initially fell in Punjab from US\$ 50.1 million in 2017-18 to US\$ 28.3 million in 2018-19, but demonstrated an upward trend over the next two years. In Sindh, allocations have been fairly consistent, with the exception of an initial decrease of around US\$ 3 million between 2017-18 and 2018-19. Balochistan's EPI allocations showed a downward trend, falling from US\$ 8.6 million in 2017-18 to US\$ 5.0 million in 2018-19, and to US\$ 4.5 million in 2019-20. However, this figure increased to US\$ 5.4 million in 2020-21 to allow the programme to catch up on lost activities due to the COVID-19 lockdowns.

It is interesting to note that KP's aggregate budget for the EPI fell from US\$ 13.2 million in 2019-20 to US\$ 8.9 million in 2020-21, indicating a possible redirection of available resources towards priority areas, such as the procurement of COVID-19 vaccines and personal protective equipment (PPE). However, a KII with a representative from the KP Health Department revealed that there was zero allocation for the first two years (2015/16 and 2016/17) against the amounts indicated in the PC-1. Allocations only started in 2017-18, therefore a larger chunk of remaining funds against the five-year total allocation in the PC-1 were allocated in the last year of the PC-1 (2019-20) – the last year in which the EPI was funded on the development side – in order to accelerate progress towards achievement of targets. As the budget moved to the current side, the allocation was commensurate with the EPI's actual expenditure needs over the last few years.

On the federal side, there was a noticeable dip from US\$ 56.1 million in 2018-19 to US\$ 14.2 million in 2019-20. Since the reason for this massive decrease in allocation could not be understood in terms of any readily available plausible explanation, such as the appreciation of the US dollar, these numbers were probed further in a KII with a representative from FDI. In this interview, it was revealed that federal EPI allocations for the first two years were notional numbers that also took into account provincial shares for vaccine procurement. However, this practice changed in 2019-20, with the budget from then on only reflecting allocations for the FDI.

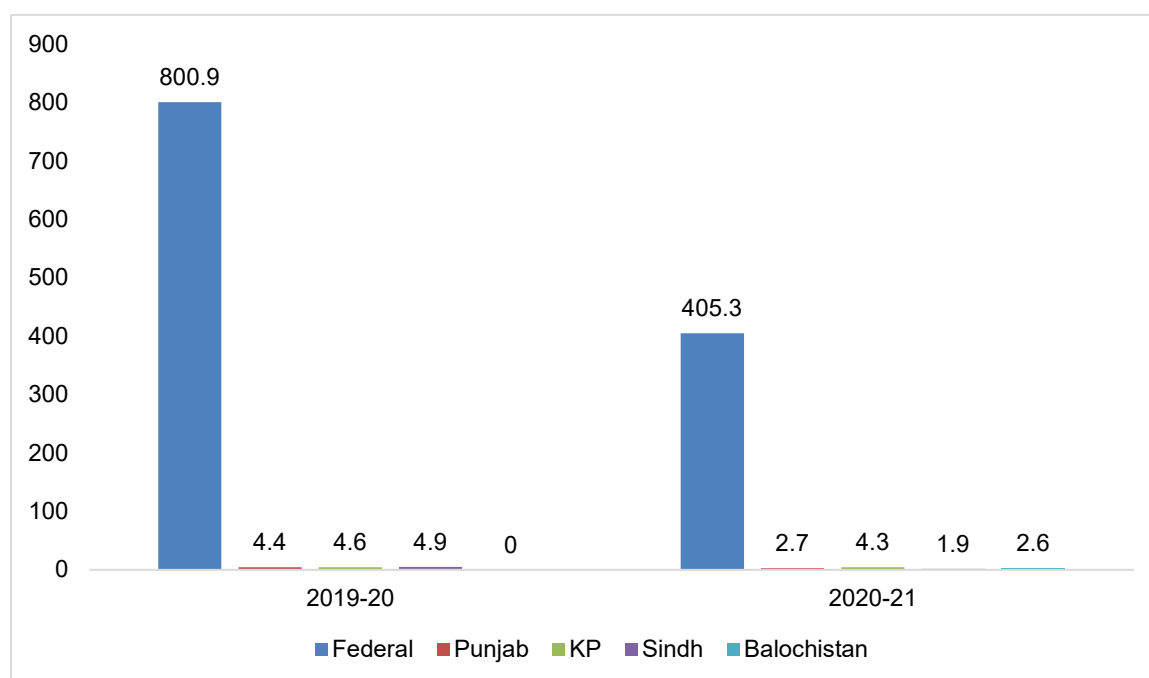
**Figure 14: Budget for EPI as a share of the health budget (%)**

Across all areas, the budgets for the EPI as a share of the total budgetary outlay of the respective governments were less than 1.0% between 2017-18 and 2020-21. However, variations exist when the aggregate budget for the EPI is seen as a share of the total health budget, as shown in Figure 14. The EPI forms a significant share of the total health budget at the federal level, but the trend for the allocation has been downwards, falling from 17.8% in 2018-19 to 5.5% in 2020-21. In terms of provinces, Punjab managed to overcome dips in its EPI allocation and increased its share to 2.1% in 2020-21, which was roughly the same as its share in 2017-18. Sindh has seen a consistent decline each year, with the EPI as a share of the health budget being the lowest among all provinces in 2020-21. In comparison, the allocation increased each year in KP up until 2019-20 (the EPI's last year on the development side) at 3.1%, after which it fell to 1.8%.

With respect to COVID-19, an economic stimulus package of US\$ 8.0 billion was announced at the federal level for the emergency response, support to businesses and the economy, and relief to citizens. These funds were used to support the NDMA, for the purchase of medical equipment/incentives for health workers (excluding COVID-19 vaccines, which had not been developed at that time), as a residual/emergency relief fund, and for tax relief on food and health items. For the purposes of this report, to maintain the focus on health-related interventions, only the allocations pertaining to the emergency response – US\$ 1,220.6 million in 2019-20 and US\$ 1,007.5 million in 2020-21 – have been used in our analysis. As a result of these allocations, the federal COVID-19 budget estimate was over eight times the health budget estimate in 2019-20, and over four times the health budget estimate in 2020-21.

Similarly, the Government of Punjab allocated total funds worth US\$ 161.9 million in 2019-20 and US\$ 496.3 million for the overall mitigation of COVID-19, including for tax relief, funds for the Punjab *Rozgar* and *Insaaf Imdad* programmes, and for health interventions. Out of these funds, US\$ 76.4 million in 2019-20 and US\$ 46.6 million in 2020-21 were allocated to the two health departments – the Primary and Secondary Healthcare Department and the Specialised Healthcare and Medical Education Department – for health-related interventions in the province. Hence, these figures have been used in our analysis.

**Figure 15: COVID-19 budget as a percentage of health budget\***



*\*As indicated earlier, COVID-19 budget is distinct from the health budget of each province; COVID-19 budget has been demonstrated as a percentage of the health budget to compare the two allocations.*

Figure 15 shows the funding dedicated by each province to COVID-19 in comparison to funding dedicated to health. Considerable budgets were allocated for pandemic management, however, with the exception of the federal territories, allocations for COVID-19 were less than allocations for health across all provinces. This is in line with the WHO finding that nearly all countries responded with exceptional budget allocations in respond to COVID-19, but these allocations included a relatively smaller portion for the health sector, and more additional resources for social protection and economic stabilization (WHO, 2022).

In Punjab, the allocation for health was 23 times the allocation for COVID-19 in 2019-20, and 38 times the following year. In KP, the ratio remained fairly consistent across the two years, with health allocation being 22 times the COVID-19 budget allocation in 2019-20 and 23 times in 2020-21. In Sindh, the health budget allocation was initially 20 times that of COVID-19, but jumped exponentially the following year to 52 times. In Balochistan, there was no allocation for COVID-19 in 2019-20. In the following year, the health budget was 39 times the COVID-19 budget.

### 3.2.2 Percentage change in annual aggregate budget of EPI and COVID-19

Annual aggregate budgets for the EPI and COVID-19, along with the percentage change in allocation each year, are shown in the table below:

**Table 13: Percentage change in annual aggregate budget for the EPI and COVID-19**

Percentage change in annual aggregate budget for the EPI and COVID-19 (US\$ in million)								
		2017-18	2018-19		2019-20		2020-21	
		Budget estimate	Budget estimate	%	Budget estimate	%	Budget estimate	%
Federal	EPI	67.0	56.1	-16.2	14.2	-74.7	13.7	-3.3
	COVID-19				1220.6	-	1007.5	-17.4
Punjab	EPI	50.1	28.3	-43.5	33.4	-18.0	36.9	10.5
	COVID-19				76.4	-	46.6	-39.0
KP	EPI	11.6	8.5	-26.7	13.2	55.3	8.9	-32.6
	COVID-19				19.5	-	21.7	11.3
Sindh	EPI	17.2	13.9	-19.1	13.9	-0.3	13.5	-3.1
	COVID-19				43.1	-	20.1	-53.4
Balochistan	EPI	8.6	5.0	-41.9	4.5	-10.0	5.4	20.0
	COVID-19						6.2	

Data show that prior to the pandemic, annual aggregate budgets for the EPI decreased across all areas, except in KP.

The massive decrease in federal EPI allocations following the onset of COVID-19 can be explained by the fact that previous figures had been notional numbers that took into account provincial shares for vaccine procurement. Hence, it is difficult to determine the exact percentage change in the FDI's own aggregate budget for the EPI from 2018-19 to 2019-20.

Punjab felt the impact of COVID-19 the most, with EPI allocations falling by 18.0% in 2019-20. However, the province demonstrated a solid recovery in the following year, with an increase of 10.5% in the budget for childhood immunisation. KP was the only province that increased its EPI allocation in 2019-20 by 55.3%. However, it was unable to insulate itself from the shock of the pandemic in the following year, experiencing a significant decline in the allocation, by 32.6%. Compared to the other provinces, Sindh experienced a marginal decline in the EPI allocation in 2019-20 by 0.3% and in 2020-21 by 3.1%. Finally, like Punjab, Balochistan initially experienced a decrease in the EPI allocation by 10.0% in 2019-20, but was able to increase its budget by 20.0% in 2020-21.

Regarding COVID-19, the federal areas, Punjab, and Sindh decreased their allocations towards pandemic management in 2020-21. KP was the only province that increased its allocation in this year.

The increase in KP's budget for COVID-19 can be assessed in tandem with its decreased budget for the EPI. According to a situation report by UNICEF from April 2021, Punjab and KP were the two provinces that were affected the most by COVID-19, with daily positive infection rates reaching up to 36% in the city of Mardan (UNICEF, 2022). A KII held with a representative from the KP Health Department confirmed that pandemic management was the utmost priority of the administration in 2020-21. The government had announced that there would be cuts in the development budget and a special allocation for COVID-19 would be introduced that would drive up the provincial health budget significantly.

### 3.2.3 Line-item budgets of EPI

Each province's respective line-items for the EPI have been divided into the following categories for ease of comparison:

- purchase of drugs and medicines;
  - operations and employee expenses.

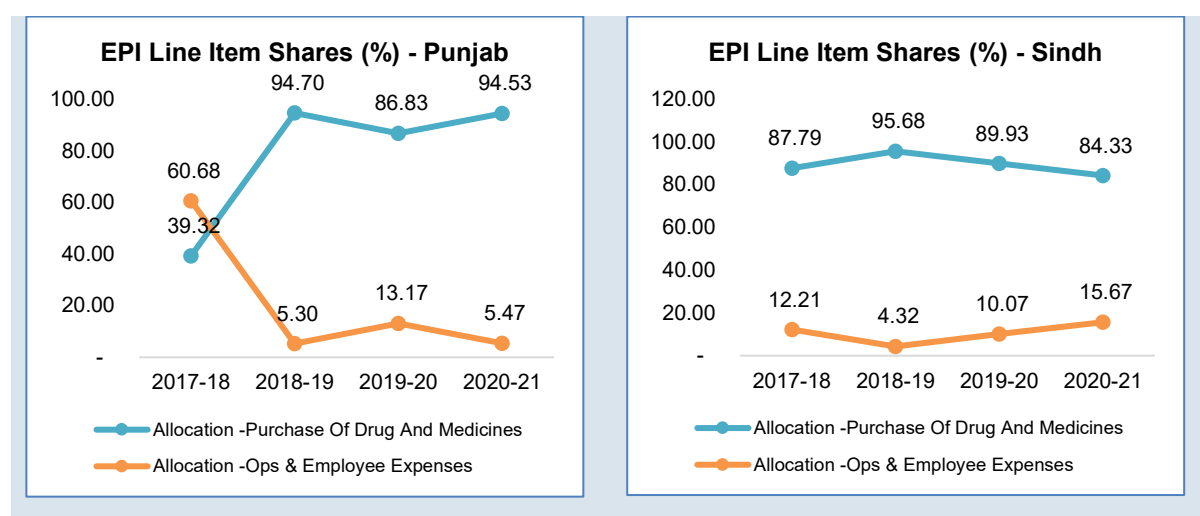
'Purchase of drugs and medicines' refers to a single line-item with the budget code A03927. 'Operations and employee expenses' includes all of the remaining line-items highlighted in Table 10 earlier in this report.

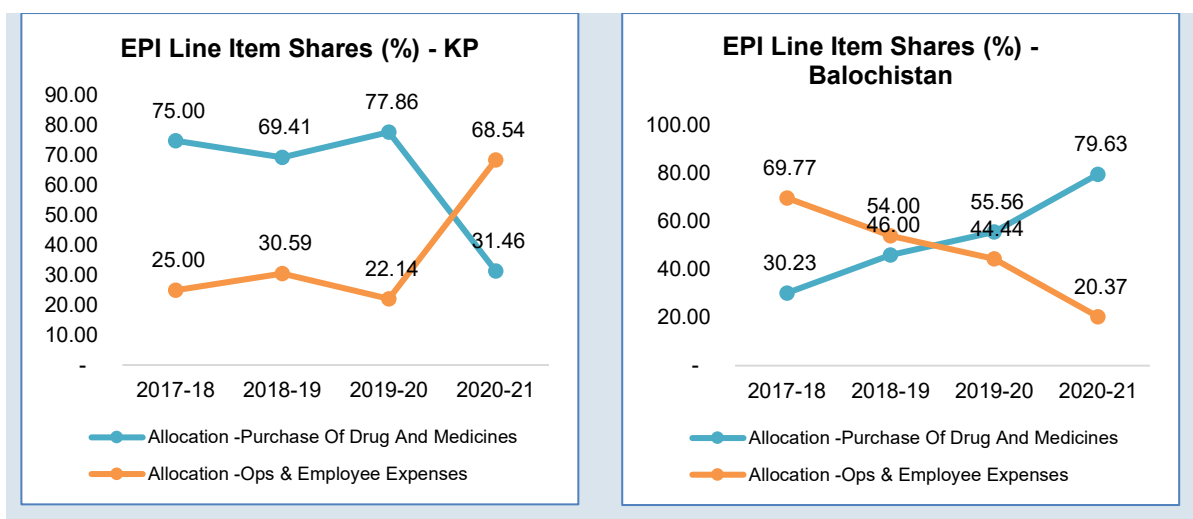
**Table 14: Allocations of EPI line-items**

Allocations of EPI line-items (US\$ million)					
	Category	2017-18	2018-19	2019-20	2020-21
Punjab	Purchase of drugs and medicines	19.7	26.8	29.0	34.9

Allocations of EPI line-items (US\$ million)					
	Operating and employee expenses	30.4	1.5	4.4	2.0
	<b>TOTAL</b>	<b>50.1</b>	<b>28.3</b>	<b>33.4</b>	<b>36.9</b>
KP	Purchase of drugs and medicines	8.7	5.9	10.2	2.8
	Operating and employee expenses	2.9	2.6	2.9	6.1
	<b>Total</b>	<b>11.6</b>	<b>8.5</b>	<b>13.2</b>	<b>8.9</b>
Sindh	Purchase of drugs and medicines	15.1	13.3	12.5	11.3
	Operating and employee expenses	2.1	0.6	1.4	2.1
	<b>Total</b>	<b>17.2</b>	<b>13.9</b>	<b>13.9</b>	<b>13.5</b>
Balochistan	Purchase of drug and medicines	2.6	2.3	2.5	4.3
	Operating and employee expenses	6.0	2.7	2.0	1.1
	<b>TOTAL</b>	<b>8.6</b>	<b>5.0</b>	<b>4.5</b>	<b>5.4</b>

Figure 16: Allocation for EPI line-item shares for provinces





In Punjab, the allocation for ‘Operating and employee expenses’ (60.7%) was initially higher than that for ‘Purchase of drugs and medicines’ (39.3%) in 2017-18, but the trend was reversed in the next three years, with the latter forming 94.5% of the overall expenditure in 2020-21. In Sindh, the allocation for ‘Purchase of drugs and medicines’ remained significantly higher than that for ‘Operating and employee expenses’ for all four years.

In KP, 75.0% of the programme’s total budget was allocated to the ‘Purchase of drugs and medicines’ category in 2017-18. However, the allocation for this category dropped significantly to 31.5% by 2020-21, while ‘Operating and employee expenses’ had 68.5%. The reversal of this trend was probed in a KII held with a representative of the provincial EPI, who shared that after regularisation of the EPI in 2021, the staff that were earlier under the District Health Officers at the district level and the Directorate General of Health Services at the provincial level were now under EPI. Hence, the relevant budget codes were now applicable to the EPI and a sudden spike was seen in operating and employee expenses linked to the EPI. Therefore, he stated, a major chunk of the budget expenditure was on employee-related expenses, due to the vast network of EPI staff/technicians.

In Balochistan, the allocation for ‘Purchase of drugs and medicines’ demonstrated an upward trend, increasing from 30.2% in 2017-18 to 79.6% in 2020-21. In comparison, the allocation for ‘Operating and employee expenses’ fell over the course of four years, decreasing from 69.8% in 2017-18 to 20.4% in 2020-21.

### 3.3 Assessing budget execution and expenditure across programmatic areas of interest

#### 3.3.1 EPI and COVID-19 expenditure as a share of total expenditure and health expenditure

The budgetary utilisations for the EPI and COVID-19, along with the respective total expenditures and health expenditures of the federal government and all four provincial governments, are summarised in Table 15.

**Table 15: Budgetary expenditure on the EPI and COVID-19**

Budgetary expenditures (US\$ millions)					
		2017-18	2018-19	2019-20	2020-21
Federal	Total expenditure	40,699.9	39,045.6	42,132.9	59,332.3
	Health expenditure	315.6	194.4	156.1	332.0
	EPI expenditure	65.0	49.2	42.8	35.8
	COVID-19 expenditure			178.6	675.8
Punjab	Total expenditure	14,439.5	10,941.6	10,757.8	11,681.1
	Health expenditure	1,872.1	1,618.0	1,564.0	1,762.0
	EPI expenditure	48.7	28.2	31.1	35.5
	COVID-19 expenditure			29.0	24.0
KP	Total expenditure	4,293.3	3,568.2	4,076.8	4,905.45
	Health expenditure	432.2	346.2	352.2	504.2
	EPI expenditure	11.6	7.0	7.1	12.0
	COVID-19 expenditure			19.5	9.3
Sindh	Total expenditure	7,921.4	5,795.5	5,291.0	6,098.1
	Health expenditure	747.3	658.8	717.8	903.2
	EPI expenditure	13.7	11.5	12.5	13.3
	COVID-19 expenditure			43.1	20.1
Balochistan	Total expenditure	2,353.1	1,865.0	2,223.0	2,131.9
	Health expenditure	182.4	157.0	175.1	182.0
	EPI expenditure	8.5	5.0	4.2	5.3
	COVID-19 expenditure			0	5.5

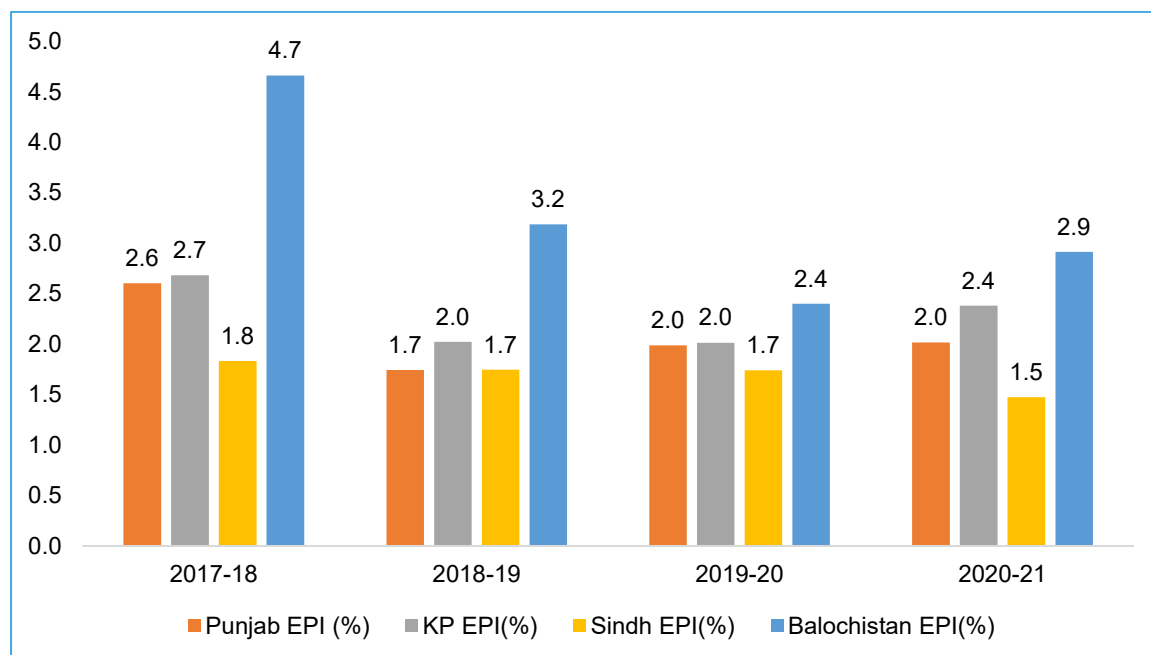
Source: Budget documents available on the websites of the finance departments/divisions of the respective governments; FDI; provincial EPIs.

The table shows that EPI budgetary utilisations generally demonstrated a downward trend at the federal level over the four years under consideration, especially between 2019-20 and 2020-21. However, it is important to note that these figures include the FDI's own expenditures, as well as expenditures incurred for provincial vaccine procurement. It is difficult to separate out these two expenditures to ascertain the exact resources utilised by the FDI on its own programmatic activities, due to data limitations. Specifically, if the vaccine share contributions of the provinces (see Table 8) are summed, the amount is greater than the total resources spent by the FDI on vaccine procurement, which implies that the federal government is not utilising all of the funds received from the provinces for the procurement of vaccines. This was further confirmed in a KII with the Punjab EPI, which revealed that, normally, the vaccines received by the province are less than those demanded against the funds transferred to the FDI by the province.

Regarding provinces, in Punjab, spending initially fell from US\$ 48.7 million in 2017-18 to US\$ 28.2 million in 2018-19, but showed an upward trend over the next two years. In Sindh, expenditures (and allocations) also remained fairly consistent. In KP, EPI spending jumped from US\$ 7.1 million in 2019-20 to US\$ 12.0 million in 2020-21. A KII held with a

representative from the Health Department revealed that EPI expenditure was much lower than its budgetary allocation in 2019-20 due to the unforeseeable onset of the COVID-19 pandemic and the subsequent suspension of several planned activities and campaigns. However, by 2020-21, the programme had not only taken steps to resume routine operations, but also to carry out special catch-up campaigns to cover the loss due to the lockdowns in 2019-20, as indicated by a higher level of spending in this year. A similar trend can be seen in Balochistan, where expenditure increased from US\$ 4.2 million in 2019-20 to US\$ 5.3 million in 2020-21.

**Figure 17: EPI expenditure as a percentage of health expenditure**



Similar to budgetary allocations, the expenditure for the EPI as a share of total expenditure at the federal and provincial levels was significantly less than 1.0% between 2017-18 and 2020-21. However, variations exist when expenditure for the EPI is seen as a share of the total health expenditure, in Figure 17. Punjab managed to overturn a decline in its EPI expenditure as a percentage of its health expenditure in 2019-20, consistently maintaining this figure at 2.0% in the following year as well, even though actual expenditure on the EPI increased in US dollar terms. In KP, expenditure on the EPI as a share of the total health expenditure fell from 2.7% in 2017-18 and stayed constant at 2.0% over the next two years, even though budgetary allocations fluctuated. In 2020-21, the programme managed to incur a higher spending on routine immunisation, indicated by an increase to 2.4%. Sindh managed to maintain a relatively stable share of EPI spending as a percentage of its total health expenditure up to 2019-20, but witnessed a slight decline in this figure from 1.7% to 1.5% in 2020-21. Finally, Balochistan had relatively higher shares of EPI spending compared to health spending across all years when compared with other provinces.

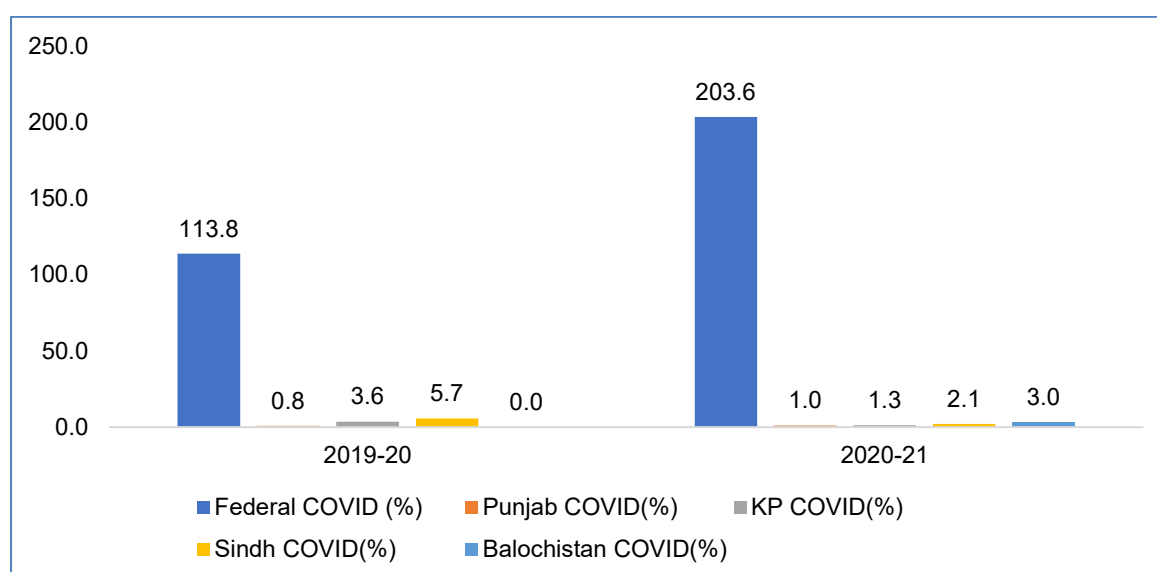
**Figure 18: COVID-19 expenditure as a percentage of health expenditure**

Figure 18 shows that spending on health exceeded spending on COVID-19 across all areas, with the exception of the federal territories. At the federal level, expenditure on COVID-19 exceeded spending on health by 113.8% in 2019-20 and by 203.6% in 2020-21 due to activities incurred as part of the special pandemic emergency response package announced by the government. In the first year of the pandemic, Sindh demonstrated the highest expenditure on COVID-19 as a share of its health expenditure, followed by KP and Punjab. Balochistan did not incur any such expenditure in 2019-20. In the following year, Punjab increased its spending share from 0.8% to 1.0%, while Balochistan incurred an expenditure of 3.0%. This figure demonstrated a downward trend in Sindh, falling from 5.7% to 2.1%, as well as in KP, from 3.6% to 1.3%.

Furthermore, KIIs held with provincial EPIs indicated that service delivery of the respective programmes was severely hampered due to COVID-19. Due to restrictions put in place during lockdowns, and general fear among the population, a significant number of children who were targeted for immunisation could not be reached, raising the risk of vaccine-preventable disease outbreaks in the country. Several vaccination campaigns had to be cancelled or delayed.

An official from the Health Department in Balochistan revealed that a majority of EPI human resources were engaged in pandemic-related activities, in addition to their own activities, which had a detrimental impact on routine immunisation. This was demonstrated by a significant decrease in national immunisation coverage, by 16.0% on average (Gavi, 2020). He added that WHO-supported Enhanced Outreach Activities were postponed for nine months due to the unavailability of staff, who were busy with COVID-19 interventions. A similar situation was seen in KP, where a majority of EPI activities were paused due to urgent pandemic management. Representatives from both provinces confirmed that there had been low turn-out at EPI sites due to fear of contracting the virus. For the first time in recent years, Balochistan even experienced a stock-out of routine vaccines due to shipment cancellations. Furthermore, EPI resources, such as cold chain equipment, were fully utilised for the storage of COVID-19 vaccines.

In contrast, a representative from the Health Department in Punjab shared that no human resources from the provincial EPI were engaged in COVID-19 vaccine delivery. This was because the province already had an excess workforce from the Integrated Reproductive Maternal Neonatal Child Health and Nutrition (IRMNCH&N) Programme and from dengue epidemic prevention and control activities, who could efficiently be redirected to undertake pandemic management tasks. New staff were hired wherever necessary. She added that the department did use the EPI's cold chain equipment to store COVID-19 vaccines, but these fridges were also in excess supply with the programme and did not cause any interruptions in daily activities.

Across the board, significant efforts were undertaken by the FDI and the provincial EPIs to resume regular operations and to overcome the interruptions caused by COVID-19. A representative from Punjab's EPI shared that the programme focused on maximising available resources during the pandemic by enhancing outreach activities and community mobilisation. An official from Balochistan's EPI added that, while EPI vaccinators had been redirected towards COVID-19 prevention and response activities, they had been brought back to routine immunisation services as soon as possible. Restoration of routine activities via catch-up campaigns was organised as soon as the initial emergency had been brought under control by provincial governments.

### 3.3.2 Aggregate budget of the EPI in comparison to total estimated resource requirements

A comparison of the total estimated budget versus the total utilised budget for the EPI can be used to assess the estimated resource requirements versus the actual resource allocations.

**Table 16: EPI budget estimates vs budget utilised**

EPI budget estimates vs budget utilised (US\$ in million)					
		2017-18	2018-19	2019-20	2020-21
Federal	Total estimate	67.0	56.1	14.2	13.7
	Total utilised	65.0	49.2	42.8	35.8
	Additional demand	-	-	28.6	22.1
Punjab	Total estimate	50.1	28.3	33.4	36.9
	Total utilised	48.7	28.2	31.1	35.5
	Additional demand	-	-	-	-
KP	Total estimate	11.6	8.5	13.2	8.9
	Total utilised	11.6	7.0	7.1	12.0
	Additional demand	-	-	-	3.1
Sindh	Total estimate	17.2	13.9	13.9	13.5
	Total utilised	13.7	11.5	12.5	13.3
	Additional demand	-	-	-	-
Balochistan	Total estimate	8.6	5.0	4.5	5.4
	Total utilised	8.5	5.0	4.2	5.3

EPI budget estimates vs budget utilised (US\$ in million)						
	Additional demand	-	-	-	-	-

Source: Budget documents available on the websites of the finance departments/divisions of the respective governments, from the FDI and provincial EPIs.

The table shows that, on average, total expenditure was within the total estimate for spending, indicating a balance between the resources needed and those provided. However, in cases where total expenditure exceeded the total estimate, additional funding was needed that had not been accounted for at the start of the year. This was then arranged through supplementary budgets. Such instances were only seen three times in four years, across all areas. Two such cases where additional resource requirements were considered necessary can be seen at the federal level. However, it is important to highlight that all federal figures include provincial shares for vaccine procurement, with the exception of EPI budget allocations in 2019-20 and 2020-21. Therefore, it may likely be the case that the federal territory's own allocation and expenditure fell within limits and did not require any additional funds.

The only other instance where additional resources were needed was seen in KP in 2020-21, which was the peak of the COVID-19 pandemic in Pakistan.

### 3.3.3 Budget allocation and budget execution rate of the EPI and COVID-19

Budgetary allocations and execution rates of the EPI and COVID-19 are indicated in Table 17.

**Table 17: Budget execution rates (%) of the EPI and COVID-19**

Budget execution rates (%) of the EPI and COVID-19						
			2017-18	2018-19	2019-20	2020-21
Federal	EPI budget	Estimate	67.0	56.1	14.2	13.7
		Utilised	65.0	49.2	42.8	35.8
		Execution rate (%)	97.0	87.7	301.4	261.0
	COVID-19 budget	Estimate			1220.6	1007.5
		Utilised			178.6	675.8
		Execution rate (%)			14.6	67.1
Punjab	EPI budget	Estimate	50.1	28.3	33.4	36.9
		Utilised	48.7	28.2	31.1	35.5
		Execution rate (%)	97.2	99.6	93.1	96.2
	COVID-19 budget	Estimate			76.4	46.6
		Utilised			29.0	24.0

Budget execution rates (%) of the EPI and COVID-19						
		<i>Execution rate (%)</i>			38.0	51.5
KP	EPI budget	Estimate	11.6	8.5	13.2	8.9
		Utilised	11.6	7.0	7.1	12.0
		<i>Execution rate (%)</i>	100.0	82.4	53.8	134.8
	COVID-19 budget	Estimate			19.5	21.7
		Utilised			19.5	9.3
		<i>Execution rate (%)</i>			100	42.9
Sindh	EPI budget	Estimate	17.2	13.9	13.9	13.5
		Utilised	13.7	11.5	12.5	13.3
		<i>Execution rate (%)</i>	79.7	82.7	89.9	98.5
	COVID-19 budget	Estimate			43.1	20.1
		Utilised			43.1	20.1
		<i>Execution rate (%)</i>			100.0	100.0
Balochistan	EPI budget	Estimate	8.6	5.0	4.5	5.4
		Utilised	8.5	5.0	4.2	5.3
		<i>Execution rate (%)</i>	98.8	100.0	93.3	98.1
	COVID-19 budget	Estimate				6.2
		Utilised				5.5
		<i>Execution rate (%)</i>				88.7

Following the transfer of the EPI budget to the recurrent side in 2020-21, a demonstrated improvement in the budget execution rate can be seen across all provinces. The EPI budgetary execution rate was generally satisfactory across the board, with the exception of KP in 2019-20, where this figure was only 53.8%. As highlighted earlier, this stark difference between the EPI allocation and expenditure was not just due to the suspension of several activities and campaigns in the wake of the pandemic; it was also due to a much higher allocation in 2019-20 than in all four years of interest. This is because it was the last year of the EPI's funding on the development side and all remaining funds against the original cost in the PC-1 were allocated, irrespective of utilisation needs.

Regarding allocation versus spending on COVID-19, the federal government and two of the provincial governments – Punjab and KP – showed low budget utilisation rates in 2019-20 and 2020-21. Upon probing these figures with relevant personnel from the respective finance departments, it was found that the pandemic presented an unprecedented challenge for Pakistan. Federal and provincial governments could not foresee the exact

amount of expenditure outlay that would be required to combat the myriad challenges relating to COVID-19. Therefore, governments dedicated generous budgetary allocations towards pandemic management so that funds could be made readily available as and when needed for urgent interventions for mitigation and prevention. Furthermore, supplementary grants for funding COVID-19 activities were planned and disbursed after March 2020, when only a quarter of the financial year 2019-20 was left. This meant there was limited time for governments to fully utilise the allocated funds.

### 3.3.4 Identification of items with low budget execution

#### Punjab

**Table 18: Expenditure of EPI line-items – Punjab**

Expenditures of EPI line-items – Punjab (US\$ million)				
Description	2017-18	2018-19	2019-20	2020-21
Purchase of drugs and medicines	17.4	25.8	27.4	34.2
% utilisation	88.3	96.3	94.5	98.0
Operating and employee expenses	31.3	2.4	3.7	1.3
% Utilisation	102.3	160.0	84.0	65.0
Total expenditure	48.7	28.2	31.1	35.5

In Punjab, budget execution fell in regard to expenditure related to the ‘Operating and employee expenses’ category in 2019-20 and 2020-21, while expenditure on ‘Purchase of drugs and medicines’ remained more or less consistent. Specific line-items within this category with the highest variance between allocated expenditure and utilised expenditure in the former category are highlighted below:

**Table 19: Line-items with low budget execution – Punjab**

Line-items with budget execution less than 50% – Punjab (US\$ million)					
2019-20					
S. no.	Budget code	Description	Budget estimate	Utilised	% utilised
1.	A03202	Telephone and Trunk Call	6424.0	65.0	1.0
2.	A03806	Transportation of Goods (Govt)	6424.0	596.3	9.3
3.	A09501	Purchase of Transport	3337402.0	862978.3	25.9
4.	A03907	Advertising and Publicity	128485.0	42462.3	33.0
5.	A03805	Travelling Allowance	19273.0	9116.3	47.3
6.	A13001	Transport	12849.0	6208.8	48.3

Line-items with budget execution less than 50% – Punjab (US\$ million)					
2020-21					
S. no.	Budget code	Description	Budget estimate	Utilised	% utilised
1.	A01202	House Rent Allowance	70137.0	99.9	0.1
2.	A01203	Conveyance Allowance	52478.0	75.1	0.1
3.	A0122M	Ad-Hoc Relief Allowance 2016	30006.0	38.2	0.1
4.	A0122Y	Ad-Hoc Relief Allowance 2017	31,882.0	56.0	0.2
5.	A0123G	Ad-Hoc Relief Allowance 2018	31,882.0	56.0	0.2
6.	A01270	Other	10988.0	31.1	0.2
7.	A0121B	Health Professional Allowance	33472.0	427.9	1.3
8.	A0123P	Ad-Hoc Relief A 2019	1534.0	28.0	1.8
9.	A03407	Rates and Taxes	18379.0	337.6	1.8
10.	A01217	Medical Allowance	1429.0	27.7	1.9
11.	A01101	Basic Pay of Officers	16801.0	560.1	3.3
12.	A01252	Non Practicing Allowance	6497.0	342.3	5.7
13.	A03202	Telephone and Trunk Call	1571.0	166.6	10.6
14.	A03303	Electricity	44342.0	12832.0	28.9
15.	A03806	Transportation of Goods (Gov)	1286.0	447.2	34.8
16.	A03305	Pol for Generator	6640.0	2341.4	35.3
17.	A03901	Stationery	1435.0	507.8	35.4

Furthermore, several line-items showed allocations but zero expenditure against them, especially in 2020-21. Examples of such line-items include 'A01151 – Basic Pay of Other Staff', 'A09201 – Hardware', 'A09202 – Software', 'A03919 – Payments to Others for Services Rendered', and 'A03801 – Training – Domestic'. This, as well as the low budget execution across several line-items in 2019-20 and 2020-21, can be explained by the onset of the COVID-19 pandemic and the subsequent cancellation of several of the EPI's scheduled activities and campaigns.

## KP

**Table 20: Expenditure of EPI line-items – KP**

Expenditures of EPI line-items – KP (US\$ million)				
Description	2017-18	2018-19	2019-20	2020-21
Purchase of drugs and medicines	8.7	3.7	3.9	4.8

Expenditures of EPI line-items – KP (US\$ million)				
% utilisation	100	62.7	38.2	171
Operating and employee expenses	2.9	3.3	3.2	7.2
% utilisation	100	126.9	110.3	118
Total expenditure	11.6	7.0	7.1	12.0

In KP, the data indicate low budget execution in expenditure related to the ‘Purchase of drugs and medicines’ category in 2018-19 and 2019-20. To get clarity on the reason for this low utilisation, a KII with the KP EPI revealed that the actual *released* budget for 2018-19 was US\$ 7.0 million (compared to an allocation of US\$ 8.5 million) and in 2019-20, this figure was US\$ 8.0 million (compared to an allocation of US\$ 13.2 million). Against these released figures, the programme’s overall utilisation was 100.0% and 89.0% in the two years, respectively. Furthermore, the key informant from the KP EPI shared that high utilisation rates across both categories in 2020-21 can be explained by the regularisation of the EPI and the subsequent addition of employee expenses to the EPI budget following this transition.

## Sindh

**Table 21: Expenditures of EPI line-items – Sindh**

Expenditures of EPI line-items – Sindh (US\$ million)				
Description	2017-18	2018-19	2019-20	2020-21
Purchase of drugs and medicines	12.1	11	11.2	11.2
% utilisation	80.1	82.7	89.6	99.1
Operating and employee expenses	1.7	0.5	1.3	2.1
% utilisation	80.9	83.3	92.8	100
Total expenditure	13.7	11.5	12.5	13.3

In Sindh, budget execution was initially low in the ‘Operating and employee expenses’ category but continued to improve over time, demonstrating 100.0% utilisation in 2020-21. Specific line-items within this category with the highest variance between allocated expenditure and utilised expenditure in 2017-18 and 2018-19 are highlighted below:

**Table 22: Line-items with low budget execution – Sindh**

Line-items with budget execution less than 50% – Sindh (US\$ million)					
2017-18					
S. no.	Budget code	Description	Budget estimate	Utilised	% utilised
1.	A03970	Others	12.4	0.08	0.7

Line-items with budget execution less than 50% – Sindh (US\$ million)					
2.	A01101	Basic Pay	0.2	0.04	17.5
3.	A03902	Printing and Publication	0.05	0.009	20.0
4.	A03203	Telex Teleprinter and Fax	0.002	0.0009	44.0
2018-19					
S. no.	Budget code	Description	Budget estimate	Utilised	% utilised
1.	A03970	Others	4.8	0.006	0.1
2.	A01228	Orderly Allowance	0.001	7.2	5.6
3.	A01101	Basic Pay	0.2	0.03	16.2
4.	A03903	Conference/Seminars/Workshops/ Symposium	0.1	0.04	31
5.	A03907	Advertising & Publicity	0.2	0.07	48

## Balochistan

**Table 23: Expenditures of EPI line-items – Balochistan**

Expenditures of EPI line-items – Balochistan (US\$ million)				
Description	2017-18	2018-19	2019-20	2020-21
Purchase of drugs and medicines	2.6	2.3	2.4	4.3
% utilisation	100.0	100.0	96.0	100.0
Operating and employee expenses	6.0	2.7	1.8	1.1
% utilisation	100.0	100.0	90.0	100.0
Total expenditure	8.5	5.0	4.2	5.3

Compared to the other provinces, Balochistan demonstrated the highest and most consistent budget execution. There was only one year, 2019-20, in which budget execution was less than 100.0% in the 'Operating and employee expenses' category. Specific line-items within this category with less than 50.0% utilisation are identified below:

**Table 24: Line-items with low budget execution – Balochistan**

Line-Items with Budget Execution Less Than 50% – Balochistan (US\$ million)					
2019-20					
S. No.	Budget code	Description	B.E.	Utilised	% utilised
1.	A03304	Hot and Cold Weather Charges	308.0	122.0	39.6
2.	A38061	Transportation of Goods	1491.0	667.0	44.7

Furthermore, in 2019-20, two line-items with initial allocations demonstrated zero expenditure in detailed line-item expenditure sheets: 'A03302 – Water' and 'A03905 – Newspapers Periodicals and Books'.

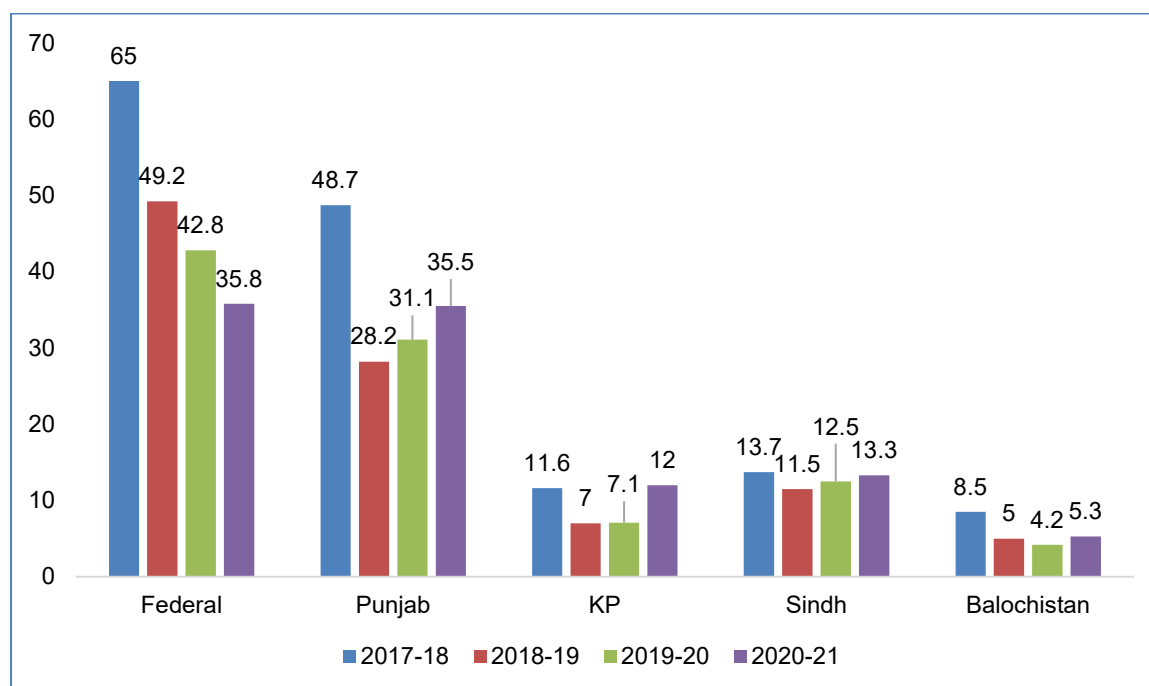
### 3.3.5 Trend lines of expenditures

Total expenditures for the EPI across all areas are provided below:

**Table 25: Total EPI budget utilised**

EPI – Total budget utilised (US\$ in million)				
	2017-18	2018-19	2019-20	2020-21
Federal	65.0	49.2	42.8	35.8
Punjab	48.7	28.2	31.1	35.5
KP	11.6	7.0	7.1	12.0
Sindh	13.7	11.5	12.5	13.3
Balochistan	8.5	5.0	4.2	5.3

**Figure 19: Area-wise trend of EPI expenditures**

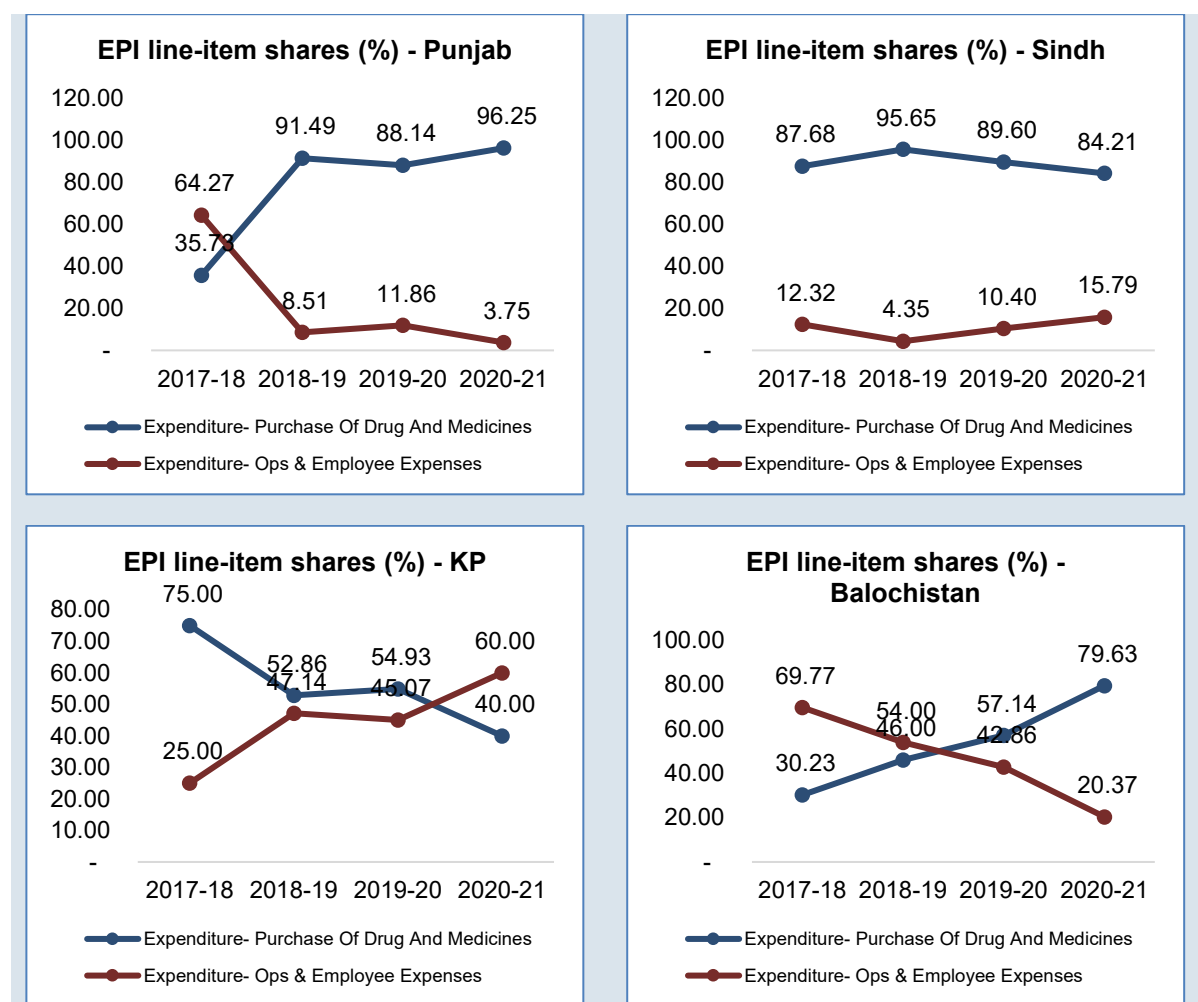


Prior to the pandemic in 2018-19, EPI expenditure demonstrated a downward trend in all areas. As highlighted earlier in Section 3.2.2, this was in tandem with the trend in aggregate budgets for the EPI, which decreased across the board, with the exception of KP. Despite a dip in EPI allocations in 2019-20, Punjab and Sindh still increased their EPI expenditure in this year by US\$ 31.1 million and US\$ 12.5 million, respectively. KP's allocation, as well as expenditure, increased in 2019-20. Balochistan was the only province that demonstrated a decline in its expenditure in this year. In 2020-21, all four provinces managed to offset the

negative impact of the pandemic and increased their expenditure on routine immunisation. KP stands out in particular, since it was able to spend US\$ 12.0 million, despite a significantly lower allocation of US\$ 8.9 million in this year.

In addition to an overall area-wise trend analysis, it is worthwhile to take a closer look at specific expenditure on line-items across all EPIs.

**Figure 20: Expenditure on EPI line-item shares of provinces**



In Punjab, expenditure on ‘Operating and employee expenses’ (64.3%) was initially higher than that on ‘Purchase of drugs and medicines’ (35.7%) in 2017-18. A KII with the Punjab EPI highlighted that high operational expenses were primarily due to one budget item – ‘Payment of Contract Staff’ – because the programme hired 218 vaccinators who were moved to the district budget in the following year. ‘Purchase of drugs and medicines’ incurred higher expenditure than operational expenses for the next three years, forming 96.3% of the overall programmatic expenditure in 2020-21.

In Sindh, expenditure on ‘Purchase of drugs and medicines’ remained significantly higher than that on ‘Operating and employee expenses’ for all four years.

In KP, 75.0% of the programme’s total expenditure was incurred on the ‘Purchase of drugs and medicines’ category in 2017-18. However, there was a drop in expenditure on this category in the following year to 52.9%. By 2020-21, 60.0% of expenditure was on

‘Operating and employee expenses’, compared to 40.0% on ‘Purchase of drugs and medicines’.

In Balochistan, expenditure on ‘Purchase of drugs and medicines’ demonstrated an upward trend, increasing from 30.3% in 2017-18 to 79.6% in 2020-21. Expenditure on ‘Operating and employee expenses’ fell over the course of four years, decreasing from 69.8% in 2017-18 to 20.4% in 2020-21.

### 3.3.6 Vaccine procurement expenditure

MoNHSR&C offered useful insights into the government’s overall vaccine roll-out and procurement strategy, as well as into expenditure incurred on the import of COVID-19 vaccines from various sources.

Overall decision-making and deployment through consensus was carried out during the pandemic by the NCOC, which was established specifically to spearhead the overall COVID-19 response and to take immediate decisions, including vaccine roll-out. The leading government agency responsible for COVID-19 vaccine procurement and negotiations with manufacturers was the NDMA.

Initially, Pakistan submitted an application to acquire free-of-cost COVID-19 vaccines for 20.0% of its population through Gavi’s COVID-19 Vaccines Global Access (COVAX) facility. This financial assistance covered the cost of the vaccine and associated costs of supplies, but not operational costs, such as training, cold chain management, monitoring and evaluation, and healthcare waste management. In addition to receiving vaccines from COVAX, MoNHSR&C’s strategy was to work on bilateral agreements and secure financial assistance from international financial institutions to procure additional doses of vaccines required to vaccinate the country’s eligible population.

As shown in Table 26, the vaccine cost of covering 119 million of the eligible population in Pakistan was estimated to be US\$ 2,749.0 million, of which US\$ 1,740.0 million was secured through continuous efforts of the federal government to mobilise resources through various international channels (MoNHSR&C, 2021). However, a gap of US\$ 1,009 million remained. Similarly, the required operational cost was US\$ 44.0 million, of which the government had US\$ 31.0 million available or committed and a shortage of US\$ 13.0 million (MoNHSR&C, 2021).

**Table 26: Committed funding to vaccinate eligible population in Pakistan by end of 2021 (US\$ in millions)**

	World Bank (loan)	COVAX (donation)	ADB (loan)	IsDB (loan)	Total committed	Total required	Gap
Vaccine cost	150.0	1048.0	482.0	60.0	1740.0	2749.0	1009.0
Operational cost	3.0	-	18.0	10.0	31.0	44.0	13.0
	153.0	1048.0	500.0	70.0	1771.0	2793.0	1022.0

Source: MoNHSR&C

\*Updated to June 2021.

In addition to the resources indicated in Table 26, the Government of Pakistan, via the Economic Coordination Committee, also approved funds for the procurement of COVID-19 vaccines through supplementary grants amounting to US\$ 150 million and US\$ 130 million in November 2020 and May 2021, respectively. Additionally, in June 2021, the Committee approved US\$ 70 million to top up the \$130 million sanctioned in May.

Table 27 shows that the COVAX facility allocated the following vaccines to Pakistan in various rounds between February and May 2021.

**Table 27: Allocation of vaccines by COVAX (Feb–May 2021)**

Country	Round 1: Pfizer- BioNTech2 exceptional distribution, Q1 2021	Round 2: AZ and SII/AZ3, Feb–May 2021		Round 3: Pfizer-BioNTech vaccine, April– June 2021
Pakistan	–	14,640,000	SII/AZ	100,620

Source: COVAX (<https://cdn.who.int/media/docs/default-source/3rd-edl-submissions/covax-first-round-allocation-of-az-and-sii-az--overview-tablev2.pdf>)

By June 2021, the federal government had received approximately 18.6 million doses of different COVID-19 vaccines, which were first used to target healthcare workers, followed by the elderly and then the remaining population. The total amount spent on COVID-19 vaccine imports between July 2020 and December 2021 is provided in Table 28.

**Table 28: COVID-19 vaccine imports (Jul 2020–Dec 2021)**

COVID-19 vaccine imports (US\$ millions)			
Details	Jul–Dec 2020	Jan–June 2021	Jul–Dec 2021
Government of Pakistan through own resources	–	299.1	542.2
Government of Pakistan finances by multilaterals and bilaterals	–	–	615.6
<i>ADB</i>	–	–	487.8
<i>World Bank</i>	–	–	127.8
<i>IsDB</i>	–	–	–
Donations	–	34.0	537.6
COVAX	–	7.0	498.2
Chinese donations	–	27	39.4
Import of vaccines (total)	–	333.0	1695.4

Source: MoNHSR&C.

It can be seen that against a total amount of US\$ 350 million allocated by the government for the procurement of COVID-19 vaccines in 2020–21, US\$ 299.1 million was spent, translating to a utilisation rate of 85.5%.

## 3.4 Examining trends in available financing

### 3.4.1 Government revenues

According to the 7th NFC Award, the federal government divides 57.5% of divisible pool taxes among provinces, with horizontal shares decided on the basis of population, poverty, revenue collection, and inverse population density. Punjab receives 51.7%, Sindh 24.6%, KP 14.6%, and Balochistan 9.1%. Around 85.0% of provincial revenue comes from federal transfers, as per respective NFC shares. The remaining 15.0% is generated through province-wide taxes and levies.

Government revenues, including the Federal Divisible Pool and provincial own receipts for Punjab, KP, Sindh, and Balochistan, are shown in Table 29.

**Table 29: Government revenues of provinces**

Total revenue (US\$ millions)				
	2017-18	2018-19	2019-20	2020-21
Federal	22,450.3	14,603.7	21,060.5	21,911.9
Punjab	12,629.2	10,223.8	9,547.6	10,403.6
KP	3,761.3	3,143.7	2,736.1	3,158.4
Sindh	6,970.0	5,690.1	52,83.4	5,896.1
Balochistan	2,147.1	1,882.0	2,079.7	1,862.4

Source: Budget documents available from the finance departments/divisions of the respective governments.

The COVID-19 pandemic resulted in major adjustments in the fiscal positions of respective governments, as revenue targets fell short of budget estimates and expenditure cuts had to be imposed on development and non-development spending. However, no additional revenue measures were adopted during the pandemic. Financing for COVID-19 itself came from supplementary allocations, allowing governments to meet urgent spending needs immediately.

Furthermore, all governments tried to mitigate the negative impact of the pandemic on livelihoods by announcing tax rebate packages. As unemployment rose, social protection measures were also introduced to provide relief to the most vulnerable segments of the population.

### 3.4.2 External financing for the EPI and COVID-19

The World Bank's NISP (2017–2021) aimed to strengthen EPIs across the country and was put in place with the support of the federal and provincial governments. A results-based financing model, with the use of disbursement-linked indicators, determined the majority of the financial support under NISP. The project incentivised movement of the funding of the EPI from the development budget to the regular budget in the provinces. This was considered to be a significant step towards increasing the predictability of financial support for the EPI in Pakistan.

Another key feature of NISP was a pooled procurement mechanism that has successfully helped provide an uninterrupted supply of vaccines to all areas since 2016. During COVID-19, this pooled procurement served as a fast and structured way to procure essential supplies, such as masks and other PPE for frontline healthcare staff, as discussed further below.

The total project cost of NISP was US\$ 370 million, of which the Government of Pakistan committed US\$ 238 million, Gavi's Health Systems Strengthening (HSS) II Grants committed US\$ 79 million, the International Development Association committed US\$ 50 million, and the US Agency for International Development committed US\$ 10 million.

Table 30 shows that, as per the PC-1s of provincial EPIs, the following amounts were the total foreign component/donor share of the EPIs when on the development side.

**Table 30: The foreign exchange component (FEC) of NISP**

Provincial FEC of NISP (US\$ millions)	
Punjab	36.2
Sindh	25.7
KP	12.0
Balochistan	6.8

Source: PC-1s of provincial EPIs.

KIIs held with representatives from the provincial EPIs revealed that the following amounts (Table 31) were disbursed during our period of interest.

**Table 31: Year-wise external financing of the EPI for Punjab and Balochistan**

External financing of the EPI (US\$ millions)*				
	2017-18	2018-19	2019-20	2020-21
Punjab	4.8	5.4	4.9	–
Balochistan	1.2	0.8	0.8	–

Source: Provincial EPIs.

\*Relevant data from Sindh and KP were not made available.

Furthermore, funding from Gavi has been critical in terms of helping Pakistan improve essential immunisation coverage. All Gavi resources in the country are managed through the World Bank or by WHO/UNICEF and fall under approved financial management and reporting processes (Gavi, 2020). This assistance is used for the procurement of Penta, rota, and pneumococcal vaccines. Category-wise support committed per calendar year is provided in Table 32.

**Table 32: Category-wise Gavi support to Pakistan**

Gavi support committed to Pakistan* (US\$ millions)						
High-level category	2016	2017	2018	2019	2020	2021
HSS II	34.0	25.0	54.4	–		

<b>Gavi support committed to Pakistan* (US\$ millions)</b>						
IPV (new and underused vaccines support (NVS))	1.4	4.9	7.0	14.2		
Penta (NVS)	25.2	29.1	22.5	9.9	16.0	
Pneumo (NVS)	49.6	45.9	53.9	50.6	41.4	
Injection Safety Devices (NVS)	–	1.5	3.7	1.9	2.5	0.5
Rotavirus (NVS)	–	24.3	10.2	12.1		
Vaccine Introduction Grant (VIG)	–	5.4	–	1.5	3.8	
Cold Chain Equipment Optimisation Platform (CCEOP)	–	10.3	10.3	2.6		
Measles Follow up Campaign (NVS)	–	–	10.6	–		
Measles SIA—Operational Costs	–	–	21.3	–		
Typhoid Conjugate Vaccine (TCV) (NVS)				1.2	6.0	8.0
TCV Catch-Up Campaign (NVS)				18.7	31.8	9.2
Product Switch Grant (PSG)				1.8		
TCV Catch-Up Campaign Operational Costs				6.3	13.4	
<b>Total</b>	<b>110.2</b>	<b>146.4</b>	<b>165.3</b>	<b>120.8</b>	<b>114.9</b>	<b>17.7</b>

Source: [www.gavi.org/programmes-impact/country-hub/eastern-mediterranean/pakistan](http://www.gavi.org/programmes-impact/country-hub/eastern-mediterranean/pakistan)

\*Updated to July 2019.

A comparison of total support committed versus actual disbursement is provided in Table 33.

**Table 33: Gavi commitments versus disbursements**

<b>Gavi commitments versus disbursements* (US\$ millions)</b>						
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Commitments	110.2	146.4	165.3	120.8	114.9	17.7
Disbursements	110.2	137.7	174.1	90.5	65.4	–

Source: [www.gavi.org/programmes-impact/country-hub/eastern-mediterranean/pakistan](http://www.gavi.org/programmes-impact/country-hub/eastern-mediterranean/pakistan)

\*Updated to July 2019.

To supplement the above data from 2019 regarding Gavi support during COVID-19, Gavi's Targeted Country Assistance (TCA) plans serve as a useful resource. These plans are developed after assessment of a country's needs during joint appraisal discussions, and outline resources provided to in-country partners under the Partners' Engagement Framework. Table 34 summarises partner-wise support committed by Gavi as per Pakistan's TCA plans.

**Table 34: Partner-wise Gavi support to Pakistan during COVID-19**

<b>Gavi support to Pakistan during COVID-19 (US\$ millions)</b>		
<b>Partner</b>	<b>2020</b>	<b>2021</b>

Gavi support to Pakistan during COVID-19 (US\$ millions)		
UNICEF	1.3	1.0
CDC Foundation	0.2	–
WHO	1.4	1.4
World Bank	0.2	0.2
JSI	0.2	0.07
Acasus	0.2	–
University of Oslo	–	0.006
Expanded Partner	–	1.9
Total	3.5	4.6

Source: Pakistan's TCA plans 2020 and 2021.

Efforts were made by Gavi to ensure continued support to Pakistan's EPI through multi-stakeholder dialogues that served to do the following: to assess the impact of the COVID-19 pandemic on immunisation; to restore routine services that had been scaled back, pulled off-track, or generally affected during the pandemic; and to ensure assistance was aligned with the needs of the country (Annex A).

Details of external financing for COVID-19 support are indicated in Table 2, which is updated till February 2023. However, for the purpose of this report, KIIs were held with the Finance Division and MoNHSR&C to understand the support provided/committed for the years under consideration in this report (up till June 2021). The KIIs revealed that aid was extended to Pakistan in the wake of the COVID-19 pandemic, in the shape of several loans and grants. A total of US\$ 99.076 million in grants and US\$ 721.17 million in loans was committed to Pakistan, including the following: multilateral grants worth US\$ 28.45 million from the ADB, the European Union, IsDB, and the United Nations; bilateral grants worth US\$ 70.626 million from Canada, China, Japan, South Korea, the UK, and the US; and loans worth US\$ 721.17 million from the ADB, AfD, IsDB, the OPEC Fund for International Development (OFID), and the World Bank.

In the wake of the pandemic, many Gavi-supported countries reallocated or reprogrammed existing HSS and TCA support for immediate pandemic management. A KII held with a representative from the World Bank revealed that a loan from NISP under execution by the FDI was redirected to COVID-19 activities for the procurement of PPE through UNICEF. The details are given in Table 35.

**Table 35: Repurposing of World Bank loan**

S. no.	Description	US\$ millions	PKR millions
1	Savings from the previous financial year (2018-19) from the World Bank project of EPI were lying with UNICEF and were redirected/repurposed for the procurement of items for COVID-19	1.5	208.8
2	The FY 2019-20 budget of the World Bank Project under execution by the EPI was redirected/repurposed for the procurement of items for COVID-19	7.0	1,120.0

S. no.	Description	US\$ millions	PKR millions
Total		8.5	1,328.8

Source: World Bank.

The table shows that US\$ 8.5 million of rapidly reallocated NISP Cold Chain Equipment Optimisation Platform and technical assistance funds were leveraged under the World Bank's US\$ 200 million Pandemic Response Effectiveness in Pakistan project for the procurement of PPE. This was the first procurement of infection prevention and control equipment in the World Bank's South Asian region, and it was instrumental in terms of helping Pakistan fight the COVID-19 emergency. The representative from the World Bank shared that this repurposing of funds from NISP allowed for the accelerated disbursement of much-needed funds to protect frontline workers during the early stages of the emergency.

Other approved budget reallocations of Gavi's HSS grant for Pakistan's COVID-19 response included US\$ 0.3 million for training and US\$ 0.005 million for software development relating to the COVID-19 Inventory Management System (COVIM) (Gavi, 2020). COVIM is a real-time computerised system that facilitates the reporting of COVID-19 stock, voucher lists, consumption reports, and so on.

The Finance Division and MoNHSR&C confirmed these findings and added that, in order to meet the urgent balance of payments needs stemming from the outbreak of the pandemic, the IMF had approved the disbursement of US\$ 1.386 billion under the RFI in April 2020. The purpose of the RFI was to address the economic impact of the COVID-19 shock in Pakistan.

## 4 Challenges and limitations of this assessment

Several of the government officials responsible for the EPI and COVID-19 activities, for the 2017-18 to 2020-21 period, had been transferred from their respective posts at the time of the KIIs. Therefore, it was difficult to reach individuals who could provide the specific information that had been requested. However, all effort was made to reach as many individuals as possible in the given timeframe.

Several programmes were hesitant to share data about budgetary allocations and expenditures by line-items, as they deemed this information confidential. Therefore, in some cases, data were reported to be not available – details about the COVID-19 expenditures by federal entities, such as the NCOC/NDMA, and by Balochistan are cases in point. The analysis has been completed with as much information as could be collected after regular coordination with focal persons from all areas.

Moreover, the initial focus of provincial-level interviews was only limited to stakeholders from Punjab and KP; however, due to several gaps in the data provided by Balochistan, it was deemed necessary to conduct KIIs with relevant personnel from this province as well. This was a time-consuming endeavour and expanded the scope of the assignment.

Since the data collection process spanned provinces, a key challenge was also that information shared by provinces did not follow a standard template. Despite requests to populate the quantitative data collection tool that had been developed, most programmes shared data in the formats they used in their day-to-day operations due to a paucity of time. Additional efforts were put into standardising the data that had been collected in a format that could be compared across regions

Lastly, a major challenge was that data shared by the finance departments did not match the data provided by the EPIs and health departments. All efforts were made to cross-check, validate, and use consistent data across provinces for analysis.

## 5 Conclusions

An analysis of budgetary data and findings from KIIs shows that, at the provincial level, funding for the EPI remained timely, initially through the development budget between 2017-18 and 2019-20 and later moving to the current side. The onset of the COVID-19 pandemic in 2019-20 caused a decline in the annual aggregate budgets of the EPI in Punjab by 18.0%, in Sindh by 0.3%, and in Balochistan by 10.0%. However, in the following year, Punjab and Balochistan demonstrated a solid recovery and increased their respective EPI allocations by 10.5% and 20.0%, while Sindh's allocation fell further by 3.1%. KP was the only province that increased its allocation in 2019-20 by 55.3%, but was unable to insulate itself from the shock of the pandemic and showed a massive decline of 32.6% in 2020-21.

On average, total expenditure of all provincial EPIs was within the total estimates for spending, indicating a balance between the resources needed and those provided. However, in cases where total expenditure exceeded the total estimate, additional funding was needed by programmes that had not been accounted for at the start of the year. This was then arranged through supplementary budgets.

There is no evidence that funds were redirected or reappropriated from the EPI towards pandemic management. Supplementary grants financed from the available pool of resources helped provincial governments meet urgent spending needs during COVID-19. In regard to crowding out at the federal level, a loan of US\$ 8.5 million from the World Bank's NISP, under execution by the FDI, was redirected towards the procurement of PPE. This accelerated disbursement was used to protect frontline workers from the risk of infection in the initial stages of the pandemic. Evidence from Gavi shows that additional funds worth US\$ 0.3 million for training and US\$ 0.005 million for software development in respect of COVIM were also reallocated.

The COVID-19 pandemic brought about several interruptions to routine immunisation services in the country, such as the suspension or off-tracking of vaccination campaigns and the redirection of human resources. However, some areas fared better than others. In Punjab, KIIs indicated that no human resources from the provincial EPI were engaged in the COVID-19 vaccination drive, as the province already had an excess workforce from the IRMNCH&N programme, as well as staff engaged for the prevention and control of the dengue epidemic. New staff were hired wherever necessary. Cold chain equipment from the EPI was used for the storage of COVID-19 vaccines, but these fridges were also additional, and therefore did not interrupt routine activities.

In Balochistan and KP, however, interviews revealed that a majority of EPI human resources had to perform pandemic-related tasks in addition to their own activities. In these provinces, technical human resources that deal with cold chain, surveillance, and data management were already limited prior to the pandemic, which is why the same set of human resources were engaged in the COVID-19 vaccination drive. This led to the overburdening of staff. Furthermore, in some cases, such as Enhanced Outreach Activities in Balochistan, the unavailability of staff led to postponing activities for nine months. Due to shipment cancellations, Balochistan even experienced a stock-out of routine vaccines. EPI resources,

such as cold chain equipment, were utilised fully for the storage of COVID-19 vaccines, at the expense of the programme's own needs.

Such interruptions to routine immunisation due to COVID-19 negatively impacted national immunisation coverage in Pakistan in 2020. During the period from January to June 2020, roughly 700,000 children missed their BCG dose, 1 million missed their Penta 1 vaccine, 1.3 million missed Penta 3 doses, and 900,000 missed their measles-1 vaccine (Gavi, 2020). A total of 1.3 million children were unvaccinated in Pakistan in 2020, an increase of 0.4 million compared to the previous year (UNICEF, 2021). However, all provincial EPIs put in efforts to restore routine immunisation services as soon as possible, such as organising catch-up campaigns and redirecting EPI vaccinators engaged in the COVID-19 response towards regular activities. Data show that coverage of IPV increased from 87% in 2020 to 90% in 2021, and coverage of Penta 3 increased from 76% to 86%, indicating the robust recovery efforts initiated by the country to make up for the progress lost on childhood immunisation coverage.

Significant aid was also extended to Pakistan to combat the COVID-19 pandemic, in the shape of several loans and grants, in addition to external financing from Gavi and from the World Bank's NISP. A total of US\$ 99.076 million in grants and US\$ 721.17 million in loans was committed to Pakistan, including the following: multilateral grants worth US\$ 28.45 million from the ADB, the European Union, IsDB, and the United Nations; bilateral grants worth US\$ 70.626 million from Canada, China, Japan, South Korea, the UK, and the US; and loans worth US\$ 721.17 million from the ADB, France (Afd), IsDB, OFID, and the World Bank. The IMF also approved the disbursement of US\$ 1.386 billion under the RFI in April 2020, aimed at addressing the economic impact of the COVID-19 shock in Pakistan. It may also be worth pointing out that the additional loans received during the pandemic were concessionary loans, with long repayment periods. Therefore, these additional loans provided will not result in a large addition to Pakistan's debt servicing costs. However, the RFI from the IMF had a grace period of three years and a repayment period of only two years. This means that the country will have to repay \$685 million each in FY 2023-24 and FY 2024-25 to service this debt. This will be a significant increase to the country's debt servicing cost.

## 6 Recommendations

Despite the increase in overall spending during the pandemic, Pakistan's public expenditure on health, specifically the EPIs at the federal and provincial level, needs to significantly increase in order to attain maximum health service coverage. In the long term, Pakistan must reassess its overall budgetary allocation towards health and ensure it constitutes a significantly higher proportion of overall GDP.

The emergency response measures implemented by the government in response to COVID-19, in line with globally approved recommendations to avert a humanitarian crisis, focused on tackling the health emergency and supporting the most vulnerable, while also shoring up economic activity. Similarly, the State Bank of Pakistan's proactive credit-support and liquidity initiatives helped safeguard financial stability. Nonetheless, given Pakistan's limited fiscal space and fragile economy, the enacted support measures were targeted and temporary, focusing on the immediate health spending needs and protection of the most vulnerable. However, preserving long-term economic and financial sustainability must be a key concern for the government, especially developing the ability and capacity to tackle any future emergencies of this scale without heavy reliance on external support. Ensuring there is no crowding out of resources from essential health services and immunisation programmes must be a priority area for the government in the future.

In order to fully restore immunisation services that were disrupted in the wake of COVID-19, it is imperative that federal and provincial governments continue to engage in catch-up activities to target children who missed out on necessary vaccines due to the pandemic, especially zero-dose children.

The economic uncertainty has exposed inherent weaknesses in the budgeting processes of the EPIs. With the largest chunk of the budget being allocated to vaccine procurement, no contingency plan is in place in the wake of the depreciation of the PKR against the US dollar, which would ensure the protection of funds necessary for adequate procurement of vaccines. Due to the loss of purchasing power of the PKR, shortfall in vaccines is inevitable unless supplementary grants can be provided to cover the loss due to exchange rate fluctuation. Further, the government needs to strengthen its systems for estimating fiscal risks arising from various sources, and to devise a fiscal risk mitigation strategy. Foremost among fiscal risk mitigation measures could be a system of making adequate allocation for 'contingencies' and the shifting of fiscal risk to insurance providers where possible.

It is imperative that all technical positions in the EPI are filled and the professional capacity of human resources, especially staff responsible for cold chain, surveillance, and data management, is enhanced through relevant trainings, which is an area where the government must seek the technical assistance of development partners.

Extensive advocacy is necessary to sensitise provincial governments in regard to the eventual tapering off of support from Gavi. This will require additional resource mobilisation efforts by the provincial governments. This transition will increase the cost ratio on the government, which currently stands at 30.0%, to the point where it will bear the entire cost of vaccines for routine immunisation in the future.

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## Annex A Additional information about Gavi support to Pakistan

### A.1 Gavi HSS implementation summary (as at March 2021) (US\$ millions)

Recipient	Grant amount	Funds disbursed	Expenditure
World Bank – NISP	129.6	129.6	87.3
UNICEF – add. HSS	6.4	6.4	2.1
WHO – add. HSS	14.0	14.0	12.7
IRD – add. HSS	1.6	1.6	0.7
Acasus – add. HSS	1.2	1.0	1.0
CHIP – add. HSS	0.6	0.1	0.09

Source: Gavi multi-stakeholder dialogue Pakistan 2020

### A.2 Other Gavi support (US\$ millions)

Category	Recipient	Start date	End date	Grant value	Disbursed	Expenditure
PBF 2018	WHO	Dec 2020	Dec 2022	7.8	17.8	0.07
PBF 2018	UNICEF	Dec 2020	Dec 2022	1.9	1.9	0.2
PBF 2018	UNICEF Supply Division	Mar 2020	Dec 2020	3.7	3.7	1.8
Measles SIA	UNICEF	Aug 2018	Dec 2021	19.4	19.4	16.8
Measles SIA	WHO	Jul 2018	Dec 2021	1.9	1.9	1.5
TCV Op. Cost I and II	UNICEF	Jul 2019	Dec 2022	4.4	4.4	3.3

Category	Recipient	Start date	End date	Grant value	Disbursed	Expenditure
TCV Op. Cost I and II	WHO	Jul 2019	Dec 2022	12.4	12.4	10.1
TCV VIG I and II	UNICEF	Jul 2019	Dec 2022	0.2	0.2	0.06
TCV VIG I and II	WHO	Jul 2019	Dec 2022	4.1	4.1	0.9
IPV2 PSG	UNICEF	Feb 2021	Jan 2023	0.3	0.3	0
IPV2 PSG	WHO	Feb 2021	Jan 2023	1.5	1.5	0
PCV PSG 2019	UNICEF	Jul 2019	Dec 2021	0.4	0.4	0.07
PCV PSG 2019	WHO	Jul 2019	Dec 2021	1.4	1.4	1.3
PCV PSG 2021	UNICEF	Jan 2021	Dec 2022	0.9	0.9	0
PCV PSG 2021	WHO	Jan 2021	Dec 2022	1.0	1.0	0.04

Source: Gavi multi-stakeholder dialogue Pakistan 2020.