Memorandum on the Islamic Republic of Pakistan Programme Audit report

The attached Audit and Investigations report sets out the conclusions of the programme audit of Gavi's support to the Islamic Republic of Pakistan's Federal Department of Health (FDoH), executed by the Federal Department of Immunisation (FDI), along with other implementing partners.

The audit team reviewed the FDI and implementing partners' management of Gavi support to the routine immunisation programme provided during the period 1 January 2019 to 31 December 2023. The audit scope included the following grants: Health Systems Strengthening, Typhoid conjugate vaccine, Inactivated poliovirus vaccine, MR campaign, PCV vaccine, COVID-19 Vaccine Delivery Support (CDS) funds, as well as other vaccines and cold chain equipment.

Funds directly executed by WHO and UNICEF were not subject to our programme audit and were considered out of scope, in accordance with the United Nations single audit principle. Gavi funds disbursed to the World Bank through the multi-donor trust fund were also excluded from the scope of our audit, due to annual single audit clause in the Administrative Agreement (AA) on the Bank's combined cash-based Trust Funds.

The report's executive summary (pages 3 to 7) summarises the key conclusions, details of which are set out in the body of the report:

1. There is an overall audit rating of **"ineffective",** which means, "Internal controls, governance and risk management processes are not adequately designed and/or are not generally effective. The nature of these issues is such that the achievement of objectives is seriously compromised".
2. In total, 20 issues were identified in the following areas: (i) governance and oversight; (ii) programme management; (iii) vaccine supply chain management; (iv) supply chain and data management systems; (v) immunisation data management; and (vi) budgeting and financial management.
3. To address the risks associated with the issues, the audit team raised 24 recommendations, of which 15 were rated as high priority.

4. Key findings were that:

    a. The devolution of health services from the federal to the provincial level in Pakistan has also led to unclear roles and responsibilities across federal, provincial, and district levels. Our audit at FDI identified several systemic challenges, particularly in leadership, coordination, and human resource capacity. Both federal and provincial EPI offices lack adequate senior staff, leading to significant reliance on development partners to fill critical gaps in planning, implementation, and monitoring. Strategic planning processes

were found to be weak and delayed.

b. Persistent weaknesses in programming and a challenging operational environment have contributed to ongoing issues within Pakistan's immunisation programme, including repeated measles outbreaks and difficulty reaching zero-dose (ZD) children. Measles management remains a major concern. The audit noted a reliance on immunisation campaigns at the expense of strengthening routine services, undermining long-term disease prevention. The audit also identified limited government involvement in monitoring Technical Capacity (TCA) activities implemented by partners.

c. Inventory management practices at both the federal and subnational levels require significant improvement. Discrepancies were noted between shipment information and information recorded in vLMIS database, stock reconciliations, discrepancies with physical verification. Low stock levels were noted at provinces and rationing of vaccines was noted at service delivery points and vaccine distribution was conducted on an ad hoc basis. Instances were identified where vaccine stocks were untraceable in the records of recipient stores. Additionally, last-mile vaccine distribution was ineffective.

d. Since their implementation, key digital systems supporting Pakistan's immunisation programme have faced operational challenges. There were significant gaps in the transition plan and total cost of ownership. There was also no risk management plan or mitigation strategies as part of the transition plan, and no defined success criteria or KPIs to measure transition effectiveness or manage post-transition governance. The handover of technical assets was also incomplete. The systems continue to function in isolation, with minimal integration between NEIR, SEIR, Electronic Medical Records (EMRs), and other digital platforms, reducing operational efficiency. Human resource shortages further weaken system sustainability. The programme's heavy reliance on external partners adds to its vulnerability.

e. The reliability of Pakistan's immunisation coverage was compromised due to the use of outdated population denominators and lack of development data quality improvement plans to remediate and improve data quality in provinces except for one where it is developed but not monitored.

f. The audit revealed significant challenges undermining the return on investment and value-for-money of the Multi-Donor Trust Fund (MDTF). Operational delays, including a seven-month lag in project start despite early funding, and persistent vacancies in key strategic positions, compromised project effectiveness.

The findings of the programme audit were discussed with the Federal Department of Health (FDoH) and implementing partners. They accepted the audit findings, acknowledged the gaps identified, and committed to implement a detailed management action plan.

The Gavi Secretariat continues to work with the Federal Department of Health to ensure that the above commitments are met.

Geneva, August 2025

PROGRAMME AUDIT REPORT

Islamic Republic of Pakistan
July 2025

Gavi
The Vaccine Alliance

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1. Executive Summary

1.1 Overall audit opinion

Audit opinion:

The audit team assessed the Federal Department of Health's management of Gavi support during the period 1 January 2019 to 31 December 2023 as "ineffective" which means, **"Multiple significant and material issues were noted.** Internal controls, governance and risk management processes are not adequately designed and/or are not generally effective. The nature of these issues is such that the achievement of objectives is seriously compromised."

Through our audit procedures, we identified high risk issues relating to governance and oversight, programme management; vaccine supply chain management; supply chain and data management systems; immunisation data processes; and financial management.

To address the risks associated with these issues, the audit team raised 24 recommendations, of which 15 (63%) were rated as high risk. These recommendations need to be addressed by implementing remedial measures according to the agreed management actions.

1.2 Summary of key audit issues

** The audit ratings attributed to each section of this report, the level of risk assigned to each audit issue and each recommendation, are defined in Annex 2 of this report.*

1.3 Summary of issues

Through our audit procedures, we identified 20 issues (13 high risk,7 medium risk) relating to the use and management of Gavi support.

Section 3 of this report provides details of the Islamic Republic of Pakistan's context and specific challenges in delivering its immunisation programme.

At the time of the audit in November 2024, Gavi's support was channelled through partners, with the Federal Department of Immunisation (FDI) significantly relying upon the partners to lead and perform many of the activities. However, the audit team noted that the Government's role in overseeing such partner-led implementation was not sufficiently defined.

The high-risk issues are summarised below, followed by the detailed observations in Section 4 of this report.

Governance and oversight
The devolution of health services from the federal to the provincial level in Pakistan has significantly changed the way the Expanded Programme on Immunisation (EPI) is managed. While this shift allows provinces to adopt approaches tailored to their specific needs, it has also led to unclear roles and responsibilities across federal, provincial, and district levels. In practice, provincial governments are primarily responsible for managing EPI activities, while the federal government's role is largely limited to coordination with international donors such as Gavi and its partners.

Our audit at FDI identified several systemic challenges, particularly in leadership, coordination, and human resource capacity. From 2019 to 2024, the FDI experienced frequent leadership changes, including extended periods without a substantive head. Both federal and provincial EPI offices lack adequate senior staff, leading to significant reliance on development partners to fill critical gaps in planning, implementation, and monitoring. This reliance limits opportunities for government capacity building and sustainable programme ownership.

Strategic planning processes were found to be weak and delayed. The FDI had not transitioned from the Comprehensive Multi-Year Plan (cMYP) to a National Immunisation Strategy (NIS), and the Full Portfolio Planning (FPP) process, initiated in 2020, was significantly delayed impacting programming. Similarly, the development of an accountability framework, begun in 2019, had yet to be finalised at the time of the audit.

Overall, these structural and operational weaknesses—particularly in leadership, staffing, strategic planning, and accountability—pose significant risks to the effectiveness and sustainability of Pakistan's immunisation programme. Unless the government takes steps to strengthen human resource capacity and institutional leadership, the programme will continue to be partner-driven, which could impede skill transfer, limit long-term capacity development, and may threaten timely access to future donor funding.

Programme management
Persistent weaknesses in programming and a challenging operational environment have contributed to ongoing issues within Pakistan's immunisation programme, including repeated measles outbreaks and difficulty reaching zero-dose (ZD) children. Despite some progress, the country continues to fall short of ZD targets. In 2021, Pakistan had the second-highest number of ZD children in South Asia (651,000), and although this dropped to 396,000 by 2023, it still represented a shortfall of 27% against the annual target.

Measles management remains a major concern. Although WHO recommends 95% coverage to achieve herd immunity, Pakistan reported only 81% coverage in 2021. The audit noted a reliance on immunisation campaigns at the expense of strengthening routine services, undermining long-term disease prevention. Aso

the management of the Vaccine Preventable Disease (VPD) surveillance was found to be weak with delays in review and reporting of results.

The audit also identified limited government involvement in monitoring Technical Capacity (TCA) activities implemented by partners. While planning and alignment efforts exist, coordination and data-sharing during implementation are weak. Government counterparts were not involved in performance reviews or monitoring prior to partner reporting to Gavi. Although an independent review of TCA investments was initiated by Gavi in Q3 2024, it was not completed by the time of the audit and there is no transition plan to guide the gradual transfer of responsibilities from partners to national staff. Without a structured transition plan, clear oversight of partner activities, and mechanisms for results measurement and skills transfer, there is a high risk that TCA resources will not deliver long-term value or build national capacity.

These gaps threaten the sustainability and effectiveness of the immunisation programme. Continuous measles outbreaks weaken the routine immunisation programme as resources are diverted to manage the outbreaks and are notably expensive. Inability to effectively reach the zero dose children could negatively impact the effectiveness of the immunisation programme and the health of the targeted population.

Vaccine supply chain management

Improvements in vaccine supply chain management have been observed over the years, as reflected in the increase in the Effective Vaccine Management (EVM) score from 61% in 2014 to 74% in 2019. However, additional efforts are needed to address remaining gaps.

Inventory management practices at both the federal and subnational levels require significant improvement. Discrepancies were identified when comparing vaccine quantities in the UNICEF shipment database with those recorded in the vLMIS at the FDI central vaccine store between 2019 and 2023. Stock reconciliation variances were observed for five sampled antigens at the FDI warehouse during this period. Additionally, a physical stock count revealed discrepancies between actual stock and recorded balances at subnational vaccine handling points.

Furthermore, stock levels at the FDI warehouse, including pipeline stock for November and December 2024, fell below the minimum six-month stock requirement, resulting in low stock levels at provinces and rationing of vaccines at service delivery points.

Vaccine distribution was conducted on an ad hoc basis, lacking defined schedules and plans to inform recipient stores when to prepare for receiving or collecting vaccines. Approved vaccine allocations from the FDI warehouse to provinces and federating states were not fully delivered. Instances were identified where vaccine stocks were untraceable in the records of recipient stores. Additionally, last-mile vaccine distribution was ineffective, as it was carried out by vaccinators or health facilities using their own or public transport. In some cases, transportation costs were covered by the vaccinators out of their own pockets.

The gaps noted in the vaccine supply chain processes must be addressed to ensure effective vaccine supply chain management, reduce stock-outs and missed immunisation opportunities, and improve the security and integrity of data outputs and forecasts.

Supply chain and data management systems

Since their implementation, key digital systems supporting Pakistan's immunisation programme—including the National Electronic Immunisation Register (NEIR), Sindh Electronic Immunisation Register (SEIR), and the Vaccine Logistics Management Information System (vLMIS)—have faced operational challenges. While a transition plan and total cost of ownership was shared for SEIR, it contained significant gaps. Notably, the plan did not provide for a clear skills transfer roadmap, leaving federal staff without a defined pathway to acquire or demonstrate technical competencies, especially as most key personnel had already resigned at the time of

the audit. There was also no risk management plan or mitigation strategies as part of the transition plan, and no defined success criteria or KPIs to measure transition effectiveness or manage post-transition governance. The Total Cost of Ownership (TCO) assessment further didn't include costs for on-premise server procurement and maintenance, training of technical staff, software licensing, hardware decommissioning, and device replacement at the district level.

Furthermore, the handover of technical assets was also incomplete: although IRD provided source code and documentation for NEIR, these were insufficient and unusable, forcing the Federal Directorate of Immunisation (FDI) to further customise NEIR resulting in costly implementation delays. The original procurement for NEIR was run through WHO which took up the responsibility for defining the system requirements, During the transition of NEIR from IRD no TCO was developed, which further highlights gaps in the stakeholder oversight and transition planning.

These systems continue to function in isolation, with minimal integration between NEIR, SEIR, Electronic Medical Records (EMRs), and other digital platforms, reducing operational efficiency. Human resource shortages further weaken system sustainability. In Sindh, the resignation of 25 key SEIR staff in November 2024 threatens continuity, while in Punjab, essential EMR management roles identified as far back as 2021 remain vacant.

The programme's heavy reliance on external partners adds to its vulnerability. WHO retains full control of the source code and development environment for the FDI MIS and NEIR, and Chemonics manages key technical functions for vLMIS. With Chemonics' contract ending in November 2024 and no transition plan in place, there is a significant risk of service disruption. Similar dependency exists in Sindh, where IRD continues to manage SEIR with limited oversight from the Ministry of National Health Services Regulation and Coordination (MoNHSR&C).

Without a clear digital health strategy to operationalise Pakistan's broader Digital Health Framework, these fragmented, partner-led systems lack the strategic direction, governance, and integration needed for long-term sustainability. Ongoing fragmentation and system design flaws will impede Pakistan's capacity to manage and expand its immunisation and health information systems effectively.

Immunisation data management

The reliability of Pakistan's immunisation coverage was compromised due to the use of outdated population denominators. Ongoing conflicts and insecurity leading to significant population migration complicates the accuracy of the population estimates to be used for target setting.

Although data quality assessments were conducted in 4 out of 6 provinces, these were not followed up with Data Quality Improvement Plans (DQIPs) to remediate and improve data quality except in one province, and in that province the DQIP it is not being tracked and monitored.

Issues in the management and quality of immunisation estimates undermined decision-making, leading to unsupported targets, overreported achievements, and limiting the effectiveness and impact of EPI interventions.

Budgeting and financial management

The audit revealed significant challenges undermining the return on investment and value-for-money of the Multi-Donor Trust Fund (MDTF). Operational delays, including a seven-month lag in project start despite early funding, and persistent vacancies in key strategic positions, compromised project effectiveness. Although some improvements in immunisation coverage were noted, only Punjab met its targets, with other provinces lagging significantly, resulting in just 44% of project objectives being achieved. Furthermore, lessons from the National Immunisation Support Project (NISP) were not fully integrated into the successor National Health Support Program (NHSP), which itself faces delays and underperformance.

This poses risks to achieving value for money and effective accountability within the immunisation program.

1.4 Financial consequences of audit issues

The table below summarises amounts questioned by the audit team:

Table 1: Summary of expenditures questioned by the audit team, by category

Category of questioned expenditures	Amount questioned (PKR)	Amount questioned (USD)	% of expenditures reviewed	Details (report reference)
Inadequately supported	11,634,730	*60,597*	2.2%	4.6.3
Total questioned	**11,634,730**	***60,597***		

1.5 Cash balances

Table 2: Gavi funds unspent, held on account at the central level by UNICEF and WHO as of 30 June 2024

Implementing partner	Balance USD	Date	Source of information
UNICEF	*12,545,854*	30 June 2024	Gavi finance records
WHO	*15,031,726*	30 June 2024	Gavi finance records
TOTAL	***27,577,580***		

2. Objectives and scope

2.1 Audit objectives

In line with the respective Partnership Framework Agreement and with Gavi's transparency and accountability policy, countries that receive Gavi's support are periodically subject to a programme audit, for which the primary objective is to provide reasonable assurance that Gavi's resources and support were used for intended purposes in accordance with Gavi's agreed terms and conditions and in line with the designated programme objectives.

As a result, the audit team assessed the various processes and programme management arrangements governing Gavi's support (vaccines, cash and equipment) for which the respective entities were responsible, so as to assess whether the design of the governance structures are effective in providing oversight over the immunisation programme, assess the effectiveness of the coordination, collaboration and implementation arrangements of Gavi-funded programme activities, review the design and operating effectiveness of the assurance mechanisms within the financial management processes, review the effectiveness of data management and data quality processes to ensure that data used for decision making is complete and accurate, and review the design and operating effectiveness of vaccine supply chain processes to ensure delivery of vaccines to the intended recipients.

The team also reviewed the relevance and reliability of the internal control systems, relative to the accuracy and integrity of the books and records, management and operational information; the effectiveness of operations; the physical security of assets and resources; and compliance with national procedures and regulations.

2.2 Audit scope

The audit team adopted a risk-based audit approach informed by our assessment of the risks across the immunisation programme areas supported by Gavi. This included governance and oversight, programme management including sustainability of the immunisation programme, vaccine supply management, immunisation data management, budgeting and financial management, and fixed assets management. In addition, Gavi's supplemental Covid-19 support (cash and vaccines), and the effectiveness of targeted country assistance were reviewed.

The audit scope covered the five-year period from 1 January 2019 to 31 December 2023. The total cash, vaccine and ancillary support provided by Gavi to Pakistan as of 31 December 2023 is presented in table 3 below.

Table 3: Cash, technical assistance, equipment, and vaccine support (2019 – 2023)

Amounts in USD	Grants in audit scope period					
Grants	**2019**	**2020**	**2021**	**2022**	**2023**	**Total**
Health System Strengthening (HSS)	22,350,466	2,837,987	-	30,783	28,486	**25,247,722**
Typhoid conjugate vaccine (TCV)	7,809,912	1,7176,244	650,000	276,273	-	**25,912,429**
Inactivated poliovirus vaccine (IPV)	-	-	1,801,030	-	-	**1,801,030**
MR Op Costs	-	-	59,160,257	-	-	**59,160,257**
PCV	1,734,430	-	1,889,237	-	-	**3,623,667**
Fragilities, Emergencies, and Displaced Populations (FED)	-	-	-	-	2,886,516	**2,886,516**
COVAX CDS	-	-	16,208,166	18,059,560	8,581,755	**42,849,481**
Total (Cash)	**31,894,808**	**20,014,231**	**79,708,690**	**18,366,616**	**11,496,757**	**161,481,102**
PEF TCA	-	-	-	5,606,831	4,127,631	**9,734,462**
Total (PEF TCA)	**-**	**-**	**-**	**5,606,831**	**4,127,631**	**9,734,462**
CCEOP	8,172,254	238,068	7,003,056	-	-	**15,413,378**
COVAX CCE	-	-	1,796,145	540,104	-	**2,336,249**
Total (Equipment)	**8,172,254**	**238,068**	**8,799,201**	**540,104**	-	**17,749,627**
IPV	12,686,125	16,159,305	38,088,038	19,569,306	31,504,997	**118,007,771**
Measles-Rubella	-	-	90,572,385	9,200,837	3,880,152	**103,653,374**
OCV	-	-	-	3,256,727	-	**3,256,727**
Pentavalent	10,670,531	22,308,973	15,443,692	13,121,638	15,292,448	**76,837,282**
PCV	43,709,159	42,812,549	48,235,637	31,511,540	44,178,541	**210,447,426**
Rota virus	11,176,512	16,181,925	27,403,496	14,573,212	18,930,446	**88,265,591**
TCV	20,105,906	40,606,180	15,905,931	5,387,316	3,223,917	**85,229,250**
Injection Safety Devices	1,667,873	-	-	-	-	**1,667,873**
Covid19 Vaccines			838,248,658	116,528,888	11,236,320	**966,013,866**
Total (Vaccines)	**100,016,106**	**138,068,932**	**1,073,897,837**	**213,149,464**	**128,246,821**	**1,653,379,160**
Total (Vaccines + Equipment + Cash)	**140,083,168**	**158,321,231**	**1,162,405,728**	**237,663,015**	**143,871,209**	**1,842,344,351**

2.3 Audit approach

The audit was conducted in two phases: an initial scoping visit in August 2024 and four weeks field work from 28th October to 22nd November 2024. The team adopted a risk-based approach to determine the audit objectives. The team visited 1 Central vaccine store, 4 Provincial Vaccine Stores, 10 District vaccine stores, 9 Tehsil stores and 42 Health facilities. See Annex 4 for list of FDI sites and health facilities visited.

During the audit, the team interacted with key stakeholders including senior officials within the Ministry of National Health Services, Regulation and Coordination (MoNHSR&C), FDI, and provincial EPI teams; Gavi Alliance partners including WHO, UNICEF, The World Bank; and other Gavi Expanded partners such as Jhpiego and Acasus.

Gavi's support to the Islamic Republic of Pakistan over the audit period (2019-2023) was channelled through Gavi alliance partners (WHO, UNICEF, The World Bank) as well as the expanded partners.

For the audit period, Gavi disbursed funds amounting to USD 164.4 million to a range of implementers as illustrated in table 4 below. No Gavi funds were disbursed directly to the Government as per the mutual agreement between Gavi, the alliance partners and MoNHSR&C.

Table 4: Total Gavi cash disbursements to Pakistan by grant and recipient (2019 to 2023) in USD

Cash grants	Fund Recipient	Total in USD	Cash amounts sub-granted to govt and CSOs	Audit Comments
HSS	WHO	15,250,622		Out of scope^
	UNICEF	6,360,698	2,565,245	Out of scope^. Transfers to Govt. and CSOs included in scope^^
	WB	1,637,988		Out of scope*
	ACASUS	1,389,145		Scoped out by the audit team~
	Others	609,269		Scoped out by the audit team~
Sub-total HSS		**25,247,722**	**2,565,245**	
TCV	WHO	20,822,846	1,758,775	Out of scope^. Transfers to Govt. included in scope^^
	UNICEF	5,089,583	545,737	Out of scope^. Transfers to Govt. and CSOs included in scope^^
Sub-total TCV		**25,912,429**	**2,304,512**	
IPV	WHO	1,502,921		Out of scope^
	UNICEF	298,109		Out of scope^
Sub-total IPV		**1,801,030**	-	
MR Op. Costs	WHO	50,699,577	3,621,415	Out of scope^. Transfers to Govt. included in scope^^
	UNICEF	8,054,126	2,978,079	Out of scope^. Transfers to Govt. And CSOs included in scope^^
	MMD	406,554		Scoped out by the audit team~
Sub-total MR Op. Costs		**59,160,257**	**6,599,494**	
PCV	WHO	2,407,075		Out of scope^
	UNICEF	1,216,592		Out of scope^
Sub-total PCV		**3,623,667**	-	
FED	WHO	1,828,190		Out of scope^
	JHPIEGO	550,141		Out of scope^
	PHC	410,424		Scoped out by the audit team~
	ACASUS	97,761		Scoped out by the audit team~
Sub-total FED		**2,886,516**	-	
COVAX CDS	WHO	27,329,097		Out of scope^
	UNICEF	11,126,983	490,203	Out of scope^. Transfers to Govt. And CSOs included in scope^^
	ACASUS	985,038		Scoped out by the audit team~
	Others	3,408,363		Scoped out by the audit team~
Sub-total CDS		**42,849,481**	**490,203**	
PEF TCA	WHO	2,873,679		Out of scope^
	UNICEF	3,774,732	30,224	Out of scope^. Transfers to Govt. included in scope^^
	WB	1,246,040		Out of scope^
	JHU	587,589		Scoped out by the audit team~
	ACASUS	468,006		Scoped out by the audit team~
	Others	784,416		Scoped out by the audit team~
Sub-total PEFTCA		**9,734,462**	**30,224**	
Grand total		**171,215,564**	**11,989,678**	

^ Funds directly executed by UN agencies was not subject to our audit review due to the UN Single Audit Principle[1]
^^ Funds sub-granted by the UN to government agencies and CSOs were within our audit scope and were sampled for testing.
** This is the net refund from the World Bank (IBRD and IDA) to Gavi from the total Gavi contribution of USD99.75m made into the Multi Donor Trust Fund (MDTF) from 2016 to 2018 for the Pakistan National Immunisation Support Project (NISP), following the end disbursement date of the Fund in June 2022. Funds under the MDTF was out of our audit scope due to the annual single audit clause in the Administrative Agreement (AA) on the Bank's combined cash-based Trust Funds. While the audit did not review specific expenditure on the NISP MDTF, per the AA between Gavi and IBRD, detailed review was done on the programmatic activities undertaken by the Bank and other stakeholders under the NISP.*
~ Scoped out as part of the audit risk assessment process.

Limitation of scope – funds disbursed through Gavi Alliance partners

Table 5: Details of funds sub-granted by UN to government and CSOs (Amount in USD)

Partner	Gavi funds received by Alliance Partners (WHO, UNICEF, WB) for the period	Funds sub-contracted to Government agencies and CSOs	Sub-grantees expenditure sampled for testing
WHO	*122,714,007*	*5,380,190*	*1,277,331*
UNICEF	*35,920,823*	*6,609,488*	*303,126*
WB	*2,884,028*	-	-
Total amount received and sub-contracted by the UN	***161,518,858***	***11,989,678***	***2,709,852***

During the audit period, a total of PKR 1,269,027,406 (approximately USD 6,609,488) representing 18% of total cash grants received by UNICEF was sub-granted to government (through Provincial EPI cells) and Civil Society Organisations. WHO sub-granted a total of USD 5,380,190 to government (Provincial EPI cells). WHO provided all the requested information for funds sub granted which enabled the audit team to select a sample for testing. UNICEF, however, did not provide sufficient details for the audit team to select a sample for testing at the province level, a limitation of scope. Consequently, the audit team was only able to select a sample from funds disbursed to CSOs (USD 1.2m), as these records were provided directly by the CSOs. Funds disbursed to the provinces (USD 5.3m) could not be reviewed, resulting in a limitation of scope.

In accordance with the Partnership Framework Agreement (PFA) agreement section 22.2 of Annex 2, all funds received by MoNHSR&C are subject to the programme audit. This includes Gavi funds received by partners that were subsequently sub-contracted to government.

In January 2016, Gavi signed an Administration Agreement with the World Bank (IBRD and IDA) to provide a contribution of USD59m to support the Multi Donor Trust Fund (MDTF) with the aim of reducing fragmentation of financing for immunisation in Pakistan to increase the equitable coverage of services for immunisation against vaccine preventable diseases. The AA was amended in May 2018 to increase Gavi's contribution to USD99.75m. Gavi made a total contribution of USD99.75m into the MDTF from 2016 to 2018. In 2023, the World Bank made a net refund of USD18m to Gavi from Gavi's contribution of USD99.75m made into the Trust Fund following the end disbursement date of the Fund in June 2022.

Funds under the MDTF were out of our audit scope due to the annual single audit clause in the AA on the Bank's combined cash-based trust funds. While the audit did not review specific expenditures on the MDTF, detailed review was conducted on the programmatic activities undertaken by the Bank and other stakeholders under the NISP.

[1] The single audit principle is part of a common internal control and audit framework in United Nations system organisations. It directs a system of checks and balances, where the control and audit functions regarding funds directly expensed by the UN agencies are based on common methods and framework enabling auditors of one institution to rely on the work of auditors from another institution instead of re-performing the audit themselves.

2.4 Progress on previously identified audit issues

Gavi conducted its first programme audit in Pakistan in 2016 which focused on vaccine management and improvements made in stock management. The audit recognised the management efforts to strengthen the cold chain supply for stores at the Federal EPI and select provinces, however, there were areas for improvement. The audit provided three key recommendations: ensuring compliance with the Early Expiry First Out (EEFO) principle, conducting periodic physical stock counts, and optimising the use of the web-based stock recording tool. Our review noted that the management have made significant progress addressing two out of these three recommendations. However, documenting stock count results and providing valid reasons for adjustments made remained an unresolved issue which has been covered as part of the findings in the current report.

2.5 Exchange rate

Most in-country expenditures were incurred using the Pakistani Rupee (PKR). For information purposes and as part of the summary of this report, overall total amounts were reflected in United States Dollars (USD). For the expenditures reviewed, the rate applied was based on the average World Bank rate (for the audit period 2019 to 2023) of 1 USD for PKR 192.

3. Background

3.1 Introduction

Pakistan covers an area of 881,913 km2 and is the 33rd largest nation by total area. Ranging from the coastal areas of the south to the glaciated mountains of the north, Pakistan's landscapes vary from plains to deserts, forests, hills and plateaus. Islamabad is the nation's capital, while Karachi is its largest city and financial centre.

Administrative arrangements

Pakistan is a federal parliamentary republic with a multi-party system and a clear separation of powers among the legislative, executive, and judicial branches. The President, elected by an electoral college, serves as the head of state and the civilian commander-in-chief of the armed forces. The country comprises four provinces and three administrative territories.

Each province mirrors the national governance structure, with a directly elected Provincial Assembly. The leader of the majority party or coalition becomes the Chief Minister, who heads the provincial cabinet and oversees day-to-day governance. Provincial Governors, appointed by the President, serve as ceremonial figureheads.

At the grassroots level, Pakistan operates a three-tier local government system, consisting of districts, tehsils, and union councils (UCs).

Economy and demographics

As of 2023, Pakistan's population exceeds 247 million, with an annual growth rate of 1.6%. By 2050, the population is projected to increase by 50%, reaching approximately 372 million. Life expectancy has improved from 61.4 years in 2000 to 66 years in 2021.

Economically, Pakistan has a Gross National Income (GNI) per capita of $1,470 and a GDP of $348.52 billion, with a growth rate of 6.5% in 2021. Health expenditure has shown gradual improvement, rising from $15.2 per capita in 2000 to $43.09 in 2021.

In December 2024, the government announced a major fiscal reform agenda aimed at reducing spending, broadening the tax base—including targeting sectors like agriculture and real estate—and increasing the tax-to-GDP ratio. This includes plans to eliminate 150,000 government jobs, close six ministries, and merge two others, with the MoNHSR&C among those affected.

Despite reform efforts, Pakistan continues to face severe internal challenges, including political instability, limited healthcare access in rural areas, and vulnerability to natural disasters. The country remains predominantly rural, with large segments of the population underserved in health services. Pakistan is particularly prone to environmental disasters—earthquakes in the north and west, and seasonal flooding in areas like the Indus River basin. The 2022 monsoon season brought the worst flooding in a decade, affecting over 33 million people. The floods destroyed or damaged more than 1 million homes, killed at least 1,100 people, and devastated infrastructure, livestock, and over 2 million acres of farmland. Damage included the loss of 150 bridges and over 3,500 kilometres of roads.

3.2 National health sector

Pakistan’s health system operates under a devolved governance structure. Since the 18th Constitutional Amendment in 2011, responsibility for health service delivery has been transferred to the provinces, giving them full financial and administrative control. At the national level, the Federal Directorate of Immunisation (FDI) provides policy direction, regulatory oversight, and coordination. However, this decentralised system—combined with Pakistan’s diverse geography, population distribution, and security challenges—has contributed to significant disparities in vaccine coverage across provinces.

The health system is mixed, comprising public sector institutions, para-statal organisations, private providers, civil society, and philanthropic actors. A notable strength is the government's community-based primary healthcare network, particularly the 100,000 Lady Health Workers (LHWs), along with growing numbers of community midwives (CMWs) and other local health workers, who are well-integrated and trusted within communities. Traditional, complementary, and alternative medicine practices also remain widely used.

Pakistan faces a critical challenge in its Human Resources for Health (HRH), with one of the lowest global ratios of healthcare professionals to population. The country has a doctor-to-patient ratio of 1:1300, falling short of the WHO's recommended 1:1000. The shortage is even more severe among nurses, with just 0.469 nurses per 1,000 people. To meet WHO standards by 2030, Pakistan will need an estimated 283,500 doctors and 946,890 nurses. However, as of 2023, while 298,143 doctors were registered—exceeding the required number at 105%—only 153,437 nurses were registered, meeting just 20% of the projected need and creating a significant gap at primary health care level. These gaps are worsened by issues such as uneven distribution of healthcare workers, poor retention, and low job satisfaction—factors that contribute to high turnover rates and the emigration of skilled professionals.

Investment in the health sector remains critically low. According to the World Bank's 2020 Immunisation Financing Assessment, Pakistan spends less on health than almost any other country. Even after gradual increases between 2009 and 2017, current health expenditure in 2017 was just 2.9% of GDP, or about $44.59 per capita—far below global benchmarks.

3.3 Immunisation in Pakistan

Pakistan's Expanded Programme on Immunisation (EPI) mirrors the broader government structure, with dedicated EPI units at each administrative level. At the federal level, the EPI operates through the FDI within the MoNHSR&C, under the oversight of the Secretary of Health and Director General of Health. The Federal Cell includes a national manager and supporting officers for programme coordination. At the provincial level, EPI functions under the Department of Health, led by a Director or Programme Manager, with oversight from the Director General of Health Services or Secretary of Health. While the structure is largely consistent across provinces, some administrative variations exist.

The federal government is mainly responsible for vaccine procurement and supply, while provinces manage human resources and operational expenses. Although devolution did not significantly alter provincial EPI structures, it did increase their responsibilities for planning and financing.

Pakistan has made considerable progress in improving immunisation coverage. In 2013, none of the nine scheduled vaccines had reached 90% coverage. By 2023, 3 of 14 vaccines met or exceeded that benchmark, with overall coverage ranging from 40% to 96%. For example, DTP1 (Penta 1) coverage improved from 90% in 2019 to 94% in 2023, despite a drop to 87% in 2020 due to the COVID-19 pandemic. Measles vaccine coverage (MCV1) rose from 81% in 2019 to 84% in 2023. The number of zero-dose children declined by 38% between 2019 and 2023, though over 390,000 children remained unvaccinated in 2023.

Despite these gains, substantial disparities in coverage persist. According to the 2017–18 Pakistan Demographic and Health Survey, basic vaccination coverage was highest in Punjab (80%) and lowest in Balochistan (29%) and the former FATA (30%).

Key challenges remain. Pakistan is one of only two countries—alongside Afghanistan—where polio remains endemic. The virus spread significantly during the audit period. Additionally, recurring natural disasters such as floods and earthquakes continue to strain healthcare infrastructure and disrupt immunisation services.

3.4 Immunisation supply chain structure

Pakistan's immunisation supply chain is structured in line with the country's administrative framework. The Federal Directorate of Immunisation (FDI) manages the central warehouse, distributing vaccines and related supplies to provinces, which then handle further distribution to lower levels. This system varies across provinces and territories—Punjab, Sindh, Khyber Pakhtunkhwa (KP), Balochistan, Gilgit-Baltistan (GB), Azad Jammu & Kashmir (AJK), and Islamabad Capital Territory (ICT)—based on geography, population, and administrative arrangements.

Forecasting and Procurement - Vaccine forecasting is conducted using shipment planning that accounts for stock levels, delivery schedules, and cost projections, dependent on timely government counterpart funding. The federal government centrally procures vaccines and supplies. Traditional vaccines (e.g., BCG, bOPV, Td) are bought through government procurement, while Gavi-supported vaccines (e.g., MR, Rotavirus, Pentavalent, PCV, IPV) are procured via UNICEF. Occasionally, traditional vaccines are also sourced through UNICEF for cost efficiency. Punjab independently procures the Hepatitis B vaccine and maintains a parallel forecasting process.

Distribution - Vaccines enter the country via Islamabad airport, while dry goods arrive through Karachi port and are transported by truck to the FDI warehouse. From there, vaccines are distributed quarterly to provincial and territory EPI stores using a **push system**, based on annual allocations and population needs.

Provincial and Subnational Distribution

The in-country supply chain typically includes 4–5 tiers:

- **Sindh:** Distribution flows from provincial to divisional, district, tehsil stores, and then EPI centres.
- **Punjab:** Has two provincial Stores (Lahore, Multan), distributing to district, then tehsil stores, and onwards to EPI centres.
- **Balochistan, GB, KP:** Follow a similar model to Punjab but without tehsil-level stores.
- **AJK:** Follow a similar model to Punjab, however in some cases, vaccines are sent directly from FDI to district stores due to difficult terrain.
- **ICT:** Vaccines move from the Federal EPI store to the district store and then to EPI centres.

Distribution Models – Vaccine distribution relies on both push and pull systems. Many countries, including Pakistan, use a combination of both approaches to balance efficiency and responsiveness in vaccine supply chains.

- **Push system:** Vaccines are sent from provincial to lower levels based on target population estimates.
- **Pull system:** EPI centres request monthly vaccine stocks using vouchers and reports that track opening/closing balances, usage, and stock levels. Often, vaccinators must collect vaccines themselves, sometimes covering transport costs out-of-pocket.

Inventory Management - From the federal to the Tehsil/Town Council level, inventory is managed through the Vaccine Logistics Management Information System (vLMIS), which tracks stock levels, dispatches, expiry dates, and Vaccine Vial Monitor (VVM) status. At subnational stores, vLMIS is supplemented by manual registers, while EPI centres rely solely on manual systems.

3.5 Immunisation data

Routine immunisation data in Pakistan is collected at the lowest service delivery points, primarily health facilities and outreach centres. Vaccinators record daily data on vaccines administered, including type, dosage, and demographic details of recipients (e.g., age and gender), using paper-based registers such as tally sheets, daily logs, permanent registers, monthly reports, and stock registers.

Digital Systems - Pakistan utilises three main digital platforms to manage immunisation data:

- vLMIS – Tracks vaccine inventory and cold chain management.
- NEIR – A child-level immunisation registry used for digital recordkeeping, defaulter tracking, and vaccinator attendance.
- FDI-MIS – Manages coverage data, microplanning, VPD surveillance, supervision, and campaign oversight.

Provincial Variations - Each province runs its own version of an Electronic Immunisation Registry (EIR): Sindh uses *Zindagi Mehfooz (ZM) EIR more recently referred to as SEIR*; Punjab operates an *Electronic Medical Records (EMR)* system; Balochistan and Khyber Pakhtunkhwa (KP) use the national *NEIR*.

Vaccinators enter data daily into these EIRs and also submit consolidated monthly reports to district offices. District health offices then aggregate this data and upload it into FDI-MIS.

Data Flow and Oversight - The Provincial EPI offices receives data from all districts in the province through FDI MIS, conduct aggregation and preliminary analysis through MIS dashboard. The Federal Directorate of Immunisation (FDI) reviews data from all Provinces and conducts the National database aggregation and comprehensive reporting.

Data Quality and Monitoring - Periodic data reviews and quality assessments are conducted by EPI at the provincial level to monitor performance and ensure accuracy.

In addition to administrative data, immunisation coverage was also measured through three national surveys during the audit period:

- Pakistan Demographic and Health Survey (PDHS) – 2017–18
- Third Party Vaccine Immunisation Coverage Survey (TPVICS) – 2020–2022
- Multiple Indicator Cluster Survey (MICS).

3.6 Covid-19 context, response and impact

COVID-19 is a disease caused by a coronavirus as reported on 31 December 2019, later named as the severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2). On 30 January 2020, WHO declared Coronavirus Disease 2019 (COVID-19) as a public health emergency of international concern (PHEIC).

The country registered 1,581,936 cases and reported 30,664 deaths as of April 2024. For the COVID-19 response, USD 81.2 million was disbursed to core partners to support acquisition of vaccine supplies, cold-chain equipment, and delivery support; another USD 15 million has been approved but not yet disbursed as part of COVID-19 Delivery Support (CDS3).

3.7 Gavi's relationship with stakeholders

Pakistan is categorised by Gavi as a 'high impact' country[2], and has received the largest amount of Gavi funds than any country under the Gavi 4.0 and 5.0 strategic periods, with a total volume of United States Dollars (USD) 218,979,101 and USD 200,625,648, respectively.

The programme works centrally through the FDI, which is responsible for strategy-setting, policy guidance, coordination, and oversight. At the provincial level, the programme engages with the four provincial Expanded Programmes on Immunisation (EPIs), which are responsible for health services implementation. Prior to 5.0, Gavi's engagement with government counterparts had been more centralised. No funds are directly disbursed to the Government of Pakistan. Refer to stakeholder map in Annex 6.

[2] High-impact countries are large, federated countries with extremely high birth cohorts. Gavi considers high impact countries as critical to reaching the ambitious goals it has set for the strategic period 2021–2025, due to the large share of ZD children in these countries.

3.8 Entities involved in the executing and managing Gavi's funds.

The programme's core funding and implementation partners are UNICEF and the WHO, through which funding has traditionally flowed (under 4.0). Gavi has also contributed to the World Bank's immunisation programming, notably the NISP under 4.0 and its successor programme, the NHSP, under 5.0. All grants, apart from some TCA funds, were directed at these three multilateral partners under 4.0. These partners are responsible for disbursing funds downstream, either through their own organisational structures or through sub-contracted partners. Under 5.0, a share of Gavi 5.0 funds will go directly to private sector and civil society. Refer to funds flow diagram in Annex 6.

3.9 Good Practices

The audit team noted the following good practices while executing the audit:

1. Strong financial commitment through co-financing - The Government of Pakistan demonstrated consistent commitment to immunisation by contributing USD 201.7 million toward the co-financing of Gavi-supported vaccines during the audit period.

2. Improved immunisation coverage

- Reduction in Zero-Dose children: The proportion of children who had received no vaccines (Zero-Dose) declined significantly from 21.2% in 2011 to 9.6% in 2019.
- Overall coverage gains: Full immunisation coverage increased by 11% between 2018 and 2022, despite challenges posed by the COVID-19 pandemic.

3. Landmark Measles-Rubella campaign - In November 2021, Pakistan successfully conducted the world's largest Measles-Rubella (MR) campaign, vaccinating over 90 million children aged 9 months to 15 years. The campaign mobilised over 386,000 health workers, including 76,000 vaccinators and 143,000+ social mobilisers.

4. Advancing digital health - The National Digital Health Framework (NDHF) 2022–2030 was launched in alignment with the WHO Global Strategy on Digital Health, providing a roadmap to modernise healthcare systems, improve service delivery, and boost outcomes through digital innovation.

5. Strengthening Vaccine Supply Chain and Infrastructure

- Updated Vaccine Logistics Manual (2023): Offers practical guidance for national and provincial teams to ensure quality, efficiency, and effectiveness across vaccine logistics and cold chain management.
- Expanded dry storage: Partner support enabled increased dry storage capacity at the Federal Directorate of Immunisation (FDI), resolving earlier constraints.
- Use of ultra-cold chain equipment: Repurposing of ultra-cold chain units for storing bivalent Oral Polio Vaccine (bOPV) showcases innovation in cold chain use.
- Smart temperature monitoring: The Smart View Berlinger System enables real-time temperature tracking at the FDI, ensuring vaccine integrity and safety.
- Improved traceability: Vaccines dispatched from the FDI warehouse are now consistently tracked via record systems at provincial and federating area stores, improving visibility and accountability.

4. Findings

4.1 Governance and Oversight

4.1.1 Weaknesses in programme leadership at national and sub-national levels

Context and Criteria

EPI in Pakistan is coordinated at Federal Directorate of Immunisation (FDI) under the Ministry of National Health Services and Regulation Coordination (MoNHSR&C). The Federal Directorate of Immunisation is headed by a Director General supported by a team of technical and administrative staff from government and development partners. The EPI at Provincial (Balochistan, Khyber Pakhtunkhwa, Punjab, Sindh) and Federating areas (Azad Jammu & Kashmir, Gilgit Baltistan, CDA and ICT) levels have Provincial/Area EPI cells under respective Departments of Health and managed by Provincial/Area EPI managers and other staff.

In 2016, the country introduced its first health strategy following devolution, titled the *National Health Vision*. This strategy defined the respective roles and responsibilities of the federal and provincial governments in the health sector. Under the devolved system, the federal government is tasked with developing policies, issuing technical guidelines, and ensuring coordination, while provincial governments are responsible for implementing health programs. In practice, provincial authorities fund and manage all health programmes, including immunisation within their jurisdictions, whereas the federal government oversees immunisation efforts in the two administrative territories. Additionally, the federal government handles coordination with international partners and donors, including Gavi.

Condition

The audit team noted the following weaknesses impacting programme leadership:

***Frequent changes in leadership at FDI* coupled with vacancies in key positions within the FDI team** – The FDI experienced significant instability in leadership during the audit period, undergoing seven changes in Director-General. In some instances, tenures lasted as little as two months. Notably, the leadership position remained vacant from March to June 2022, again in March 2023, and from August 2024 through to the conclusion of the fieldwork in November 2024.

The audit also identified longstanding vacancies within the FDI's management structure. Of the 57 positions, 10 remained unfilled for over 12 months, including key roles such as deputy directors for procurement, monitoring and evaluation, surveillance, a software engineer, and the assistant director of operations.

***Vacancies at sub-national level* –** At the subnational level, despite all four provinces and two administrative areas having formal organograms, 40% of positions were vacant at the time of the audit. Many of these vacancies had persisted for over a year. Additionally, 77% of positions in the district health offices visited were unfilled.

Dependence on Gavi-Funded support to bridge operational gaps - Due to widespread vacancies, the FDI's existing structure was unable to manage Gavi-funded activities without substantial partner support. To address this, Gavi—through its implementing partners—has funded and deployed staff at both federal and subnational levels. This reliance on partner-supported staffing has shifted the Technical

Recommendation 1

To strengthen leadership and oversight of FDI and the national immunisation programme, the Ministry of National Health Services, Regulations and Coordination (MoNHSR&C) should:

- Appoint a substantive Director-General for the FDI and
- Expedite the ongoing reform process within the Ministry to address critical human resource gaps at the federal level, particularly within the FDI structure.

Recommendation 2

To strengthen accountability within the Ministry and reinforce country ownership of the immunisation programme, Gavi should:

- Collaborate with the MoNHSR&C to establish a robust accountability framework grounded in the National Immunisation Strategy (NIS) and other key strategic documents. This

Assistance (TCA) focus from capacity building to gap-filling, limiting opportunities for sustainable skills transfer. Gavi-funded positions supported through partners are listed in Table 6 below.

Table 6: Analysis of Gavi supported positions by grant

Grant	Federal level	Subnational level	Total	Existing staff*	Vacant posts**
HSS	124	509	633	173	460
CDS	18	1,936	1,954	1,951	3
FED	-	45	45	-	45
TCA	34	38	72	43	29
EAF	1	156	157	-	156
Total	**177**	**2,684**	**2,861**	**2,167**	**693**

**Existing staff as reported by MoNHSR&C. The audit did not verify all positions*

***Vacant posts represent additional positions requested under Gavi 5.0, for which IRC has raised concerns.*

framework should include measurable indicators to hold both federal and provincial authorities accountable for staffing key human resource positions.

- Align all programmatic technical assistance with a structured capacity-building agenda, phasing out operational gap-filling activities within a three-year timeline at the federal level.
- Within the same accountability framework, define a clear plan for skills transfer at the provincial level, aiming to gradually reduce reliance on Gavi-supported staff during the current 5.0 funding cycle, as new grants are just being implemented.

Root Cause

- The planned reform of management structures within MoNHSR&C has delayed, and its implications for the FDI—including potential position restructures—remain uncertain.
- FDI lacks the authority to hold provincial governments accountable for unfilled positions.
- Ongoing political instability, both internal and external, continues to hinder recruitment and retention of staff, particularly at the subnational level.
- TCA and other donor funding may have had unintended consequences, as better-paying positions with partner organisations have attracted Ministry staff, contributing to staffing challenges within the government system.

Management comments

See detailed management responses - Annex 19

Risk / Impact / Implications

- Strategic planning weaknesses, as outlined in Finding 4.1.2, remain a concern.
- Vacancies at both national and subnational levels threaten country ownership—a foundational element of Gavi's support model. This has led to increased reliance on partners to implement and lead operational activities. The risk is further exacerbated by decreased funding for staffing, which could negatively affect programme outcomes.
- Capacity-building resources may be redirected to address staffing shortages, which undermines the sustainability and impact of long-term capacity development initiatives.
- Additionally, the current mode of operation has created an implicit expectation for Gavi funded positions for each approved grant. Without this support, operations may be disrupted, potentially reversing progress in immunisation coverage and impact the sustainability of the immunisation programme

Responsibility

See detailed management responses - Annex 19

Deadline / Timetable

See detailed management responses - Annex 19

4.1.2 Weaknesses in strategic planning impacting programming

Context and Criteria

Effective planning is crucial for aligning resources with shared goals and strategies, enabling informed decision-making, and reinforcing accountability. As countries transition toward sustainable public financing for immunisation, it's vital that immunisation plans are integrated into national planning and budgeting processes. Over the past two decades, the comprehensive multi-year planning (cMYP) process has served as the backbone of immunisation strategy within the Global Vaccine Action Plan (2011–2020). However, several evaluations have identified ongoing challenges. A rapid assessment conducted in 2016–2017 recommended enhancing both strategic and annual operational planning. Key recommendations included making cMYP more strategic, establishing direct links between cMYP and annual plans, and simplifying the cMYP costing tool.

To improve planning and coordination, Gavi has adopted the National Immunisation Strategy (NIS) framework developed by WHO. The NIS is a streamlined planning tool covering a five-year strategic period and defines a country's direction for immunisation. Specifically, it outlines:

- A long-term immunisation vision (typically over 10 years)
- Measurable objectives to be achieved over Gavi's five-year strategic period
- Priority strategies, including costed interventions and risk mitigation measures

The NIS helps reduce fragmentation in immunisation planning and serves as a powerful advocacy tool to hold stakeholders—including donors and partners—accountable for their commitments. Additionally, the process of developing an NIS prepares countries for shifts in funding or governance, such as decentralisation, new financing opportunities, Gavi transition, or emergency funding (e.g., COVID-19).

NIS development is guided by WHO's Immunisation Agenda 2030 (IA2030), which outlines seven strategic priorities and four core principles applicable at national, subnational, and service delivery levels. These priorities include:

1) Programme management and financing
2) Human resource management
3) Vaccine supply, quality, and logistics
4) Service delivery
5) Immunisation coverage and AEFI monitoring
6) Disease surveillance
7) Demand generation

The NIS should also incorporate a monitoring and evaluation framework with clearly defined performance indicators.

To strengthen accountability, Gavi introduced the Accountability Framework (AF), a system to track and assess how effectively countries use Gavi's support. It promotes transparency, shared responsibility, and improved performance. Recognising Pakistan's potential for high impact due to historically low immunisation coverage, Gavi requested the country to develop an Accountability Framework in 2019.

Condition The audit noted that although the FDI and its stakeholders have launched several initiatives to strengthen strategic planning for the immunisation programme, many of these efforts remain unfinished, are advancing too slowly, or are being overtaken by emerging developments. The country is managing a wide range of strategic priorities while also addressing a high volume of routine operational tasks. Numerous FDI activities demand repeated coordination meetings, often drawing on the same limited human and logistical resources. The audit team highlighted the following key weaknesses: ***There is no National Immunisation Strategy (NIS), a funding requirement for future Gavi support*** – Pakistan does not yet have a National Immunisation Strategy (NIS) to steer the planning and implementation of its immunisation programme. This poses a risk to the overall strategic and programmatic direction of immunisation, hindering its integration with other health initiatives and targets. Furthermore, it limits the opportunity to evaluate and align the programme with the country's national strategic priorities. While FDI and partners indicated that efforts to develop the strategy had started, no draft was available by the conclusion of our audit fieldwork. ***Significant delays in developing the accountability framework (AF)*** – The FDI initiated the development of an accountability framework in 2019 at Gavi's request; however, the process faced considerable delays and remained unfinished at the time of the audit. Moreover, the framework's development did not align with ongoing work on the NIS, with both initiatives advancing in parallel without coordination. ***There were significant delays in the Full Portfolio Planning (FPP) process, and this has impacted programming timelines*** – Despite a committed start in 2020, the process was only finalised at the end of 2023 and first disbursements made in Q1 2024. Although over US$500,000 in Technical Assistance was provided, the country had to submit four rounds of revisions (February, March, July, and October 2023) before obtaining approval. By November 2024, only US$45 million of the available US$115 million had been approved, as the Independent Review Committee (IRC) requested additional clarifications. The audit team reviewed key strategic and operational documents, including the **National Health Vision 2016**, the **National Immunisation Policy 2022**, the **Comprehensive Multi-Year Plan (cMYP) 2019–2024**, and the **FDI Review 2021**, and identified several weaknesses: • The National Health Vision lacked specific, measurable objectives, making it difficult to establish clear linkages with the immunisation goals outlined in the cMYP or to monitor progress effectively over time. As the Vision approaches its final year in 2025, there is no planned midterm review or end-of-period evaluation to assess achievements and gaps. • The National Immunisation Policy was not fully aligned with the National Health Vision and lacked clear connections to the Immunisation Agenda 2030, limiting its coherence with broader national and global strategic frameworks.	Recommendation 3 To strengthen strategic planning, MoNHSR&C/FDI should • Complete the development and costing of the NIS in accordance with WHO's IA2030 guidance with leadership of FDI and the provincial levels, along with support from partners; In the finalisation of the NIS, include strategic and operational indicators that are: specific; measurable; achievable; relevant and timebound. These indicators should then form the single accountability framework for NIS and for Gavi. See recommendation 2.
Root Cause The following root causes were identified • The lack of leadership has created a gap in strategic planning, as available resources are primarily directed toward operational activities. • The country has yet to reach consensus on baselines, set measurable targets, or establish mechanisms to track progress for key strategic initiatives critical to the sustainability of the immunisation program. Strategic planning remains incomplete, with most efforts still focused on operational execution • Roles, responsibilities, and accountabilities for all stakeholders involved in the grant application development, review, and approval processes—including timelines—were not clearly defined or agreed upon at both national and subnational levels.	Management comments See detailed management responses - Annex 19

• Also, Gavi's engagement had, for some time, been largely concentrated at the central level, with limited interaction at the provincial level. However, this began to change with the initiation of the first provincial joint appraisal processes in 2024 under 5.1. • The country continues to implement immunisation programming in silos, as reflected in existing policies and strategic documents. This has led to fragmented situation analyses for each new initiative—such as the Full Portfolio Planning (FPP) process, the national immunisation strategy, and zero-dose planning—instead of a harmonised, integrated approach.		
Risk / Impact / Implications • Reliance on partners for strategic planning may result in inordinate country ownership of the immunisation programme, a model core to Gavi funding. • In the absence of a national immunisation strategy, the process of building a sustainable immunisation program is not fully appreciated. While attention has been given to the critical issue of co-financing for vaccines, there is still substantial work needed to address operational gaps. • Multiple and often competing operational needs means that measuring progress, monitoring and learning lessons is not prioritised. • Delays in finalisation of the NIS may hinder the ability of the country to unlock future Gavi funding which is currently envisioned to align to Country's immunisation strategies.	Responsibility See detailed management responses - Annex 19	Deadline / Timetable See detailed management responses - Annex 19

4.1.3 Concerns over the sustainability of the programme

Context and Criteria

The Immunisation Agenda 2030 (IA2030) outlines four key focus areas essential for achieving sustainable financing: (1) ensuring adequate and predictable resources, (2) maximising the efficiency of available resources, (3) aligning partnerships, and (4) facilitating sustainable transitions from external assistance.

At the core of the Gavi model is a distinctive approach to programmatic and financial sustainability. Built on Gavi's eligibility, transition, and co-financing (ELTRACO) policy, this model has proven highly effective in enhancing country ownership of vaccination programs and driving domestic public funding for immunisation.

In Gavi 6.0, Gavi aims to strengthen its approach to financial sustainability. This will include bolstering political and social commitment to immunisation at both national and subnational levels, with a particular focus on promoting the mobilisation of domestic public resources for co-financing Gavi-supported vaccine programs. It will also emphasise the importance of facilitating transitions from Gavi support and striving for greater allocative efficiency. Additionally, Gavi 6.0 will prioritise domestic public funding for primary healthcare (PHC), recognising that immunisation is most sustainable when integrated into robust PHC systems. Building on the work of **Gavi 5.0/5.1**, Gavi has progressively honed its approach to cultivating political will for immunisation, with increased engagement at the subnational level, especially in high-impact countries with large federated states where immunisation programs are managed at subnational levels.

Condition

While Pakistan met all its co-financing obligations between 2019 and 2023, the audit team identified significant challenges that raise concerns about the sustainability of the immunisation programme:

Financial sustainability challenges – The country's total health expenditure has averaged only 1% of GDP during the audit period, with government spending on health remaining at 0.6% of GDP before 2019. A staggering 85% of the health budget is allocated to secondary and tertiary care, leaving just 15% for preventive and primary healthcare. Although the Federal Government of Pakistan has committed to increasing health expenditure to 3% of GDP by 2025, the allocation remains at 1% as of 2024. Moreover, only 2.96% of the total health budget is directed towards immunisation. In comparison to similar portfolios, Pakistan's government financing for routine immunisation is much lower. For instance, in 2022, Nigeria allocated 55.4% and Ethiopia 43.7% of their health expenditure to routine immunisation, whereas Pakistan allocated just 25.6%.

Significant reliance on Gavi funding to bridge human resource gaps - There is a significant reliance on Gavi funding to address human resource gaps in programme planning, implementation, and monitoring. The human resource-related costs within the grants are substantial. The basic human resources budget, as per the Health System Strengthening (HSS) and External Assistance Funding (EAF) budgets, amounts to US$16.6 million, while professional services, including consultancy fees, total US$28 million. Additionally, capacity building and training expenses add up to US$24.3 million. Together, these costs represent more than 60% of the overall budget. The programme supports over 2,800 positions funded by Gavi, of which 700 are new positions introduced during the Full Portfolio Planning (FPP) process. See details in finding 4.1.1

Recommendation 4

To address concerns over sustainability of the immunisation programme, the MoNHSR&C/FDI should:

- Strengthen advocacy efforts at both national and subnational levels, collaborating with the government to secure increased funding allocations for the immunisation programme and to ensure that co-financing obligations are paid timely
- Review available technical capacity funding and develop a transition plan that outlines short-term, medium-term, and long-term actions, along with clear responsibilities for each stakeholder. This plan should include a defined and phased approach for skills transfer.
- Obtain and share written commitment regarding the absorption of human resources

<table>
<tr><td colspan="2">The Independent Review Committee (IRC) concerns on sustainability were not addressed sufficiently - During the Full Portfolio Planning (FPP) process, the IRC raised concerns about the sustainability implications of both existing and newly created human resources for health (HRH) positions at all levels. In the final review of the FPP application in October 2023, the IRC still required a validated transition plan from the government and a formal, written commitment to absorb the HR within three years. However, this had not been done as of November 2024.</td><td>currently funded by Gavi by 2026 as requested by the Gavi IRC.</td></tr>
<tr><td colspan="2">Root Cause
The process of building a sustainable immunisation programme is not fully recognised. While significant attention has been given to the critical co-financing indicators for vaccines, there is still considerable work to be done in addressing operational gaps.
The government's failure to prioritise funding for critical positions has led to a reliance on donor support for human resources.
Several strategic issues within the National Health Vision remain unresolved. For instance, the creation of a human resources database, intended to be developed at both the provincial and national levels for workforce forecasting and planning, has not yet been implemented.</td><td>Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
The HR costs may not meet the new HSS support guidelines that provide for minimising HR costs within Gavi supported programme activities.
Potential future sustainability challenges include the possibility that the associated costs may exceed what the government’s civil service structure can support. This raises the risk that these essential positions, which are crucial for managing the immunisation programme, may be discontinued if donor funding is not secured.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.1.4 Oversight through the NICC needs to be improved

Context and Criteria

The Interagency Coordination Committee (ICC) is the supervisory committee to the immunisation program. A uniform entity in all Gavi-supported countries, the ICC is charged with approving applications, reviewing progress of immunisation and providing guidance to FDI. This body is instrumental for the coordination and collaboration amongst diverse stakeholders involved in the immunisation efforts within a country. Gavi relies upon an operational and effective ICC, as it enables the coordination, strategic planning, optimal allocation of resources, accountability measures, advocacy, and functional partnerships for the programme(s).

As per the National Immunisation Policy 2022 of Pakistan, the National Interagency Coordination Committee (NICC) along with the Provincial/Area health departments are responsible for overall oversight over the immunisation programme.

Condition

Weaknesses in oversight at the federal level - The National Immunisation Coordinating Committee (NICC), which serves as the primary coordination mechanism, is currently not well-equipped to effectively oversee the national immunisation programme. Although the 2016 Joint Appraisal recommended strengthening the NICC—particularly through the establishment of a dedicated secretariat with the necessary tools to support ongoing monitoring and coordination—these actions were not implemented. As a result, several key gaps remain:

- ***Inadequate meeting documentation and follow-up*** **-** While the NICC is expected to meet quarterly, auditors were only able to verify documentation for 4 meetings out of a possible 20 during the review period. Of these, 3 meeting minutes lacked signed attendance lists, making it difficult to confirm who was present. There was no evidence of regular tracking or follow-up on action points from previous meetings.
- ***Unmonitored roles and responsibilities*** **-** Although the National Immunisation Policy (NIP) 2022 outlines nine specific roles and responsibilities for the NICC, there is currently no mechanism in place to monitor or assess the committee's performance against these functions.
- ***Lack of issue escalation*** **-** There was no documentation to show that the NICC escalated delays or challenges in programme implementation to senior officials within the MoNHSR&C, indicating a gap in accountability and responsiveness.
- ***Inactive sub-committees and Technical Working Groups (TWGs)*** **-** While the EPI focal division (FDI) conducts weekly coordination meetings, there was no evidence of active sub-committees or TWGs contributing to NICC deliberations, nor was it clear how discussions at the technical level were incorporated into NICC decision-making.
- ***Roles for partner organisations are not well defined*** **-** The roles and responsibilities of institutional members—including representatives from government, development partners, donors, and Gavi—within the Interagency Coordinating Committee (ICC) are not clearly defined, leading to unclear engagement and coordination.

Recommendation 5

To address concerns over sustainability of the immunisation programme, the MoNHSR&C/FDI should:

- The FDI should strengthen governance oversight mechanisms by ensuring that all meetings are supported by confirmed agreed agendas which will include:
  - reminder of ToRs when membership changes,
  - minutes of the previous meeting,
  - review of the previous action points tracking purpose,
  - status of immunisation activities,
  - grant implementation status
  - brief summary of discussions at the lower levels or TWG, that meetings are held conducted as planned, minutes signed and that the required actions are assigned to officers for follow-up
- The FDI should ensure accountability against decisions made by the ICC for all actors and at all levels (government, partners, CSOs)
- Sub-national levels should ensure coordination and upward representation / escalation of issues from various committees.

<table>
<tr><td>Root Cause
• FDI has not appointed a person responsible for the role of managing of meetings, recording and dissemination of minutes and actions.
• Roles and functions of the NICC bodies are not well understood.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
• Inadequate progress in addressing representation and coordination issues could impact effectiveness of governance and oversight in a devolved country context.
• Ineffective ICC oversight could impact the achievement of grant objectives and oversight over programme management</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.2 Programme Management

4.2.1 Weaknesses in the routine management of measles has resulted in prioritisation of campaigns

Context and Criteria

Measles is one of the most contagious human diseases, which can cause serious illness, lifelong complications, and death. Pakistan had the 4th highest measles reported cases in 2022 and is amongst the top 5 countries in the world with the highest burden of measles due to low coverage of routine vaccination and hundreds of children losing their lives due to measles in the country. Measles has been endemic in Pakistan for decades and accounts for 65% of the total disease burden in the Eastern Mediterranean region.[3] While improvements in coverage for measles vaccination have been noted over the years, it remains low and the COVID19 pandemic resulted in over 20,000 measles cases and 800 measles-related deaths in 2021.[4]

The Immunisation Agenda 2030 (IA2030) identifies measles elimination as a key impact indicator. It emphasises the need for strong measles surveillance systems to detect immunity gaps and the importance of achieving equitable 95% coverage with two timely doses of measles-containing vaccine (MCV) in childhood.
The Measles-Rubella Strategic Framework 2021–2030 outlines several evolving challenges related to measles control:

- A shift in measles epidemiology, with a growing number of cases among young infants and older age groups, revealing persistent immunity gaps.
- Increased awareness of healthcare settings as significant contributors to ongoing transmission during outbreaks.
- Greater recognition of immunity gaps among refugees, displaced persons, and cross-border populations, who are often excluded from national immunisation strategies.
- Service disruptions and cancelled Supplementary Immunisation Activities (SIAs) due to the COVID-19 pandemic, resulting in widened immunity gaps.
- Decreasing support for vertical disease-specific programmes and non-targeted, nationwide vaccination campaigns.

Condition

From 2020, measles Routine Immunisation (RI) enhancement strategies were implemented through the intensification of Enhanced Outreach Activities (EOAs), resulting in sustained RI coverage of MR1 and MR2 in 2020 and 2021, and an increase of MR coverage in 2022 as per the admin coverage. However, weaknesses remain as

Recommendation 6

To prioritise management of measles the MoNHSR&C/FDI should review its Routine Immunisation (RI) strategies and develop country-specific guidance aligned with the Measles-Rubella Strategic Framework 2021–2030. At a minimum, this guidance should include:

- Clearly defined roles and responsibilities for national and sub-national stakeholders holding them accountable for delivering immunisation outcomes;
- A shift from uniform approaches to strategies tailored to the endemic outbreak locations.
- Embed all measles and rubella activities—including surveillance, case management, and vaccination—within broader PHC systems to support universal health coverage (UHC).
- Strengthen measles routine immunisation through the PHC packages, as part of comprehensive health delivery,

[3] Medical article July 2022
[4] World's largest Measles-Rubella campaign

Measles cases continue to rise - In 2024, the confirmed measles cases were much higher than the last five years as illustrated in the Figure 1. In 2023, there were 37,278 suspected cases of measles reported and a total of 17,541 confirmed measles cases. 85% of these measles cases occurred within the age group of children under five years old, and a significant 72% of the measles cases were observed in children who had not received a single dose of the Measles-Rubella (MR) vaccine.

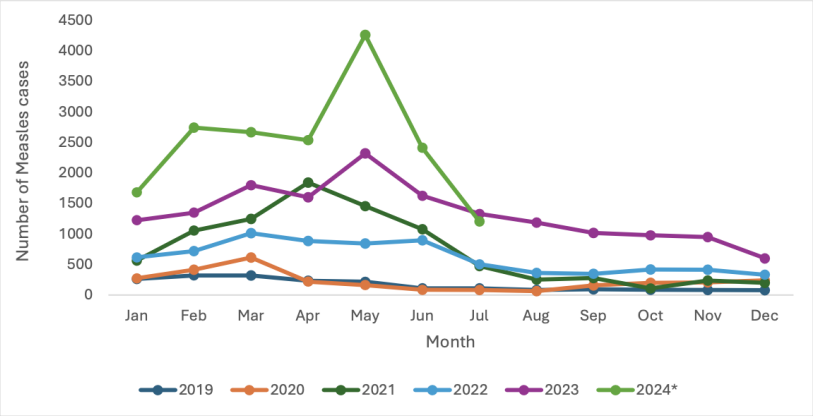


Figure 1: Monthly distribution of confirmed measles cases in Pakistan 2019 – 2024 (July)

Immunisation coverage remains low - The World Health Organisation (WHO) recommends 95% vaccination coverage to achieve herd immunity for measles. The country has made some improvements post covid as seen in the table below. However, Pakistan, like many Gavi supported countries, is yet to achieve the WHO recommended coverage.

Table 7: Immunisation coverage for MR vaccination 2021 to 2023

ANTIGEN	DATA SOURCE	2023	2022	2021
MR1	Admin	98.39%	93.60%	87.20%
	Official	84%	82%	81%
	WUENIC	84%	82%	81%
MR2	Admin	90.51%	83.39%	78.35%
	Official	80%	79%	79%
	WUENIC	80%	79%	79%

The audit noted that over a 10-year period, the country has had four significant SIAs as indicated in the graph below.

with a focus on improving coverage for both first and second doses.

- Document and implement strategies to strengthen partnerships especially through civil society and health care workers at community level, to help identify unimmunised and under immunised children and communities to maximise impact and sustainability.

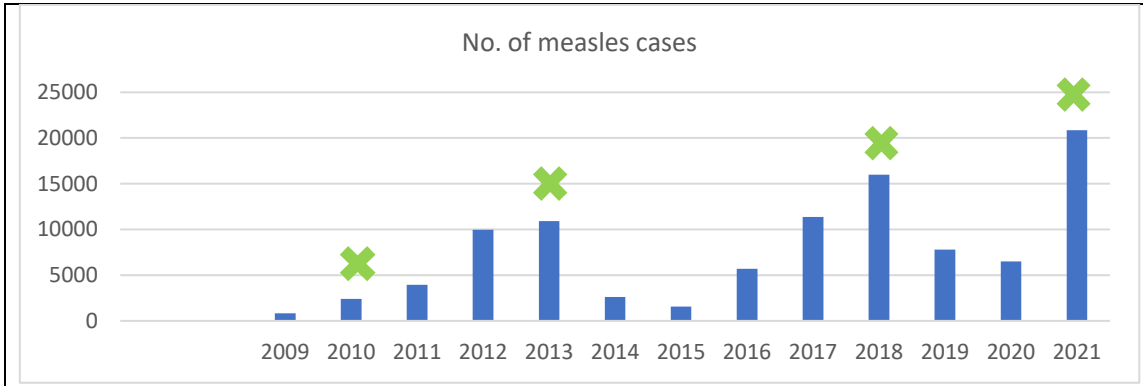


Figure 2: Reported measles and SIAs 2009 to 2021

Root Cause

- Outbreak response, mop-up remains weak due to non-availability of dedicated vaccine operational support.
- Weaknesses in surveillance and field investigations at community level (see finding 4.1.8)
- Weaknesses in RI programme planning

Management comments

See detailed management responses - Annex 19

Risk / Impact / Implications

- **Frequent nation-wide outbreaks leading to frequent and costly campaigns and disruption of RI activities** - the audit noted that the country has had 3 significant outbreaks between 2018 and 2023 that were managed through two reactive nation-wide campaigns in 2018 and 2021 and one reactive outbreak response in 2023. Traditionally, campaigns have been known to be expensive; averagely reporting to cost about $0.86 to vaccinate one child. In Pakistan, the 3 campaigns within the period cost between $1 - $1.8 per child, significantly higher than the average. See table 8 below

Table 8: Cost of last three MR campaigns in Pakistan

Type of campaign	Length	Period	Target (No. of children to be vaccinated)	Actual (No. of children vaccinated)	Vaccine Cost US$	Operational cost US$	Total Cost US$	Cost per child US$
Nation-wide	12 days	Oct-18	35M	37M	14.56M	21M	35.5M	1
Nation-wide	12 days	Nov-21	91M	95M	80.6M	53M	133.6M	1.4
Outbreak response in 30 districts		Jul-Aug 2023	2.7M	2.7M	3.3M	1.6M	4.9M	1.8

- Furthermore, the audit noted that campaigns disrupt routine immunisation activities by encroaching on the same human resources available for RI - Campaign activities including Training of Trainers (ToTs), micro-panning, readiness assessments,

Responsibility

See detailed management responses - Annex 19

Deadline / Timetable

See detailed management responses - Annex 19

working group and steering committee meetings, can take anywhere between 3 to 6 months before the campaign. It was noted that these meetings and activities are conducted by the same personnel at National and sub-national levels who are also in charge of monitoring the RI activities. During the actual campaigns, the vaccinators are away from their regular work at fixed sites. • Increased mortality in the population due to measles		

4.2.2 Improvements needed in vaccine preventable disease (VPD) surveillance

Context and Criteria

WHO provides technical guidance and global standards for VPD surveillance. These include recommended case definitions, data quality indicators, specimen collection procedures, and performance benchmarks. Pakistan's surveillance strategies are broadly aligned with these standards, although implementation varies by province and disease area.

Surveillance for vaccine-preventable diseases forms part of wider infectious and non-infectious public health surveillance – the continuous and systematic collection, analysis and interpretation of health-related data needed for the planning, implementation and evaluation of public health practice. Surveillance for VPDs provides critical, long-term data for timely detection of and response to VPDs to guide optimal use of vaccines and other disease control measures.[5]

The objective of VPD surveillance in Pakistan varies from one disease to another depending on the target; Acute Flaccid Paralysis, Measles and Rubella (MR), Diphtheria, Pertussis are the priority diseases for case-based surveillance while Rotavirus, invasive bacterial disease and typhoid fever are selected for sentinel surveillance.

To establish an effective surveillance system, the following components are essential: health facility surveillance officers and points of contact, surveillance staff across all levels, job aids with case definitions and reporting guidelines, computer hardware and software for data entry and management, specimen collection materials, laboratory testing reagents and supplies, mechanisms for feedback and data dissemination, among others.

Condition

The audit team noted the following challenges within the existing surveillance structure and processes:

Limited availability of VPD surveillance guidelines and case investigation forms **-** Access to proper documentation is critical for the effectiveness of a surveillance system. However, the audit found significant gaps in this area—case investigation forms were unavailable in 11 of the 42 health facilities assessed, and 27 of 40 facilities lacked access to VPD surveillance guidelines.

Reported stockouts of laboratory supplies and sample collection kits **-** The audit identified significant stockouts affecting laboratory operations. The National Laboratory experienced shortages of measles reagents for a total of 107 days—first from December 28, 2023, to February 20, 2024 (54 days), and again from March 28, 2024, to May 20, 2024 (53 days). Additionally, instances of rationing were observed. For example, in March 2024, the District Health Office (DHO) in Multan requested 800 sample collection kits from Punjab EPI but received only 100 (refer to Annex 18).

Deficiencies in the recording and reporting of VPD cases **-** The audit revealed significant weaknesses in the recording and reporting of vaccine-preventable disease (VPD) cases. At both the provincial level and the National Referral Laboratory, data was entered using Microsoft excel, a method prone to human error. Review of provincial databases showed numerous issues, including missing sample collection and return dates, as well as illogical entries—such as return dates recorded as earlier than collection dates. Additionally, program reports highlighted inconsistencies in VPD reporting and widespread failure to submit

Recommendation 7

To improve the VPD surveillance efforts MoNHSR&C/FDI should:

- Strengthen coordination across surveillance agencies by enhancing collaboration among the various surveillance agencies to minimise duplication of efforts and promote knowledge sharing across the surveillance system.
- Assess and align human resource requirements by conducting a comprehensive review of human resource needs for VPD surveillance in consultation with provincial authorities, including updating FDI guidelines to ensure adequate staffing, with clearly defined roles and responsibilities at all levels.
- Implement continuous training and support tools by introducing regular training programs and provide on-the-job aids and tools to strengthen staff capacity in VPD surveillance.
- Standardise record-keeping systems by establishing a consistent and reliable system for recording and managing

[5] Global strategy on comprehensive VPD surveillance

zero-reporting from health facilities. For instance, the Independent Programme Monitoring report for Gilgit-Baltistan (February 2024) indicated that only 31% and 9% of facilities submitted zero-reports, respectively.

Extended turnaround time for obtaining results **-** The audit analysed data on measles samples tested at the National Institute of Health (NIH) for the years 2023 and 2024 (up to October 2024). In 2023, 6.1% of samples had a turnaround time exceeding four days between receipt at NIH and reporting to FDI. However, in 2024, this figure saw a significant increase, with 48.1% of measles-positive samples experiencing a delay of more than four days. Detailed data is provided in the tables below.

Table 9: Lead Time between Specimen Receipt at NIH and Sending Report to FDI for Measles Positive Samples submitted to NIH in 2023

#	Description of Lead Time	Number of Samples	Percentage
1	Report sent to FDI within 4 Days	16,373	93.9%
2	Report sent to FDI within 5-20 Days	756	4.3%
3	Report sent to FDI within 21 - 30 Days	310	1.8%
4	Report sent to FDI after 2 years	5	0.0%
5	Data not included in analysis due to missing date	1	0.0%
	Total	**17,445**	

*Table 10: Lead Time between Specimen Receipt at NIH and Sending Report to FDI for Measles Positive Samples submitted to NIH in 2024**

#	Description of Lead Time	Number of Samples	Percentage
1	Report sent to FDI within 4 Days	11,025	51.9%
2	Report sent to FDI within 5-20 Days	4,803	22.6%
3	Report sent to FDI within 21 - 40 Days	3,650	17.2%
4	Report sent to FDI within 41 - 60 Days	1,617	7.6%
5	Report sent to FDI within 61 -70 days	88	0.4%
6	Report sent to FDI after 1 Year	44	0.2%
7	Data not included in analysis due to missing date	1	0.0%
	Total	**21,228**	

** Data runs until end of Oct 2024*

VPD surveillance data to improve accuracy and accessibility.

- Integrate VPD Surveillance into supervision and monitoring by ensuring VPD surveillance activities are systematically incorporated into existing supervision and monitoring frameworks to enhance accountability and performance tracking.

<table>
<tr><td>Root Cause
Fragmented surveillance structures with limited coordination - Surveillance systems in Pakistan are implemented by multiple agencies with minimal integration. The Federal Directorate of Immunisation (FDI) manages vaccine-preventable disease (VPD) surveillance, while acute flaccid paralysis (AFP) surveillance operates as a standalone vertical program. The Integrated Disease Surveillance and Response (IDSR) is led by the National Institute of Health (NIH), but coordination between these systems remains limited.
Ineffective human resources - At the time of the audit, the FDI lacked a dedicated surveillance focal person, and there was no established position for a District Surveillance Coordinator (DSC). Surveillance duties were often assigned as additional responsibilities, and frequent staff transfers further disrupted VPD surveillance activities. Additionally, 14 out of 40 health facilities had no VPD surveillance focal persons, and in some instances, focal persons were based at Tehsil or Town Council levels rather than at the designated health facilities.
Lack of training on VPD surveillance - The audit revealed that 24 of 42 health facilities had not received any training on VPD surveillance in the previous 12 months, indicating significant gaps in capacity building.
Inadequate data management processes - VPD surveillance currently relies on Microsoft Excel for tracking sample collection and reporting. This manual approach increases the risk of data entry errors and omissions, especially when dealing with large volumes of data.
Weak supervision and monitoring - Oversight mechanisms for VPD surveillance were found to be weak, with insufficient supervisory visits and limited follow-up on identified issues, undermining the overall effectiveness of the surveillance system.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
Delayed response and investigation may result in recurrent outbreaks</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.2.3 Weaknesses in approach to engagement of civil society organisations

Context and Criteria

In December 2021, the Gavi Board approved a new Civil Society and Community Engagement (CSCE) approach. A key feature of this approach is the requirement for countries to allocate at least 10% of combined HSS, Equity Accelerator Fund (EAF), and Targeted Country Assistance (TCA) ceilings to CSO-led implementation when submitting new funding requests. The CSCE approach marks a significant shift toward equity-focused immunisation delivery, with the goal of fostering stronger strategic partnerships between governments and CSOs to reach underserved populations. The rationale behind this approach includes:

- Reaching the unreached: CSOs are instrumental in extending immunisation services to remote, minority, and marginalised communities—often the last 15–20% missed by government systems.
- Inclusive decision-making: CSO involvement at all levels of policy and programme design promotes accountability, inclusivity, and responsiveness to community needs.
- Combating vaccine hesitancy: With their deep community roots, CSOs are well-positioned to understand and address localised vaccine hesitancy, including gender-related barriers, and to build trust in immunisation services.
- Community ownership: Many CSO staff and volunteers come from the communities they serve, ensuring that solutions are locally informed, community-driven, and sustainable.

Condition

In 2024, the Gavi secretariat run deep and wide consultations with FDI and provinces on the establishment of a CFO coordination unit which would comprise of a CFO Fund manager and other resources to oversight all CSO activities in the country. However, this was not yet fully in place at the time of the audit.

The audit noted the following weaknesses in the approach and engagement of CSOs within the immunisation programme:

Lack of a documented framework for CSO engagement – The programme currently lacks a formal framework or standardised process for engaging CSOs in immunisation-related activities. The FDI has not developed guidelines outlining how CSOs will be identified, mapped, or engaged, nor has it defined their scope of work. Although budget allocations have been made for CSO involvement, these funds remain underutilised due to the absence of an operational engagement mechanism. During the audit, there was no evidence of CSO participation at any level of decision-making within the immunisation programme, including subnational levels.

Ad Hoc and inconsistent engagement by partners - The audit revealed inconsistent practices among Gavi Alliance partners in their engagement with CSOs. One partner ceased working with CSOs as of 2020, while another continues to do so, reflecting a lack of coherence and coordination in the approach to CSO involvement.

Absence of monitoring and evaluation mechanisms - There is currently no framework in place to monitor or evaluate CSO contributions toward immunisation goals, such as increasing coverage and reducing the number of zero-dose or under-immunised children. This limits the ability to measure impact, learn from best practices, and ensure accountability.

Recommendation 8

To improve the CSO engagement MoNHSR&C/FDI should:

- Establish the Community of Practice in Demand (CoPD) for CSO engagement in Pakistan. This should include the development of a national framework that outlines clear strategies for reaching zero-dose and under-immunised children. The framework should also incorporate a robust monitoring and evaluation (M&E) system with defined indicators and targets to track progress and ensure accountability.
- Define and tailor the role of CSOs in the national context by identifying the types and capacities of CSOs best suited to support Gavi's CSO engagement strategy in Pakistan. Provide recommendations to Gavi on a country-specific, tailored approach to ensure CSOs are effectively integrated into immunisation efforts, with clear roles and expectations. Integrate the CSO Approach with existing health systems by aligning the CSO engagement with established health structures—particularly the Lady Health Worker (LHW) programme—to ensure complementarity and avoid duplication. This integration is essential for the sustainable identification and inclusion of unreached and marginalised populations in immunisation efforts.

<table>
<tr><td>Root Cause
Delays in defining and operationalising CSO Engagement requirements - There have been significant delays both at the Gavi and country levels in advancing CSO engagement. At the global level, Gavi experienced delays in clearly defining the requirements for CSO participation. Simultaneously, there was a lack of timely understanding and clarity at the country level regarding the processes and steps needed to operationalise CSO engagement, further slowing implementation.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
There is a significant risk that remote, minority, and marginalised communities may not be effectively identified or targeted, potentially undermining efforts to improve immunisation coverage and overall programme performance.
Delays in initiating the necessary community mapping and targeted outreach are likely, as the Community of Practice in Demand has not been clearly defined, and oversight mechanisms for CSO activities within the FDI remain unclear.
Furthermore, there is a risk of overlap or confusion between CSOs and existing community structures, such as Lady Health Workers (LHWs), who play a critical role in identifying and reaching unreached children. Without clearly delineated roles and coordination mechanisms, these essential community actors may become disenfranchised, weakening both trust and effectiveness at the community level.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.2.4 Supportive supervision arrangements need improvement

Context and Criteria

The Gavi-approved health systems strengthening (HSS) grant activities include technical and financial monitoring, supervision, and program reviews from the national to sub-county levels, with Provincial EPI Cells also responsible for providing similar support to District EPIs and Health-Facilities.

According to the World Health Organisation (WHO), supportive supervision is crucial for monitoring performance towards program goals and using data for decision-making by following up regularly with staff to ensure that new tasks are being correctly implemented. The collected information should aid the supervisor in deciding on corrective action during the visit and what issues require follow-up action in the longer term.

The audit team expected a functional and comprehensive support supervision activity, in minimum covering vaccine availability, cold chain conditions, vaccine management, waste management, data management and surveillance and AEFI reporting in relation to the routine immunisation and Covid-19 programs.

Condition

Whereas it was evident that supportive supervision activities were being regularly implemented at all levels, the audit team identified several weaknesses especially at sub-national level in the supervision arrangements.

The supportive supervision is ad hoc in nature, as there were no supervision plans - Although 4 out of 4 PHOs and 2 out of 2 federating areas reported that they received supervision visits from FDI, all of them reported that it was ad hoc. There was no pre-agreed plan or guidelines on how frequent it should be.

Uncoordinated support supervision visits from multiple partners and agencies - For example, the team identified a H.F BHU Bahadar in Multan which received 16 supervisions between Jan to Jun 2024 from different actors, while several other H.Fs in the same locality received two or less visits within the same period *(see Annex 17a)*

Unstandardised support supervision registers and in some instances improvised – In Punjab and Sindh provinces some of the supervisors were using the SES app while others were using various types of manual registers, while in some instances, pieces of paper were maintained (see Annex 17b).

Lack of documented feedback - Although 7 out of 10 districts confirmed to have received support supervision, the auditors were unable to confirm what type of supervision was done and how frequent since no written feedback was provided to the Health Facility. The auditors noted 3 out of 4 PHOs reported that they did not receive written feedback after the supervision visits. In Sindh and Punjab, the supervisors are using supervision apps where the H.W who has been supervised has no access / visibility. Consequently, this affected the feedback mechanism and improvements were not enhanced (see Annex 17c.

Recommendation 9

To improve the supportive supervision MoNHSR&C/FDI should:

- Develop ToRs for supportive supervisions, and enforce the operationalisation of the supervision guidelines, for all such missions across all levels.
- Work with provincial EPI cells to ensure there is a comprehensive supportive supervision plan covering all levels. This plan should identify the roles and responsibilities of each player including partners and agencies to ensure that visits are coordinated.

Partners and provincial EPIs should:

- Ensure that supervision tools for each level are synchronised.
- Recording of observations and agreed actions to enable follow-up
- Incorporate results from supportive supervision into decision making processes.

Root Cause

- Ineffective oversight and guidance to provincial EPIs by the FDI and the ICC over HSS activities
- Lack of mechanism to ensure alignment or coordination of visits

Management comments

See detailed management responses - Annex 19

Risk / Impact / Implications	Responsibility	Deadline / Timetable
• Value for money for supportive supervision activities may not have been achieved. • Delayed resolution of known issues, which could impact the effectiveness of the immunisation programme	See detailed management responses - Annex 19	See detailed management responses - Annex 19

4.2.5 Sub-optimal visibility and performance monitoring of the TCA

Context and Criteria

The PEF TCA guidance (2019–2020) defines the roles and responsibilities of key stakeholders involved in the planning, monitoring, and reporting of Technical Assistance (TCA). These responsibilities are crucial for ensuring the effectiveness and impact of TCA. Among the primary duties assigned to FDI are leading the development of the OneTA plan, coordinating the identification of TCA needs, assigning responsibilities to core and expanded partners, and organising quarterly meetings to track implementation progress.

To promote country ownership, FDI and provincial EPIs are expected to be actively and consistently engaged throughout the TCA process, particularly in planning and performance monitoring. The guidance also emphasises the importance of mutual accountability within the PEF model. This is supported through established programmatic and financial reporting requirements for partners, as well as routine in-country reviews of TCA performance, jointly conducted by FDII, implementing partners, and other stakeholders.

Partner reports must be verified for accuracy and consistency. FDI is responsible for formally confirming data alignment across various sources, such as milestone portals, Joint Appraisal reports, and supervision documents. Additionally, the results of TCA support should be validated through evidence-based assessments that demonstrate capacity improvements and overall program performance enhancements in areas such as coverage, equity, supply chain, data quality, and financial management.

Condition

The audit team noted the following weaknesses:

Limited visibility of TCA activities by FDI – Despite considerable efforts during the planning phase to align key technical assistance (TA) activities, coordination and information sharing between partners and the government during implementation remain limited. This lack of transparency has hindered FDI's ability to hold partners accountable for their performance or to take timely corrective actions in cases of non-performance or underperformance.

Lack of clear and explicit modality for skills transfer – While 62 out of the 71 funded positions in the TCA plan are designated as 'skills-transfer' roles, there is no documented evidence, criteria, or defined mechanism to support this designation. Additionally, Gavi funds several operational and coordination roles at the national level; however, the performance framework in place to monitor deliverables or track the effectiveness of these positions is inadequate. Moreover, there were no government counterparts assigned, making effective skills transfer unlikely or impossible.
TCA funding supports over 1,000 vaccinators and more than 40 district surveillance officers and EPI staff. However, their job descriptions lack responsibilities or performance indicators related to skills transfer, which raises concerns about the long-term impact and sustainability of the support provided.

Lack of assessments to inform investment decisions – Under the FPP, Pakistan has been approved for a USD15 million PEF TCA budget over a three-year period. Of this amount, USD6.2 million (41%) is allocated to staffing, covering 33 national and 38 sub-national positions. However, neither FDI nor the partners have conducted systematic capacity needs assessments or evaluations of the impact of past capacity-building efforts to guide these investment decisions effectively. As such technical assistance is filling operational capacity gaps with no skills transfer.

Recommendation 10

To strengthen the capacity building processes, ensure capacity building efforts are realised, MoNHSR&C/FDI and provincial EPIs should:

- Conduct a needs assessment at national and sub-national levels to inform and guide future investments in TCA.
- Develop a collaborative plan for TCA delivery by creating a framework for collaboration that ensures short-term gap-filling efforts evolve into long-term skills transfer, promoting sustainable capacity building. The plan should clearly define the roles and responsibilities of each stakeholder, outline a clear modality for skills transfer, and present a phased implementation approach. This plan should also be incorporated into the overall accountability framework; and
- Implement a skills and competency measurement mechanism by creating a system to assess skills and competencies, focusing on a limited set of key indicators that directly measure changes in targeted outcomes.

<table>
<tr><td></td><td colspan="2">To collaborate effectively with TCA providers MoNHSR&C/FDI should:

• Provide guidelines to TA partners for TCA performance milestones by ensuring that TCA performance milestones are validated by FDI before being reported and submitted to Gavi.</td></tr>
<tr><td>Root Cause
• Weaknesses in measuring results and the actual Impact of TA – Pakistan currently relies on the generic Gavi portal to report on implementation progress, but this system has several limitations, particularly concerning the quality and relevance of milestone data. The current approach to measuring results tends to focus either on activities, short-term outputs, and planning processes, or on end outcomes such as coverage, with limited emphasis on intermediate results and the actual impact of technical assistance (TA).
• Unclear role of Government in managing partner performance – The government's role, particularly FDI's, in overseeing the results and performance of implementation partners is currently limited and not well-defined. At present, partners self-report their progress directly on the Gavi portal, with no clear evidence of FDI’s involvement in reviewing or validating performance against milestones before submission to Gavi. The Gavi PEF TCA reporting framework through the portal enables only TCA recipients to report with an assumption that these activities are validated by the ministry, an assumption which is not always followed through during implementation.
• Delayed implementation of recommended HR assessment – The 2021 FDI review recommended conducting a comprehensive human resources assessment by April 2022. However, this assessment has yet to be carried out.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
Audit findings highlight concerns regarding the sustainability of technical assistance, noting that HR-related expenditures are largely directed toward filling operational gaps rather than facilitating skills transfer. Approximately 80% of the funded positions are considered “gap-filling” roles.</td><td>Responsibility

See detailed management responses - Annex 19</td><td>Deadline / Timetable

See detailed management responses - Annex 19</td></tr>
</table>

4.3 Vaccine supply chain management

4.3.1 The forecasting process requires refinement

Context and Criteria

Assessing the needed quantity of vaccines is an essential first step within the vaccine supply chain management process. Forecasting demands is essential to provide sufficient quantity of vaccines to avoid shortages and program disruptions. Forecasting is not a one-time, annual exercise that ends after the final quantities and costs of the commodities are determined. Rather, it is a continuous process that requires continuous monitoring and regular updating of the forecasting results. There should be regular reviews and updates to the forecast output to update the data inputs and assumptions to incorporate any changes in plans that could affect the demand for commodities.

In Pakistan, vaccine and devices forecasting is done in collaboration with the provinces annually using the UNICEF Supply Division forecasting template. The provinces and federating territories submit their annual vaccine needs to the federal EPI cells. Procurement section of the Federal Directorate of Immunisation (FDI) consolidates the requirements as received from the provinces and federating territories. Forecasting is done using data on: population projections obtained from Pakistan Bureau of Statistics; estimated immunisation coverage obtained from FDI; schedule of doses for a vaccine; estimated wastage rates obtained from WHO guidelines; buffer/safety stock which is estimated at 25% of the stock at the time of generating the forecast.

As part of the operationalisation of Gavi's 2021-2025 strategy (Gavi 5.0), Gavi is transitioning from an annual cycle of vaccine renewals to a multi-year renewal and approval approach. Requests for renewal of vaccine support made in 2022 were to cover the period from 2023- 2027 inclusive[6].

Condition

Lack of forecasting SOPs and work instructions – The audit team reviewed forecasting reports for vaccines and related supplies from 2019 to 2023. While the UNICEF forecasting template provides general instructions, there are no standard operating procedures (SOPs) offering detailed, step-by-step guidance tailored to the country context. The process lacks clarity on several key aspects, such as defining data sources for specific fields in the tool, establishing forecasting assumptions, and identifying task owners for various activities. Additionally, although the forecasting function is intended to be managed within the procurement department of FDI, it remains unclear who is responsible for overseeing the entire process.

Absence of periodic forecast reviews and testing of accuracy – Forecasting outputs for vaccines and dry supplies should be regularly reviewed to reflect changes in demand. It is crucial to evaluate forecasting accuracy by comparing projected quantities with actual consumption and using the results to refine future assumptions. However, the audit found no evidence that periodic reviews of forecasts have been conducted. As a result, it is unclear how insights from previous forecasts have been applied to improve subsequent forecasting efforts.

Lack of mechanism for collecting and analysing consumption data at EPI centres – The audit team observed that the country relies on the vLMIS for capturing and reporting vaccine logistics data. While vLMIS coverage has expanded over time and is currently operational up to the Tehsil (Town Council) level, it does not extend to EPI centres, which are the primary sources of consumption data.

Recommendation 11

To foster improvement and sustainability of the forecasting process, FDI/ MoNHSR&C should work with the provinces and federal territories to:

- Designate dedicated personnel within the FDI structure to take charge of the forecasting process and revise their job descriptions to reflect this responsibility as a core function.
- Strengthen their capabilities through mentoring and skills transfer initiatives.
- Develop comprehensive SOPs and work instructions to guide and support the forecasting process.
- Establish a system for collecting consumption data at EPI centres, aggregating it at the Tehsil, District, and Provincial levels, and periodically triangulating this data with program performance metrics.

[6] Instructions on Gavi's process for the renewal and multi-year approval of vaccine support

<table>
<tr><td>Root Cause
Dependence on partner-supported resources for forecasting - The forecasting process heavily relies on partner-supported resources, with existing FDI resources playing a secondary role. At the provincial level, individuals responsible for conducting forecasts are supported by partners, but there are no designated government personnel to oversee or collaborate with these resources in managing the forecasting process.
Limited capacity of available resources - The available resources within the system have limited capacity to effectively run a fully-fledged forecasting process, hindering the overall efficiency and accuracy of forecasting efforts.
Lack of logistics data visibility at service delivery points - There is a gap in the visibility of logistics data, as it does not extend to Service Delivery Points (SDPs), which are the primary sources of consumption data. This lack of coverage reduces the accuracy and reliability of the forecasting process.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
Sustainability challenges due to lack of designated champions for forecasting: The absence of designated champions for the forecasting process within the FDI structure at both the federal and provincial levels jeopardise the long-term sustainability of this critical function. This gap is particularly concerning for ensuring the continuity of skills transfer and the effective management of forecasting processes once partner support concludes.
Failure to regularly review and update forecasts has resulted in low stock levels at the FDI Central, often falling below the established safety or buffer stock thresholds. An analysis of mid-year and year-end stock levels for selected vaccines revealed frequent breaches of these thresholds, as shown in Annex 7. For example, stock levels for the pentavalent vaccine dropped below the safety threshold in 5 out of 10 instances, for PCV in all 10 instances, for the MR vaccine in 6 out of 10 instances, and for BCG in 7 out of 10 instances.
Misalignment with Gavi’s requirements - The absence of visibility into consumption data fails to meet Gavi’s multi-year renewal and approval requirements, which mandate ongoing monitoring of vaccine consumption in conjunction with programmatic performance. This gap becomes especially critical as the country transitions from annual to multi-year Gavi support approval.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.3.2 Missed opportunity to procure more vaccines

Context and Criteria

The procurement of vaccines fully financed or co-financed by the Government of Pakistan is governed by the Public Procurement Regulatory Authority (PPRA) rules and is conducted through the e-Pak Acquisition & Disposal System (EPADS) since 2023 (accessible at https://eprocure.gov.pk/#/auth/login). Procurement begins with public advertisements of tenders in newspapers, inviting potential suppliers to submit bids. Once the bidding process closes, the evaluation begins with the technical bids. Only technical bids meeting the threshold criteria proceed to the financial evaluation stage, while financial bids linked to unsuccessful technical bids are returned unopened to the suppliers. If no bids are received for a tender, time permitting, the process is re-initiated. In cases where no bids are received after the second attempt, vaccine procurement is referred to UNICEF. All awarded contracts through the Government of Pakistan procurement mechanism are published on the Pakistan procurement website. To ensure compliance with contractual obligations, such as timely delivery according to the supply schedule, penalties are imposed on suppliers failing to meet their commitments.

Vaccine procurements through UNICEF allow the country to benefit from negotiated rates under the vaccine pooled procurement mechanism. During the Financial Year 2022/2023, the pentavalent vaccine was subjected to open tendering following a court decision. The tender was ultimately awarded to a local supplier and the entire process adhered to the PPRA regulations.

Condition

Procurement of pentavalent vaccine at a higher price than UNICEF reference price – The audit team analysed the pentavalent vaccine procurement (Procurement Reference Number: 1(1)/2022-23/Vaccines/FDI) which revealed that the country procured the vaccines at a rate greater than the UNICEF reference price. For this comparison, the UNICEF reference price per dose, delivered to the country's port of entry, was adjusted to include handling costs at the port and delivery costs to the FDI warehouse. This adjusted price was then compared with the landed price per dose offered by the successful bidder to the FDI warehouse. The resultant cost savings were used to determine the additional doses of pentavalent vaccine that would have been procured as shown in the table below.

Table 11: Procurement of pentavalent vaccine

Procurement Reference Number	1(1)/2022-23/Vaccines/FDI
Co-financing Year	2022/2023
Quantity (Doses)	5,359,900
Quote per Unit (Pak Rs)	449
UNICEF Reference Price	232.81
Adjusting UNICEF Price to DDP Incoterms	234.03
Total cost of Procurement using Local agency (A)	2,406,595,100
Total cost of procurement using UNICEF (B)	1,254,384,736
Cost Savings (A-B)	1,152,210,364
Additional doses that could have been procured	4,923,315.91

Recommendation 12

FDI/MoNHSR&C should carry out independent market assessments and price benchmarking surveys to ensure value for money in their procurement processes. The options considered should include the opportunity cost for each option to support the decision making processes. Any shortfall arising from the Country's decision should be reported to Gavi, and a consensus reached on how to address the shortfall, taking into account its impact on the Country

Root Cause

The choice of procurement mechanism was influenced by a court decision

Management comments

See detailed management responses - Annex 19

Risk / Impact / Implications	Responsibility	Deadline / Timetable
This procurement represents a missed opportunity to acquire 4.9 million additional doses of pentavalent vaccines within the same budget, resulting in fewer children being vaccinated.	See detailed management responses - Annex 19	See detailed management responses - Annex 19

4.3.3 Inventory management practices at both the federal and subnational levels require enhancement

Context and Criteria

Effective vaccine inventory management is essential for maintaining a steady vaccine supply and avoiding shortages. It plays a crucial role in forecasting demand and adjusting orders accordingly, enhancing the efficiency of the vaccine supply chain, and ultimately preventing both stockouts and excess wastage. The inventory management system should track stock movement from and to places where they are needed in a timely fashion and at an optimum cost. In Pakistan, supplies from FDI warehouse go through 2-3 distribution points before they reach the end user.

Section 2.2.3 of the Vaccine Logistics Manual, 2023 states that, "*All vaccine storage points must keep a complete and updated stock record register. The store keeper or person responsible for the vaccines must keep the record; it must be updated every time vaccine is received or issued from the store or the Ice Lined Refrigerator (ILR), in case of the EPI center. The stock record must also be checked regularly for accuracy. This can be done by physically counting the actual quantities of vaccine in stock and compare this to the amount shown in the stock record register".*

The country must maintain reserve stock balances at all vaccine storage points across all levels of the cold chain to address challenges such as unexpected surges in vaccine demand, for example, during disease outbreaks or delays in scheduled vaccine deliveries. Buffer stock requirements should be as follows: six months' supply at the national level, three months' supply at the provincial and regional levels, and one month's supply at the district and sub-district levels[7].

Condition

Variances between UNICEF shipped vaccines and vaccines received in vLMIS - The audit team reviewed vaccine shipments from the UNICEF shipment database for the period 2019 to 2023 and compared the quantities shipped with those recorded in vLMIS at the FDI central vaccine store, noting discrepancies in some cases. See Annex 8a

According to vLMIS data, the following trends were observed in vaccine shipments:

- Pentavalent vaccine: Higher quantities were recorded as received in 2019 and 2021, while fewer shipments were recorded in 2022.
- IPV: More quantities were recorded as received in 2019, with fewer shipments received in 2022.
- MR vaccine: Increased quantities were recorded in 2021 and 2023, whereas fewer were recorded in 2022.
- The largest variance (1.9 million doses) occurred with the Rotavirus vaccine in 2023.

Additionally, it is noteworthy that in 2020, there were no discrepancies between the shipped vaccines and quantities received, whereas in 2022, the reverse was true.

Stock reconciliation variances observed during the review period **-** The audit team conducted annual stock reconciliations for five sampled antigens at the FDI warehouse covering the period from 1 January 2019 to 31 December 2023. This included calculating opening stock plus receipts, minus issuances and wastages. Variances were identified for all five antigens in the years 2019, 2020, 2021, and 2022. In 2023, however, variances were observed in only 2 of the 5 sampled antigens (see Annex 8b).

Additionally, significant stock reconciliation variances were noted at 3 out of 7 Provincial or Federal Vaccine Stores (PVS/FTVS) and 3 out of 10 District Vaccine Stores (DVS) (see Annex 8c and Annex 8d).

Recommendation 13

To improve inventory management at Federal and sub national level, FDI/MoNHSR&C should work with Provincial EPI to:

- Periodically conduct data checks in vLMIS and reconcile the data after obtaining the necessary approvals
- Review the vLMIS system design and institute adjustments to address system errors (with support from partners)
- Develop well-structured, detailed, and up-to-date SOPs tailored to the specific operations, capacities, and workforce needs of sub-national vaccine handling points. As part of the SOPs, define process of passing adjustments in inventory management systems.
- Review current support supervision mechanisms, harmonise them, design and disseminate standard support supervision tools for recording and follow up of action points at all levels

[7] Vaccine Logistica Manual, Federal Directorate of Immunisation, Ministry of National Health Services, Regulations and Coordination Government of Pakistan, 2023

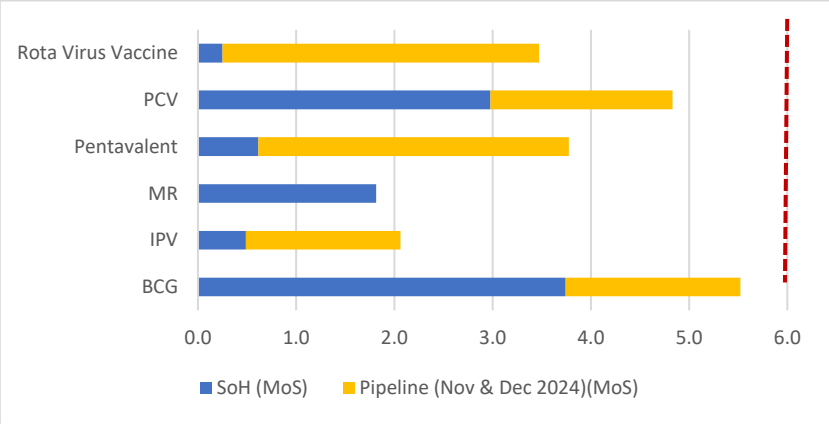
Stock levels were below minimum threshold - During the audit conducted on 12 November 2024, the audit team reviewed stock levels at the FDI warehouse, including pipeline stock for the final two months of the year (November and December). The review revealed that stock levels had fallen below the minimum six-month requirement outlined in the Vaccine Logistics Manual (2023 Edition), as illustrated in the graph below.

Similar stock shortages were observed at the provincial and federating state vaccine stores. On the day of the audit:

- At Sindh, Khyber Pakhtunkhwa (KP), and Azad Jammu & Kashmir (AJK) EPI stores, all indicator antigens were below the minimum three-month stock threshold.
- At the Punjab EPI store, 3 out of 5 antigens were below the required level.
- At the Gilgit-Baltistan (GB) EPI store, 2 out of 5 antigens fell below the threshold.
- At the Balochistan EPI store, 4 out of 5 antigens were below the minimum stock requirement.

(See Annex 9 for detailed stock level data.)

Figure 3: Vaccine stock levels including pipeline supplies at FDI warehouse



Variances in stock counts and current balances **-** A physical stock count of selected vaccines was conducted and compared against the running balances recorded in the inventory systems at various vaccine handling points. Discrepancies between physical stock and recorded balances were found in: 27 out of 42 HFs; 4 out of 9 TVS; 7 out of 10 DVS; 4 out of 7 PVS/FTVS (See Annex 10a, Annex 10b, Annex 10c, Annex 10d). Furthermore, in facilities using both vLMIS and manual stock ledgers for inventory management, variances between the two systems were noted in: 5 out of 7 PVS/FTVS; 8 out of 10 DVS; 6 out of 9 TVS (See Annex 11a, Annex 11b, Annex 11c)

<table>
<tr><td>Consequently, there were stockouts during the review period - Between 1 January 2019 and the audit date, stockouts of at least one of the sampled vaccines (Pentavalent, IPV, PCV, MR, Rotavirus, TCV, or BCG) were observed in: 9 out of 42 HFs; 8 out of 9 TVS; 4 out of 10 DVS; 3 out of 7 PVS/FTRS (See Annex 14a, Annex 14b, Annex 14c)</td><td colspan="2"></td></tr>
<tr><td>Root Cause
The root causes below have contributed to the issues above;
• Lack of periodic review and reconciliation in vLMIS - There is no routine reconciliation of stock receipt data in vLMIS by funding source and intended purpose, limiting traceability and accountability.
• Unreliable system controls in vLMIS - The system displayed critical issues, including negative stock balances at some locations, which are not practically feasible (see Annex 12).
• Inconsistent physical stock counts and documentation - Physical stock counts were either inconsistently performed or poorly documented. No evidence of physical stock counts was found at: 14 out of 42 HFs; 3 out of 9 TVS; 4 out of 10 DVS; 4 out of 7 PVS/FTVS
• Lack of accessible SOPs and guidelines - SOPs or guidelines on effective vaccine management were either unavailable or inaccessible to process owners at the sub-national level. This includes a lack of clearly defined processes and approval mechanisms for making stock adjustments in both manual records and vLMIS.
• Poor record management at service delivery points: Recordkeeping deficiencies were observed, including missing stock ledgers, overlapping transaction dates, unrecorded transactions, and delays in updating stock records (see Annex 13).
• Uncoordinated and ineffective support supervision - Supervision activities lacked harmonisation and generally failed to address logistics management of vaccines and related supplies.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
• Risk of undetected vaccine losses and accountability gaps in vLMIS: Weak system controls and data inconsistencies in vLMIS create the potential for undetected vaccine losses and raise accountability concerns.
• Rationing of vaccine stocks and incomplete Deliveries: As noted in Section 4.1.4, vaccine quantities delivered to provinces were rationed. Additionally, 7 out of 42 HFs reported receiving fewer doses than ordered. In some cases, facilities deliberately paused vaccinations once stocks reached a minimum threshold, aiming to avoid complete stockouts.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.3.4 Need to strengthen distribution scheduling and planning

Context and Criteria

Distribution plays a critical role in Pakistan's vaccine logistics system, enabling the movement of vaccines and related supplies from the FDI warehouse through a structured, hierarchical network to EPI centres. The development and consistent implementation of scheduled distribution plans is essential to ensuring the efficiency and reliability of this system. Furthermore, WHO guidance on the storage and transport of time- and temperature-sensitive pharmaceutical products—including vaccines—underscores the importance of maintaining accurate stock and distribution records. These records are vital for ensuring traceability and enabling effective tracking of vaccines from the point of supply to the end-user.

Condition

Absence of formal distribution schedules and plans **-** The audit revealed that although the FDI logistics team uses a "push" system to distribute vaccines to Provincial and Federating Territory EPI stores based on predefined demand targets, there are no formal distribution plans in place. Recipient stores are not informed in advance when to prepare for vaccine receipt or collection, resulting in largely ad-hoc distribution practices. This issue was observed across the four Provincial, three Federating Territory, and ten District EPI stores visited. While a monthly distribution schedule is reportedly followed, there is an opportunity to strengthen documentation, as none of the stores had recorded distribution plans or schedules for peripheral sites.

Approved vaccine allocations were not fulfilled **-** A review of approved vaccine allocation lists for four provinces and two federating territories showed that actual deliveries frequently fell short of approved quarterly allocations. For 2023, significant gaps were found between vaccine requirements and delivered quantities. The pentavalent vaccine recorded the lowest average order fill rate at 82%, dropping below 80% in three out of four provinces. Balochistan consistently had the lowest order fill rates across five of the six reviewed antigens—64% for Pentavalent, 68% for PCV, and 69% for Rotavirus (see Annex 15).

Vaccine records are not consistently traceable between distribution points, leading to gaps in tracking and accountability across the supply chain **-** The audit team sampled vaccine shipments between various levels of the distribution chain to verify proper documentation and receipt. Discrepancies were identified where distributed stock could not be traced in the inventory records of recipient stores. This issue was noted in: 1 out of 10 DVS; 1 out of 9 TVS; 6 out of 42 HFs.

Last-Mile distribution challenges **-** The final leg of the vaccine distribution process is managed by the health facilities or vaccinators themselves. In all visited facilities, staff were responsible for collecting vaccines from designated distribution points. In many instances, vaccinators used public transportation and bore the transportation costs personally, indicating a lack of structured support for last-mile delivery.

Recommendation 14

To improve distribution management at Federal and sub national level, FDI/MoNHSR&C should work with Provincial and Federal Territories to:

- Strengthen human resource capacity by leveraging existing technical and financial support from partners to build the capacity of personnel at all levels—national, provincial, district, and tehsil—in effective vaccine distribution management. Training should cover planning, scheduling, stock tracking, and last-mile delivery.
- Establish and implement annual distribution schedules by developing and disseminating comprehensive annual distribution schedules that clearly define reporting deadlines for peripheral stores and outline expected delivery periods for each distribution cycle. All distribution points—including FDI, PVS, FTVS, DVS, and TVS—should be required to align with these schedules to ensure coordinated planning and timely vaccine delivery across the supply chain.

Refer to recommendation in section 4.3.3 on enhancing support supervision

<table>
<tr><td>Root Cause
The following root causes were identified:
• Human Resource Capacity Constraints - There are significant capacity gaps at both national and subnational levels in managing and operating an optimised vaccine distribution system. This includes insufficient technical expertise in logistics planning, execution, and oversight.
• Inadequate Central Stock Levels - As noted in Section 4.3.3, stock levels at the FDI warehouse were consistently below the required buffer or safety thresholds. This limited the warehouse's ability to fully meet the allocated vaccine quantities for Provincial and Federating Territory EPI stores, contributing to under-deliveries.
• Weak Stock Management Practices - Deficiencies in stock record management—also highlighted in Section 4.3.3—undermined visibility, traceability, and accountability across the supply chain.
• Limited Last-Mile Distribution Capacity - Provinces, districts, and tehsils demonstrated limited operational capacity to manage the last-mile distribution of vaccines and related supplies. This has resulted in reliance on frontline health workers to collect vaccines without adequate logistical support.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
• The need for multiple distribution trips to transfer vaccines between stores leads to an increase in distribution costs.
• Nonfulfillment of approved allocated vaccine quantities can result in stock-outs at various levels, as highlighted in section 4.3.3
• Risk of commodity loss without detection during the distribution process
• The need for vaccinators to leave their posts to collect vaccines poses a risk of missed opportunities to vaccinate children while they are away.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.3.5 Need to enhance cold chain management practices

Context and Criteria

The FDI warehouse manages a large cold and dry storage operation with 26 Walk-In Cold Rooms, 15 Walk-In Freezer Rooms, and 15 Ultra Cold Chain refrigerators, offering a total positive cold chain storage capacity of 845 m^3 and a negative cold chain storage capacity of 287.42 m^3. A team of cold chain technicians, supervised by a cold chain engineer, is responsible for the maintenance and operation of this equipment, with a 24-hour human surveillance system in place to monitor the cold chain continuously.

In compliance with WHO standards, the warehouse is required to perform temperature mapping to identify cold or hot spots and ensure vaccines are stored within the optimal temperature range. For new storage areas, mapping is mandatory, and for established facilities, it should be done every 2 to 3 years to maintain compliance.

Additionally, cold chain equipment undergoes preventive maintenance, which is scheduled at regular intervals to avoid equipment failure, and corrective maintenance, which is carried out when repairs are needed.

Condition

Lack of preventive maintenance schedules and checklists – The audit team observed that the FDI warehouse did not have a comprehensive preventive maintenance schedule outlining the daily, weekly, monthly, or quarterly maintenance tasks for cold chain equipment. While a general list of tasks for cold chain technicians was available, it lacked specific details regarding the timing or frequency of these activities. Additionally, there were no completed checklists or audit trails to confirm that maintenance tasks had been carried out, even though a cold chain maintenance checklist template was available in the Vaccine Logistics Manual. At sub-national vaccine stores, preventive maintenance schedules for cold chain equipment were also missing in 38 out of 42 HFs, 9 out of 9 TVS, 7 out of 10 DVS, and 6 out of 7 Provincial/Federating Territories EPI stores.

Lack of temperature mapping – The audit found that routine temperature mapping had not been conducted for the Walk-In Cold Rooms (WICRs) and Walk-In Freezer Rooms (WIFRs) at the FDI warehouse. This is concerning due to the aging cold chain equipment, with an average age of 9 years, a median of 8 years, and a maximum of 28 years. Similarly, temperature mapping was not conducted at any of the sub-national vaccine stores equipped with WICRs and WIFRs.

Inadequate historical data from Cold Chain Monitoring devices – The FDI warehouse used systems such as the Berlinger Smart System and fridge tags to monitor cold room temperatures. While the Berlinger Smart System captured temperature data and sent updates via email, and fridge tags recorded temperature data for up to 60 days, there was no evidence that this data was routinely downloaded, reviewed, or used for decision-making. At sub-national stores, temperature data was neither downloaded nor analysed for potential temperature excursions. The audit team identified temperature excursions at 13 out of 42 HFs, 5 out of 9 TVS, 7 out of 10 DVS, and 3 out of 7 PVS/FTVS.

Uncalibrated cold chain trucks – The FDI warehouse operated six cold chain trucks to transport vaccines between the airport and the warehouse, but none of these trucks had been calibrated to verify whether the temperature readings on their dashboards accurately reflected the actual temperatures inside the cold chain cabins.

Recommendation 15

To improve cold chain management and the service life of cold chain equipment, FDI/MoNHSR&C should work with the Provincial and Federal Territories to:

- Develop detailed preventive maintenance plans that outline daily, weekly, and monthly activities, along with comprehensive checklists to support and document these tasks. Ensure that the checklists are used consistently at all levels.
- Build capacity of cold chain officers and vaccinators at sub national level in cold chain management through on-the-job training and mentorship programmes
- Strengthen the existing support supervision tools to include continuous monitoring and oversight of both preventive and corrective maintenance activities.

VVM Status Not Documented Upon Receipt – Although vaccines were issued at sub-national stores using stock issue/dispatch vouchers, the VVM (Vaccine Vial Monitor) status was not documented at the time of vaccine receipt, despite storekeepers reporting that they checked the VVM status upon arrival. This was observed in 2 out of 7 PVS/FTVS, 3 out of 10 DVS, 6 out of 9 TVS, and 32 out of 42 HFs. ***Lack of Temperature Alert Systems at Some Sub-national Stores –*** The audit found that 4 out of 10 DVS with WICRs did not have temperature alert systems installed, which are essential for promptly addressing any temperature excursions and maintaining the cold chain. ***Absence of Power Backup Systems at Some Locations –*** While most vaccine handling points relied on electricity and generators for backup during power outages, the audit revealed that some facilities lacked power backup systems altogether. This included 20 out of 42 HFs, 1 out of 10 DVS, and 4 out of 9 TVS. ***Obsolete Cold Chain Equipment Without Decommissioning Plans –*** Although not widespread, the audit identified obsolete cold chain equipment at 2 out of 10 DVS and 2 out of 7 Provincial/Federating Territories EPI stores, without any clear plans for decommissioning.		
Root Cause • Non-adherence to CCEOP agreement provisions - The country did not adhere to the preventive maintenance requirements stipulated in the Cold Chain Equipment Optimisation Platform (CCEOP) agreement, jeopardising the validity of their warranties. Regular preventive maintenance is essential for maintaining cold chain equipment functionality and ensuring compliance with the terms of the agreement. • Knowledge gaps in cold chain management at sub-national stores - There are significant knowledge gaps in cold chain management at sub-national stores, resulting in the omission of best practices in the handling, storage, and monitoring of vaccines. These gaps hinder the effective management of cold chain equipment and can contribute to temperature excursions and other risks to vaccine integrity. • Inadequate support supervision systems - The existing support supervision systems are insufficiently comprehensive, often focusing primarily on the functionality of cold chain equipment at the time of supervision. Key aspects of cold chain management, such as preventive maintenance, temperature monitoring, and proper documentation, are not adequately addressed during support supervision, leading to potential issues going undetected.	Management comments See detailed management responses - Annex 19	
Risk / Impact / Implications • Risk of forfeiting equipment warrant, where applicable. • Shortening of the working life of the cold chain equipment. • Risk of cold chain equipment breakdown leading to loss of vaccines - At least one non-functional CCE was observed at 2 out of 10 DVS, 1 out of 9 TVS, and 3 out of 7 PVS.	Responsibility See detailed management responses - Annex 19	Deadline / Timetable See detailed management responses - Annex 19

4.3.6 Recommendations from the EVM assessment must be addressed

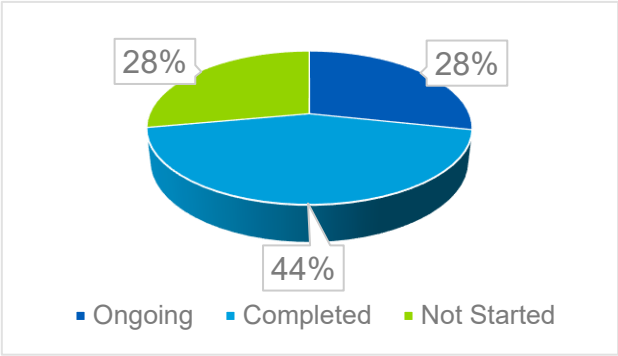
Context and Criteria

In 2019, Pakistan conducted an Effective Vaccine Management Assessment (EVMA), which resulted in the creation of the Effective Vaccine Management Improvement Plan (EVM-IP 2021-2025). Using the new EVM 2.0 tool, the assessment expanded its scope to 13 components, compared to 9 in the previous EVM 1.9 tool. Pakistan scored 74% on the EVMA, an improvement from 61% in 2014, though still below the 80% benchmark. Unlike the conventional random site selection method, Pakistan's approach involved each province and administrative area conducting its own EVMA and developing tailored EVM-IPs. In 2017, Gavi conducted a stock management audit of the MoNHSR&C and provincial EPI stores, issuing three key recommendations, the implementation status of which was subsequently followed up by the audit team.

Condition

Provinces and federating territories lagging behind on EVM-IP 2021-2025 - Following the 2019 EVMA, FDI and Punjab achieved scores above 80%, but several provinces and federating territories struggled with lower scores. AJK, ICT, Balochistan, GB, and Khyber Pakhtunkhwa Tribal Districts (KPTD) scored below 60%, while KP and Sindh recorded scores of 73% and 66%, respectively. Progress on implementing the EVM-IP 2021-2025 also varied, with an audit revealing that less than 50% of the planned activities had been completed, as shown in the accompanying pie chart below:

Figure 4: Overall implementation of the EVM-IP 2021-2025



Progress in vaccine supply chain management (VSCM) has stalled following the 2019 EVM assessment. Several critical activities have not been implemented, including:

- Adoption, printing, and distribution of EVM guidelines and SOPs in local languages for vaccine and cold chain logistics management at all levels.
- Conducting a data quality audit
- Performing cold room temperature mapping exercises
- Developing and implementing a routine maintenance plan for cold chain equipment (CCE) and documenting actions taken.
- Capacity building for district-level middle managers and other relevant staff on EVM guidelines and SOPs.

Recommendation 16

MoNHSR&C should address the leadership challenges at FDI including filling up of all vacant positions as noted in recommendation 1.

Recommendation 17

To stay on track with addressing recommendations from previous assessments, FDI/MoNHSR&C, Provincial and Federating Territories EPI teams should:

- Prioritise implementing activities outlined in the EVM-IP;
- Elevate related discussions in technical working groups and at the ICC.

<table>
<tr><td colspan="2">

- Institutionalising supportive supervision checklists with standardised EVM indicators for immunisation supply chain (iSC) and ensuring that all visits are documented.

</td><td></td></tr>
<tr><td colspan="2">

Root Cause

- Leadership challenges at FDI, particularly the unfilled key positions within the organisational structure, have led to limited oversight and inadequate follow-up on critical operational issues in vaccine supply chain management (VSCM).
- There is limited oversight and monitoring of the EVM improvement plan at the provincial level.

</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
Delays in implementing and completing the past EVM improvement plan recommendations, put at risk the integrity of the supply chain, as was also substantiated in part, due to some weaknesses materialising, as evidenced by the challenges experienced and identified in the present vaccine supply chain.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.4 Supply chain and data management systems

4.4.1 Weaknesses in design of health information systems

Context and Criteria

Pakistan has implemented several digital immunisation systems at both national and provincial levels to enhance the management and delivery of vaccination services. At the national level, the National Electronic Immunisation Register (NEIR) launched in 2017 starting with Khyber Pakhtunkhwa (KP) and other regions like Azad Jammu and Kashmir (AJK), Gilgit-Baltistan (GB), and Balochistan, serves as a centralised database for recording individual immunisation data. It enables tracking of vaccination coverage and ensures timely vaccine administration, with healthcare workers updating real-time data during vaccination sessions.

The Vaccine Logistics Management Information System (vLMIS) is a tool for managing vaccine inventory, cold chain logistics, and immunisation supplies across Pakistan. Its primary aim is to ensure the efficient and accurate management of vaccines by providing program managers with data to support decision-making and maintain vaccine availability. The system operates at provincial, district, and tehsil levels, but doesn't reach health facilities. The vLMIS functionality includes its ability to track vaccine inventory, it monitors cold chain equipment to ensure vaccines are stored within the recommended temperature range, leveraging temperature logger data to maintain vaccine potency. The system facilitates oversight of stock distribution, Reporting and analytics capabilities allow the generation of reports on vaccine stocks, usage patterns, and cold chain performance, supporting evidence-based decision-making.

The management of vLMIS involves collaboration between national, provincial, and external stakeholders. At the national level, the Federal Department of Immunisation (FDI) oversees vLMIS utilisation, monitoring performance and coordinating with provinces. Technical and operational support is provided by external partners - Chemonics, which currently handles critical activities like system modifications and data backups. At the provincial level, health departments manage day-to-day vLMIS operations, inputting data and overseeing its use. Data entry into vLMIS is performed by vaccine storekeepers and cold chain technicians at the district and tehsil levels. This includes manual entry of stock levels, vaccine usage, and cold chain conditions, with aggregated reports submitted to district offices for uploading into the system.

The Expanded Program on Immunisation Management Information System (FDI-MIS) operational since 2016, has undergone continuous enhancements. Supported by international organisations like UNICEF and WHO, FDI-MIS provides a comprehensive platform to monitor immunisation activities, manage vaccine inventories, and generate analytical reports to inform decision-making. Data for FDI-MIS is collected through standardised forms submitted by health facilities and subsequently entered at district or provincial levels.

At the provincial level, systems such as the Sindh Electronic Immunisation Registry (SEIR) and various Electronic Medical Records (EMR) systems complement national efforts. SEIR, implemented in Sindh province, addresses local immunisation challenges by registering and tracking individual vaccination statuses, improving vaccine logistics, and generating accurate population estimates and targets. Health workers input data into SEIR during vaccination sessions for real-time monitoring and planning. EMR systems, introduced in provinces like Punjab, digitise patient records, including immunisation histories, to enhance healthcare delivery. These systems, often supported by international donors such as WHO, allow healthcare providers to manage comprehensive patient health information and ensure immunisation records are current and accessible for future needs.

Condition

The audit noted the following design gaps with health information systems:

Limited visibility of stock levels in vLMIS – The FDI lacks visibility into stock levels at the provincial level within vLMIS, as it can only view its own data. Provinces manually compile and share weekly Excel-based reports with the FDI for review and aggregation, which may increase the risk of data inaccuracies.

Recommendation 18

To strengthen the design of health information systems MoNHSR&C/FDI should:

- Set up a data governance council to oversee implementation and data quality of systems;

Inconsistencies in Unique Identifiers across systems – Unique identifiers for children differ across the NEIR, SEIR, and EMR systems. NEIR and SEIR rely on federal government-generated QR codes, while EMR generates its own unique IDs. This lack of standardisation leads to fragmented records, creating challenges in tracking children across systems and increasing the risk of duplicate or missing records, complicating cross-platform data reconciliation. ***Performance bottlenecks in EMR dashboards –*** All EMR dashboards reviewed during the audit experienced significant delays, with loading times ranging from 1 to 3 hours during peak usage (9 AM to 2 PM). These delays are attributed to inadequate server capacity to manage high volumes of concurrent data requests. ***Fragmented implementation of FDI MIS –*** Provinces operate separate, standalone instances of the FDI MIS (e.g., Punjab EPI MIS, AJK EPI MIS), resulting in provincial silos. Without a unified national platform to consolidate data across provinces, interoperability and oversight are limited, leading to inefficiencies in reporting and planning.	• Strengthen federal, provincial coordination on systems to address aspects of system refresher trainings, system adoption and system performance monitoring tailored to each provinces needs • Harmonise unique identifiers for children across systems (NEIR, SEIR, EMR) to ensure consistency. • Conduct an in-depth review of the live systems identify gaps in areas of system validation checks, security, data completeness and data redundancies and subsequently develop a plan to address identified bottlenecks • Update and align SOPs (technical and end user guides) to match the latest versions of systems and ensure these documents are accessible to relevant systems users.
Root Cause The following root causes were identified • Federalisation Challenges – The shift to federalisation has allowed provinces to take the initiative, resulting in inconsistent adoption and use of systems at the subnational level, due to the absence of a unified strategy. • Limited oversight and support supervision – There is inadequate oversight and support supervision related to immunisation and vaccine systems, impacting the effectiveness of the operations. • Funding gaps – There are persistent funding gaps that hinder the proper implementation and sustainability of vaccine and immunisation systems. • Unestablished Data Governance Council – Although the FDI MIS Terms of Reference (TORs) specify the creation of a data governance council to oversee data quality and system implementation, this council has not yet been established. • Gavi TSS Standards – The finalisation of Gavi TSS standards occurred after most countries had already developed their systems, resulting in a delay in full alignment and a significant catch-up process.	Management comments See detailed management responses - Annex 19
Risk / Impact / Implications • Data Inconsistencies in Immunisation Systems – Inconsistencies were observed in the data across immunisation systems, affecting the reliability and accuracy of the information. • Lack of Visibility into Data Management Processes – The absence of clear oversight on the quality, timeliness, and effectiveness of data management processes presents risks to data integrity and availability.	Responsibility See detailed management responses - Annex 19
	Deadline / Timetable See detailed management responses - Annex 19

4.4.2 Sustainability of health information systems must be addressed

Context and Criteria

The sustainability of health information systems (HIS), including Vaccine Logistics Management Information Systems (vLMIS) and electronic immunisation registers (NEIR, SEIR), is critical to ensuring the long-term effectiveness of immunisation programs. These systems aim to streamline vaccine inventory management, child vaccination tracking, and reporting across federal and provincial levels. However, gaps in financial planning, human resource management, and system governance raise significant risks to the continuity and functionality of these systems.

Best practices, as outlined in international standards such as ISO 27002, emphasise the need for robust governance, sustainable funding, and technical support to secure the effectiveness and resilience of HIS.

Condition

The implementation and sustainability of electronic immunisation and vaccine systems across provinces face several challenges, impacting their operational continuity and effectiveness. The audit team reviewed these systems and identified the following gaps:

Transition planning and system ownership **-** No comprehensive transition plan present to ensure operational continuity and effective management of the information systems. Specifically, a TCO assessment for NEIR was not conducted and while a transition plan and TCO was shared for SEIR, it contained significant gaps. Notably, the plan did not provide for a clear skills transfer roadmap, leaving federal staff without a defined pathway to acquire or demonstrate technical competencies, especially as most key personnel had already resigned at the time of the audit. There was also no risk management plan or mitigation strategies as part of the transition plan, and no defined success criteria or KPIs to measure transition effectiveness or manage post-transition governance. The TCO assessment further didn't include costs for on-premise server procurement and maintenance, training of technical staff, software licensing, hardware decommissioning, and device replacement at the district level. Furthermore, the transition of the NEIR and SEIR systems to federal and provincial governments was hindered by significant gaps in knowledge transfer. Specifically, the updated source code, along with technical and design documentation essential for ensuring continuity and effective system management, while provided by IRD (Interactive Research and Development), the company contracted to support the development of both systems was incomplete and as such usable. As a direct consequence, FDI with support from WHO had to undertake the modification of the NEIR mobile and web applications internally, resulting in substantial delays and resource inefficiencies. Following the transition of NEIR on September 30, 2023,the system was further developed by FDI's internal staff until June 2024. The final system was launched and went live on October 1, 2024. The original procurement for NEIR was run through WHO which took up the responsibility for defining the system requirements, During the transition of NEIR from IRD no TCO was developed , which further highlights gaps in the stakeholder oversight and transition planning.

Fragmented systems and integration challenges **-** The immunisation programme continues to rely on multiple fragmented systems for vaccine and immunisation management. Although there have been attempts to integrate systems such as EMR, NEIR, and SEIR, they continue to operate in silos, limiting their interoperability and reducing the overall programme's efficiency.

Shortage of human resources to efficiently operate and oversee systems at both central and subnational levels **-** The systems suffer from persistent human resource shortages, hindering effective management at central and subnational levels. In Sindh province, 25 focal

Recommendation 19

The MoNHSR&C, with support from partners should establish a federally-led oversight mechanism that is province-focused. This mechanism should offer clear guidelines and define minimum standards for system design, ensuring interoperability, reducing system duplication, and enhancing data quality—while granting provinces the flexibility to tailor systems according to their specific local needs.

personnel responsible for SEIR system management—including data management, monitoring and evaluation, and system updates—resigned within the past 2–3 weeks. This poses a serious risk to system continuity. Similarly, in Punjab, critical positions identified in 2021 for EMR management, including one Data Management Officer, one MIS Assistant, and four Data Entry Operators, remain unfilled to date.

Heavy reliance on partners for oversight and leading technical activities related to health information systems **-** The programme heavily relies on external partners for oversight and technical leadership in managing health information systems. For instance, the data analyst and team lead responsible for developing the FDI MIS and NEIR systems are provided by WHO, resulting in external control over the source code and development environments. Similarly, critical technical activities for vLMIS, such as password management, system modifications, and data backups, are managed by Chemonics. The audit team noted that the Chemonics' contract was set to expire on November 30, 2024, the absence of a transition plan poses a risk of system support disruption. In Sindh province, all SEIR system management tasks are exclusively handled by IRD, further exacerbating dependence on external actors.

System Functionality Gaps **-** Core functionalities in vLMIS, such as Vaccine Vial Monitor (VVM) status tracking, remain incomplete, undermining the accuracy of vaccine stock monitoring. Furthermore, performance bottlenecks in systems like EMR, such as long dashboard loading times, hinder timely access to critical data, impacting decision-making processes.

Lack of Data Governance and Security Measures **-** The country lacks a digital strategy, which negatively affects data governance and security. Persistent data quality issues, such as inconsistencies between vLMIS and FDI MIS datasets, undermine the reliability of information for decision-making. In addition, critical security features, such as comprehensive audit logs, QA reviews, and encrypted passwords, are missing, increasing the risk of data breaches and operational disruptions.

Root Cause

The following root causes were identified

- Fragmentation due to donor funding – Donors contribute to system fragmentation by funding systems directly at the provincial level, without a centralised approach, leading to inconsistencies and inefficiencies.
- Funding gaps – There are significant gaps in funding that hinder the optimal functioning and development of immunisation and data systems.
- The Data Governance Council was not established – Despite being outlined in the FDI MIS Terms of Reference (TORs), the data governance council, responsible for overseeing data quality and system implementation, has never been established.
- Insufficient training on systems – Training on systems remains inadequate. The most recent training, conducted by UNICEF in 2019, trained only 138 individuals. A request for vLMIS training in GB made in June 2022 remains unmet to date.

Management comments

See detailed management responses - Annex 19

Risk / Impact / Implications

- Risk of continuity and sustainability of system operations in the event of turnover of key staff and continued capacity gaps

Responsibility

See detailed management responses - Annex 19

Deadline / Timetable

See detailed management responses - Annex 19

4.5 Immunisation data management

4.5.1 Weaknesses in immunisation data management

Context and Criteria

PFA article 8 (d) requires that all information that is provided to Gavi including its applications, progress reports, any supporting documentation, and other related operational and financial information or reports, is accurate and correct as of the date of the provision of such information. In addition, PFA Article 16 sets out additional provisions on the monitoring and reporting, specifying that "the Government's use of Gavi's vaccine and cash support is subject to strict performance monitoring," such that: “Gavi seeks to use the Government’s reports and existing country-level mechanisms to monitor performance.”

Gavi’s HSS and new vaccine support general guidelines (2015-2018), recommend that Gavi-supported countries ensure that their population projections of live births, should be broadly consistent with external projections. Furthermore, the guidelines recommend that Gavi-supported countries conduct high quality, national representative household surveys every five years.

Condition

Outdated denominator for immunisation coverage monitoring **-** The use of outdated population denominators has led to inaccurate reporting of immunisation coverage, resulting in either over-reporting or under-reporting of immunisation rates across regions. The country’s context, marked by ongoing conflicts and insecurity, has led to significant population migration, further complicating the accuracy of population estimates used for target setting. This issue has created challenges in projecting and planning for vaccine requirements and financial resources, potentially leading to misallocation and gaps in coverage.

Lack of National-Level Data Quality improvement strategy **-** There is no national-level data quality improvement strategy to ensure effective use of data for decision-making. While Data Quality Audits (DQAs) were conducted in 4 out of 6 provinces and territories, only AJK had a documented Data Quality Improvement (DQI) plan. However, the implementation of this plan has not been actively monitored. The absence of a comprehensive, national DQI strategy hampers the effectiveness of data use, leading to inconsistencies and gaps in the data quality, which in turn affects the accuracy and effectiveness of immunisation planning and decision-making.

Recommendation 20

To strengthen the design of health information systems MoNHSR&C/FDI should:

- Create a national Data Quality Improvement Strategy and associated policies to offer clear guidance and assistance to the provinces, ensuring uniform and efficient data quality practices. This strategy should include guidance on denominators through support of the technical alliance partners.
- Support the provinces and federal territories in the development of data quality improvement plans. These plans should be closely monitored to ensure that the identified improvements are successfully implemented.

Root Cause

- Challenges in determining denominators – Political instability and high population mobility present significant challenges in accurately determining denominators for immunisation coverage. The constant movement of people between provinces complicates the process of estimating population figures, resulting in inaccurate data. This inconsistency affects the accuracy of immunisation coverage reporting and complicates planning for vaccine needs and financial resources.
- Insufficient ownership of Data Quality Assessments and Improvement Plans -There is a lack of adequate ownership and active monitoring of Data Quality Assessments (DQAs) and Data Quality Improvement Plans (DQIPs). While some provinces have conducted DQAs, there is minimal follow-up or documentation of improvement actions. Specifically, only AJK has a documented DQIP, but its

Management comments

See detailed management responses - Annex 19

<table>
<tr><td colspan="2">implementation has not been rigorously monitored. This lack of sustained ownership and oversight leads to ineffective data quality management, hindering the country's ability to make data-driven decisions for immunisation programs.</td><td></td></tr>
<tr><td>Risk / Impact / Implications
• Lack of DQAs and DQIPs hindering identification of data inaccuracies - The absence of consistent Data Quality Assessments (DQAs) and Data Quality Improvement Plans (DQIPs) makes it difficult to identify and address the root causes of data inaccuracies. Issues such as poor data entry practices, insufficient training, and inadequate infrastructure cannot be effectively pinpointed or corrected without a structured data quality improvement process.
• Inaccurate decision making due to misleading data - The lack of reliable data quality management leads to inaccurate decision-making. Misleading or incomplete data could result in either overestimating or underestimating immunisation coverage, ultimately causing gaps in service delivery. These gaps can affect the equitable distribution of vaccines and the targeting of immunisation efforts, undermining the effectiveness of the national immunisation program.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.6 Budgeting and financial management

4.6.1 Value-for-money of the Multi-Donor-Trust-Fund may not have materialised

Context and Criteria

In January 2016, Pakistan was approved for a USD84 million Health System Strengthening grant, with Gavi signing an agreement with the World Bank to manage the funds through a Multi-Donor-Trust-Fund (MDTF) dedicated to routine immunisation. The first tranche of USD34 million was disbursed less than 100 days later. The fund, consisting of USD84 million from Gavi, USD10 million from USAID, and co-financed by the World Bank and Gates Foundation, aimed to improve immunisation coverage for children under 2 years. It utilised government systems for implementation, with an incentive mechanism based on Disbursement-Linked Indicators (DLI) tied to province-specific targets. Provinces received funding based on their DLI achievements, ensuring alignment with provincial priorities and resources. The NISP's success was tracked through performance frameworks at federal and provincial levels, with the results presented to the ICC, which recommended fund disbursements. The steering committee included MDTF donors and civil society representatives.

Condition

The audit noted the following weaknesses and persistent challenges in NISP implementation

Operational delays **-** Due to delays in approvals from various committees and the World Bank's agreement with the Economic Affairs Division (EAD) of Pakistan, NISP was only operationalised on August 31, 2016, nearly seven months after the first tranche of payment was made by Gavi.

Key strategic challenges in the country remain unaddressed - While addressing human resource gaps at both the federal and provincial levels was intended to be a priority at the start of NISP to ensure the project's effectiveness, key positions remained vacant throughout the duration of the project.

Project performance did not meet the project objectives **-** The NISP was closed on June 30, 2022, after five and a half years of implementation. Despite notable improvements in Full Immunisation Coverage (FIC) across all provinces, only Punjab achieved its targets for both FIC and Penta 3 coverage. Punjab surpassed its Penta 3 target, while KP saw a decline and Balochistan achieved only 18.2% of its target. Though all provinces reported a decline in dropout rates compared to baseline figures, Punjab experienced an increase in dropout volume. Overall, only 44% of the Project Development Objective Indicators were achieved.

One of the key achievements highlighted in the NISP was the shift of immunisation budgets from the development to the recurrent side, facilitated by the World Bank's engagement with both federal and provincial governments. However, it remains unclear whether this shift would have occurred without the involvement of the NISP. Between 2019 and 2023, Pakistan paid USD 101 million in co-financing, an obligation that may have been fulfilled independently, as ongoing advocacy at the ministry level was already in place to ensure the fulfilment of these co-financing commitments.

Lessons learned in the implementation of NISP have not been incorporated into the NHSP – Following the conclusion of the NISP, the World Bank introduced the National Health Support Program (NHSP), which was scheduled to begin in January 2023. While extensive discussions were held between Gavi and the World Bank to ensure that the design of NHSP fully incorporated the lessons learned from the

Recommendation 21

We recommend that in future, The FDI should ensure that clear, measurable objectives that ensure value for money are assigned for MDTF grant activities. More specifically, FDI should consider to:

- Establish clear, measurable objectives, ongoing reporting structures for the MDTF
- Delineate MDTF indicators and other FDI indicators to ensure that the investment contributions are clear
- Clarify the oversight role of the ministry and provinces
- Include the MDTF in the country joint appraisal processes.

Recommendation 22

For any future MDTF arrangements, Gavi should work with other donors and relevant national stakeholders to strengthen fund-specific assurance mechanisms. This could include enhanced financial reporting, dedicated audits, and performance monitoring specific to immunisation-related expenditures.

<table>
<tr><td>NISP, the audit notes the continuation of similar challenges. By June 2024, NHSP faced implementation delays, and about half of its Disbursement-Linked Indicators (DLIs) were reported to be off-track.</td><td colspan="2">Additionally, Gavi should advocate for increased visibility and transparency over fund utilisation to ensure accountability, safeguard its significant investment, and better demonstrate value for money in alignment with its health systems strengthening objectives.</td></tr>
<tr><td>Root Cause
While this is an investment for the country, the structure of the investment relies heavily on pooled fund donors, with limited country engagement in monitoring and supervision. As a result, country ownership may be undermined.
Insufficient Assurance Processes Over the NISP Trust Fund - The audit team reviewed the financial statements of the World Bank's cash-based Trust Funds for the fiscal years ending 30 June 2021 and 30 June 2022. These statements consolidated over 1,300 Trust Funds with total contributions of USD 12.1 billion and USD 14.3 billion respectively. Within this framework, Gavi contributed USD 99.75 million (of which USD 18 million was later refunded) to the Pakistan NISP Trust Fund—representing 91% of total donor contributions amounting to USD 109.75 million. Despite Gavi's substantial financial stake, the audit observed limited fund-specific assurance processes to provide adequate transparency and accountability for the use of these resources.</td><td colspan="2">Management comments
See detailed management responses - Annex 19</td></tr>
<tr><td>Risk / Impact / Implications
The investment primarily targets broader systemic issues, rather than directly addressing the specific root causes of the challenges identified. As a result, key immunisation indicators and critical challenges related to human resources and leadership, which are essential for the success of various health programs, remain unaddressed. This approach may make it challenging for Gavi and the World Bank to demonstrate the value for money, particularly in terms of immunisation and health systems strengthening, from this pooled investment.</td><td>Responsibility
See detailed management responses - Annex 19</td><td>Deadline / Timetable
See detailed management responses - Annex 19</td></tr>
</table>

4.6.2 Weaknesses in financial controls over sub-grants to government agencies and CSOs

Context and Criteria

Section 4.3.2 of the grant agreement between the Gavi Alliance ("Gavi") and United Nations Children's Fund ("UNICEF") states that, "*UNICEF shall maintain accurate accounting records documenting how Grant funds are used and disbursed. UNICEF will remain solely responsible for disbursing Grant funds for budgeted Activities*."

Section 20.1 Annex 2 of the PFA states that, *"In respect of all funds and vaccines and related supplies provided to the Government under the Programme(s), the Government shall comply with obligations and requirements on the use of such funds and supplies, including the following:*
(a) the Government shall use the funds and vaccines, and related supplies received from GAVI under a Programme for the sole purpose of carrying out the Programme Activities of such Programme;
(b) the Government shall ensure that there is no misuse or waste of, or corrupt, illegal, or fraudulent activities involving the funds and vaccines and related supplies; and
(c) the Government shall ensure that all expenses relating to the use or application of funds are properly evidenced with supporting documentation sufficient to permit GAVI to verify such expenses."

Condition

Inadequately supported expenditure – During the audit period, Gavi disbursed total cash grant of USD 35,920,823 to UNICEF to support implementation activities across different antigens. The audit team reviewed a sample of expenditures at various CSOs during the 5-year audit period (2019 to 2023). For the CSOs visited by the audit team the aggregate expenditures which they reported totalled USD 1.2 million, for which 24% of this amount (USD 0.3 million) was reviewed by the team. Based on these transactions that the team reviewed, expenditures totalling USD 60K were questioned, as summarised in the table below:

Table 12: Questioned Expenditure

Partner type	UNICEF sub-grants (USD)	Sampled for testing (USD)	Percentage reviewed	Adequately supported (USD)	Inadequately supported (USD)
Government	*5,325,406	0	0%	0	0
CSO	1,284,082	303,126	24%	242,529	60,597
Total	**6,609,488**	**303,126**	**5%**	**242,529**	**60,597**

***Limitation of scope:** During the audit period, UNICEF sub-granted a total of USD 5,325,406 to the government through the Provincial Health offices. However, UNICEF did not provide details related to these sub-grants for the audit team's review attributing it to the UN single audit principle, resulting in a limitation of scope.

Inadequately supported expenditure – Items where the quality of documentation maintained to support transactions related to the implementation of various programme activities, was inadequate. For example, monthly reports of the coordinators were not provided. Details of inadequately supported expenditure identified by the audit team is shown in Annex 16a.

Variances between reported sub-granted amounts and FACE forms - Funding Authorisation and Certificate of Expenditure (FACE) forms are the basis for requesting funds and retiring expenditure incurred by all UNICEF Implementing Partners (IPs) i.e. CSO, and Government

Recommendation 23

To strengthen the financial management MoNHSR&C/FDI should

- develop a mechanism to ensure all implementing partners (CSOs and government agencies) prepare detailed reconciliations of Gavi funds received from UNICEF on a quarterly basis.
- liaise with UNICEF to ensure that an annexure be provided along with the FACE forms to enable implementing partners to report on all funds received and expenditure by source of funding. Unutilised funds should be taken into account by UNICEF in subsequent requests if not refunded.

partners, based on UNICEF financial management guidelines. The audit team reconciled a sample of funds sub-granted by UNICEF to sub-grantees' FACE forms to ensure that the reported sub-grants to implementing partners for the period 2019 to 2023 are complete and corresponds with sub-grantees FACE forms. The audit team noted variances between funds disbursed and the sub-grantees FACE forms as shown in the table below:

Table 13: Reconciliation of amounts as per UNICEF records and FACE forms

Partner type	Amount per IP FACE forms (PKR	Amount per UNICEF records (PKR)	Difference (In PKR)	Exchange rate	Difference (In USD)
CSOs	553,722,506	247,460,735	306,261,771	192	1,595,106

The sub-grantees could not differentiate the sources of the different funding received from UNICEF, and these variances could not be reconciled with UNICEF as sufficient information was not provided. See Annex 16b for detailed breakdown.

Root Cause

- Inadequate review and tracking of subgrantees reports (FACE forms). There were no specific reconciliations of sub-grantee FACE forms to funds received and reported expenditure. The partner agencies also did not reconcile expenditure reported to grant agreements to enable tracking to sources of funding.
- One FACE form is used by UNICEF implementing partners to report for funding from different donors resulting in challenges in reconciliation and tracking of funds from different donors.

Management comments

See detailed management responses - Annex 19

Risk / Impact / Implications

- The audit team could not assess the operating effectiveness of the controls over funds sub-granted by UNICEF to government implementing partners. Inadequately supported expenditure may result in the use of Gavi funds for unintended purposes limiting the availability of funds to achieve program outcomes.

Responsibility

See detailed management responses - Annex 19

Deadline / Timetable

See detailed management responses - Annex 19

5. Annexes

Annex 1 : Acronyms

AEFI	Adverse Event Following Immunisation
AFP	Acute Flaccid Paralysis
AJK	Azad Jammu & Kashmir
bOPV	Bivalent Oral Polio Vaccine
BMGF	Bill & Melinda Gates Foundation
CCE	Cold Chain Equipment
CCEOP	Cold Chain Equipment Optimisation Plan
CDS	Covid-19 Delivery Support
COVAX	Covid-19 Vaccine Global Access
CSO	Civil Society Organisation
CVS	Central Vaccine Store
DLI	Disbursement Linked Indicator
DHIS	District Health Information System
DHO	District Health Office
DQA	Data Quality Assessment
DQIP	Data Quality Improvement Plan
DVS	District Vaccine Store
DTP	Diphtheria, Tetanus, Pertussis
EAF	Equity Accelerator Fund
EIR	Electronic Immunisation Registry
EMR	Electronic Medical Records (EMR)
EPI	Expanded Programme for Immunisation
EVM	Effective Vaccine Management
EVMA	Effective Vaccine Management Assessment
EVM-IP	Effective Vaccine Management Implementation Plan
FDI	Federal Department of Immunisation
FPP	Full Portfolio Plan
HIS	Health Information System
HSS	Health Sector Strengthening
ICC	Interagency Coordination Committee
ICT	Islamabad Capital Territory
IDA	International Development Association
IPV	Inactivated Poliovirus Vaccine
IRC	Independent Review Committee
LHW	Lady Health Workers
MCV	Measles Containing Vaccine
MDTF	Multi Donor Trust Fund
MICS	Multiple Indicators Cluster Survey
MoNHSR&C	Ministry of National Health Services Regulation and Coordination
NEIR	National Electronic Immunisation Registry
NHSP	National Health Support Programme (NHSP
NICC	National Interagency Coordination Committee (NICC)
NIH	National Institute of Health
NIS	The National Immunisation Strategy
NISP	National Immunisation Support Project
NITAG	National Immunisation Technical Advisory Group
MR	Measles and Rubella

OPV	Oral Polio Vaccine
PCV	Pneumococcal Conjugate Vaccine
PEF	Partnership Engagement Framework
PFA	Partnership Framework Agreement
PHO	Provincial Health Office
PVS	Provincial Vaccine Store
RI	Routine Immunisation
SEIR	Sindh Electronic Immunisation Registry EIR
SIA	Supplementary Immunisation Activity
TCA	Targeted Country Assistance
ToR	Terms of Reference
TVS	Tehsil Vaccine Store
TWG	Technical Working Group
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
USD	United States Dollar
VAR	Vaccine Arrival Report
VIG	Vaccine Introduction Grants
vLMIS	Vaccine Logistics Management Information System
VPD	Vaccine Preventable Disease
VVM	Vaccine Vial Monitor
VSCM	Vaccine Supply Chain Management
WICRs	Walk-In Cold Rooms
WIFRs	Walk-In Freezer Rooms
WUENIC	WHO / UNICEF Estimates of National Immunisation Coverage
ZD	Zero Dose

Annex 2 : Methodology

Gavi's Audit and Investigations (A&I) audits are conducted in accordance with the Institute of Internal Auditors' ("the Institute") mandatory guidance which includes the definition of Internal Auditing, the Code of Ethics, and the International Standards for the Professional Practice of Internal Auditing (Standards). This mandatory guidance constitutes principles of the fundamental requirements for the professional practice of internal auditing and for evaluating the effectiveness of the audit activity's performance. The Institute of Internal Auditors' Practice Advisories, Practice Guides, and Position Papers are also be adhered to as applicable to guide operations. In addition, A&I staff will adhere to A&I's standard operating procedures manual.

The principles and details of the A&I's audit approach are described in its Board-approved Terms of Reference and Audit Manual and specific terms of reference for each engagement. These documents help our auditors to provide high quality professional work, and to operate efficiently and effectively. They help safeguard the independence of the A&I's auditors and the integrity of their work. The A&I's Audit Manual contains detailed instructions for carrying out its audits, in line with the appropriate standards and expected quality.

In general, the scope of A&I's work extends not only to the Gavi Secretariat but also to the programmes and activities carried out by Gavi's grant recipients and partners. More specifically, its scope encompasses the examination and evaluation of the adequacy and effectiveness of Gavi's governance, risk management processes, system of internal control, and the quality of performance in carrying out assigned responsibilities to achieve Stated goals and objectives.

Annex 3 : Definitions – audit opinion, audit rating and prioritisation

A. Overall Audit Opinion

The audit team ascribes an audit rating for each area/section reviewed, and the summation of these audit ratings underpins the overall audit opinion. The audit ratings and overall opinion are ranked according to the following scale:

Effective	**No issues or few minor issues noted**. Internal controls, governance and risk management processes are adequately designed, consistently well implemented, and effective to provide reasonable assurance that the objectives will be met.
Partially Effective	**Moderate issues noted.** Internal controls, governance and risk management practices are adequately designed, generally well implemented, but one or a limited number of issues were identified that may present a moderate risk to the achievement of the objectives.
Needs significant improvement	**One or few significant issues noted.** Internal controls, governance and risk management practices have some weaknesses in design or operating effectiveness such that, until they are addressed, there is not yet reasonable assurance that the objectives are likely to be met.
Ineffective	**Multiple significant and/or (a) material issue(s) noted.** Internal controls, governance and risk management processes are not adequately designed and/or are not generally effective. The nature of these issues is such that the achievement of objectives is seriously compromised**.**

B. Issue Rating

For ease of follow up and to enable management to focus effectively in addressing the issues in our report, we have classified the issues arising from our review in order of significance: High, Medium and Low. In ranking the issues between 'High,' 'Medium' and 'Low,' we have considered the relative importance of each matter, taken in the context of both quantitative and qualitative factors, such as the relative magnitude and the nature and effect on the subject matter. This is in accordance with the Committee of Sponsoring Organisations of the Treadway Committee (COSO) guidance and the Institute of Internal Auditors standards.

Rating	Implication
High	At least one instance of the criteria described below is applicable to the finding raised: • Controls mitigating high inherent risks or strategic business risks are either inadequate or ineffective. • The issues identified may result in a risk materialising that could either have: a major impact on delivery of organisational objectives; major reputation damage; or major financial consequences. • The risk has either materialised or the probability of it occurring is very likely and the mitigations put in place do not mitigate the risk. • Management attention is required as a matter of priority. • Fraud and unethical behaviour including management override of key controls.
Medium	At least one instance of the criteria described below is applicable to the finding raised: • Controls mitigating medium inherent risks are either inadequate or ineffective. • The issues identified may result in a risk materialising that could either have: a moderate impact on delivery of organisational objectives; moderate reputation damage; or moderate financial consequences. • The probability of the risk occurring is possible and the mitigations put in place moderately reduce the risk. • Management action is required within a reasonable time period.
Low	At least one instance of the criteria described below is applicable to the finding raised: • Controls mitigating low inherent risks are either inadequate or ineffective. • The Issues identified could have a minor negative impact on the risk and control environment. • The probability of the risk occurring is unlikely to happen. • Corrective action is required as appropriate.

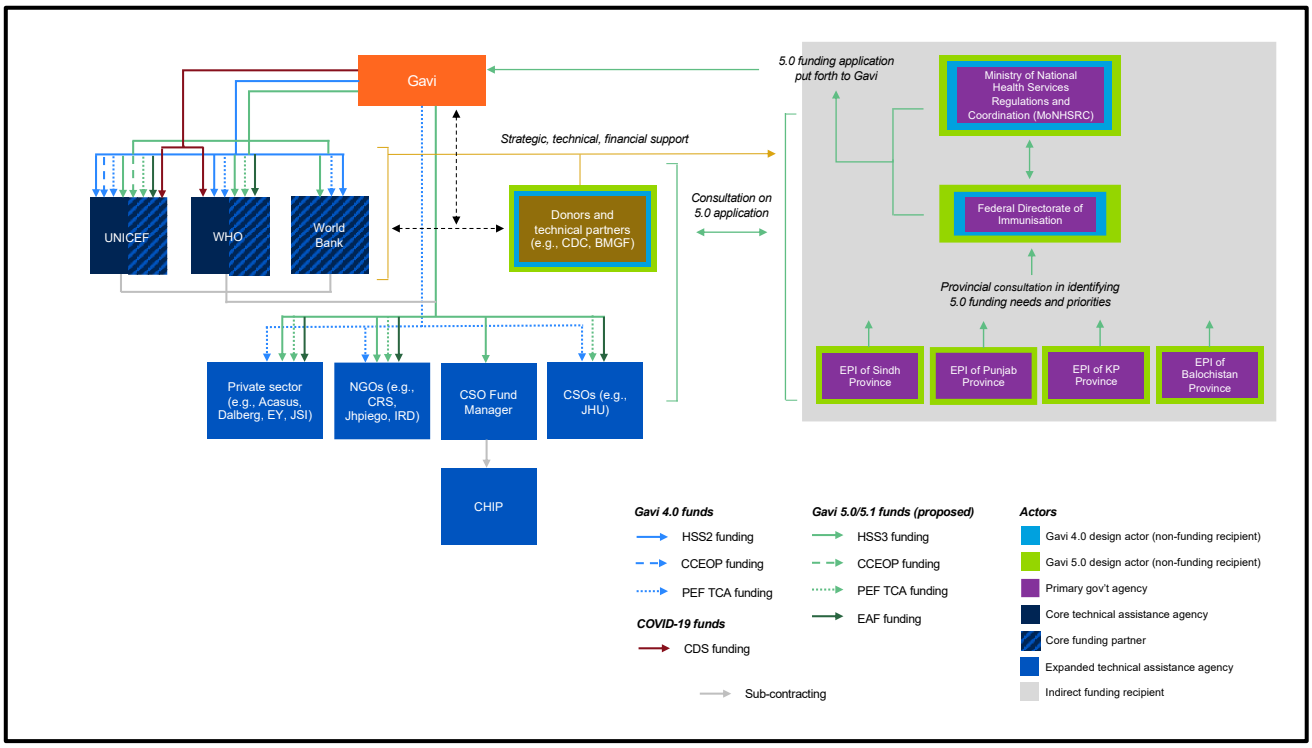
Annex 4 : List of Facilities Visited

Provinces & Federating Areas (7)	Districts (10)	Tehsil / Town Councils (9)	Health facilities visited (42)
Punjab	Multan	Multan Rural	CMC DOLAT GATE
			BHU Basti Almagir
			BHU Alipur Saadaat Health Facility
			Health Facility Urban 113
			BHU Inayatpur
	Lahore	Gulberg	UC- 96 EPI Centre Basti Saidan Shah
			UC 75 - M.C.H Center Muhammad Nagar
	Gujrat	Gujrat	THQ Shabbir Sharif, Kunjah
		Kharian	BHU Murala Gujran
			THQ Hospital Kharian
Sindh	Hyderabad	Qasimabad	SGH Qasimabad
			GD Marvi Garden
		Hyderabad Rural	RHC Tando Qaiser
			Basic health unit Khessana Mori
		City Tehsil	S.G Hospital Pretabad, Trauma Center
	Nazimabad	North Nazimabad	UC 2 - Sindh Children Hospital - Farooq E Azam
			UC 07 Hyderi (Meryam) Hospital
		New Karachi	UC 11 Hakim Ahsun
			UC 04 – Kala School (Sindh Govt Kal Market Hospital)
			UC 12 – Kalyana (Urban Health Center)
Balochistan	Quetta	N/A	Benazir Bhutto Hospital
			Balochistan Institute of Child Health Service
			Christian Hospital Quetta
			Cantt General Hospital
			Sandeman Provincial Hospital
Khyber Pakhtunkhwa (KP)	Peshawar	N/A	Rasheed Abad-Yaka Toot
			Cantt Hospital
			CD Gulbahar Town
	Abbottabad	N/A	Basic Health Unit Kakul
		N/A	District Abbottabad
Gilgit-Baltistan (GB)	Gilgit	N/A	DHQ Gilgit - Health Facility
			ACD Danyore
			ACD Furfoo Bagroot
			BHU Jalalabad
			ACD Parri
			FAP Jutal
			BHU Nomal
Azad Jammu and Kashmir (AJK)	Muzaffarabad	N/A	CMH Hospital- Muzaffarabad
			Abbas Institute of Medical Sceinces (AIMS) Hospital
			Mother Child Health Centre-Chehla Bandi - Mzd
Islamabad Capital Territory (ICT)	Rural	N/A	BHU Jhangi Syedan
			RHC Tarlai

Annex 5 : Islamic Republic of Pakistan immunisation schedule

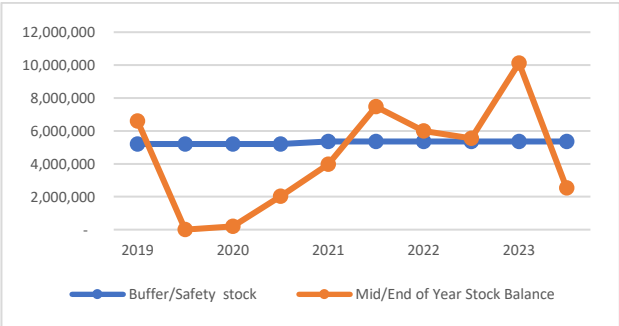
Vaccine	Disease	Age of administration	Year of introduction
BCG	Childhood TB	At birth	1976
OPV	Poliomyelitis	At birth, 6 weeks, 10 weeks, 14 weeks	1976
IPV		14 weeks, 9 months	2015
Pentavalent	Diphtheria, Pertussis, Tetanus, Hepatitis-B, Hib pneumonia and Meningitis	6 weeks, 10 weeks, 14 weeks	2009
PCV	Pneumonia and meningitis due to S. pneumonia	6 weeks, 10 weeks, 14 weeks	2012-14
Rota	Rota-virus (diarrhoea)	6 weeks, 10 weeks	2017
TCV	Typhoid	9 months	2019
MR	Measles, Rubella	9 months, 15 months	2021

Annex 6: Map of stakeholders and funds flow diagram

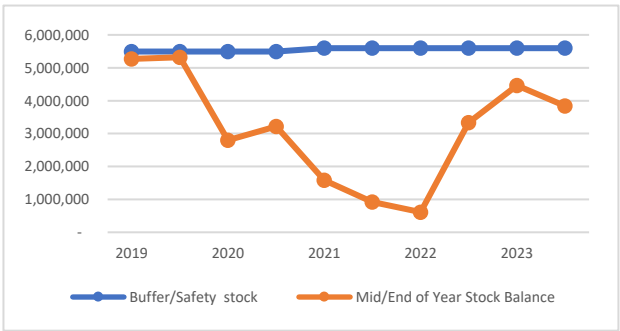


Annex 7: Comparison of mid and end of year stock levels with buffer stocks

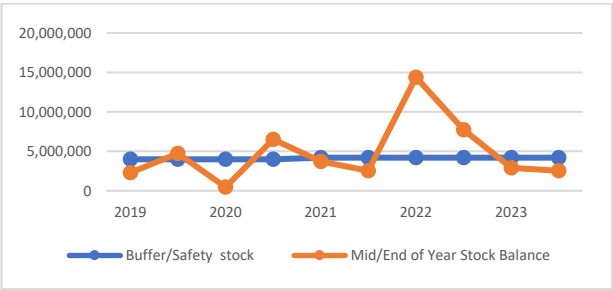
Pentavalent Vaccine



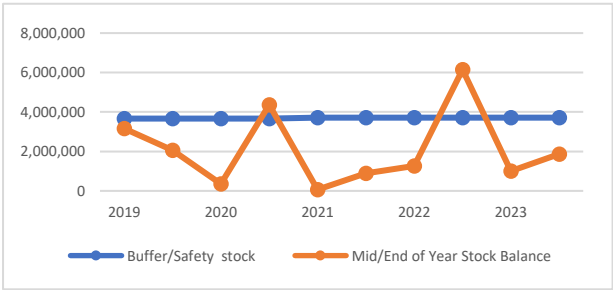
PCV



Measles and Rubella



BCG



Annex 8a: UNICEF shipped vaccines vs stock receipts in vLMIS at FDI warehouse

Antigen	2019			2020			2021			2022			2023		
	Shipped	Received	Variance	Shipped	Received	Variance	Shipped	Received	Variance	Shipped	Received	Variance	Shipped	Received	Variance
Pentavalent	11,551,907	11,552,012	105	19,615,485	19,615,485	0	17,474,350	18,081,393	607,043	16,105,300	15,573,548	531,752	10,764,000	10,764,000	0
IPV	6,946,800	6,966,800	20,000	9,392,400	9,392,400	0	13,161,000	13,161,000	0	16,678,000	16,673,000	5,000	11,769,000	11,769,000	0
MR	-			-	-		113,714,500	114,114,000	399,500	14,498,000	14,497,000	1,000	13,006,500	13,505,000	498,500
PCV	21,706,000	21,706,000	0	17,094,000	17,094,000	0	16,169,600	16,169,600	0	18,875,800	18,475,800	400,000	21,303,000	21,303,000	0
Rota Virus Vaccine	8,641,500	8,641,500	0	9,483,000	9,483,000	0	13,474,500	13,474,500	0	13,755,000	13,689,000	66,000	10,347,000	12,259,950	1,912,950

Annex 8b: Stock reconciliation at FDI

Stock reconciliation for 2019

ANTIGEN	UoM	OPENING BALANCE as of 1 Jan 2019 (A)	TOTAL RECEIPTS (Vaccine Register/Stock Card) [Jan '19 - Dec' 19]	TOTAL ISSUES (Vaccine Register/Stock Card) [Jan '19 - Dec' 19]	ADJUSTMENTS (damages, expiries etc.) [Jan '19 - Dec' 19]	EXPECTED BALANCE (B)	STOCK BALANCE (C)	VARINANCE (C-B)
Pentavalent vaccine	(1 Vial = 1 dose)	2,083,866	16,160,112	17,941,212		302,766	119	302,647
Inactivated Polio vaccine (IPV)	(1 Vial = 10 doses)	1,088,690	6,966,800	7,545,320		510,170	137,500	372,670
Pneumococcal Conjugate Vaccine (PCV)	(1 Vial = 4 doses)	2,932,800	21,706,000	19,350,400		5,288,400	5,319,200	30,800
Measles and Rubella	(1 Vial = 10 doses)	4,336,200	14,027,000	13,705,060		4,658,140	4,740,800	82,660
BCG	(1 Vial = 20 doses)	8,953,200	5,820,000	12,631,240		2,141,960	2,062,000	79,960

Stock reconciliation for 2020

ANTIGEN	UoM	OPENING BALANCE as of 1 Jan 2020 (A)	TOTAL RECEIPTS (Vaccine Register/Stock Card) [Jan '20 - Dec' 20]	TOTAL ISSUES (Vaccine Register/Stock Card) [Jan '20 - Dec' 20]	ADJUSTMENTS (damages, expiries etc.) [Jan '20 - Dec' 20]	EXPECTED BALANCE (B)	STOCK BALANCE (C)	VARINANCE (C-B)
Pentavalent vaccine	(1 Vial = 1 dose)	119	19,615,485	17,592,686		2,022,918	2,027,142	4,224
Inactivated Polio vaccine (IPV)	(1 Vial = 10 doses)	137,500	9,392,400	7,992,090		1,537,810	1,657,800	119,990
Pneumococcal Conjugate Vaccine (PCV)	(1 Vial = 4 doses)	5,319,200	17,094,000	19,273,400		3,139,800	3,215,000	75,200
Measles and Rubella	(1 Vial = 10 doses)	4,740,800	17,159,800	15,497,740		6,402,860	6,524,000	121,140
BCG	(1 Vial = 20 doses)	2,062,000	17,553,000	15,227,020		4,387,980	4,366,600	21,380

Stock reconciliation for 2021

ANTIGEN	UoM	OPENING BALANCE as of 1 Jan 2021 (A)	TOTAL RECEIPTS (Vaccine Register/Stock Card) [Jan '21 - Dec' 21]	TOTAL ISSUES (Vaccine Register/Stock Card) [Jan '21 - Dec' 21]	ADJUSTMENTS (damages, expiries etc.) [Jan '21 - Dec' 21]	EXPECTED BALANCE (B)	STOCK BALANCE (C)	VARINANCE (C-B)
Pentavalent vaccine	(1 Vial = 1 dose)	2,027,142	23,581,553	18,829,607		6,779,088	7,474,380	695,292
Inactivated Polio vaccine (IPV)	(1 Vial = 10 doses)	1,657,800	13,161,000	10,147,100		4,671,700	4,441,960	229,740
Pneumococcal Conjugate Vaccine (PCV)	(1 Vial = 4 doses)	3,215,000	16,169,600	18,588,176		796,424	918,824	122,400
Measles and Rubella	(1 Vial = 10 doses)	6,524,000	7,891,500	14,158,930		256,570	2,551,600	2,295,030
BCG	(1 Vial = 20 doses)	4,366,600	11,099,000	14,505,820		959,780	891,940	67,840

Stock reconciliation for 2022

ANTIGEN	UoM	OPENING BALANCE as of 1 Jan 2022 (A)	TOTAL RECEIPTS (Vaccine Register/Stock Card) [Jan '22 - Dec' 22]	TOTAL ISSUES (Vaccine Register/Stock Card) [Jan '22 - Dec' 22]	ADJUSTMENTS (damages, expiries etc.) [Jan '22 - Dec' 22]	EXPECTED BALANCE (B)	STOCK BALANCE (C)	VARINANCE (C-B)
Pentavalent vaccine	(1 Vial = 1 dose)	7,474,380	15,573,548	17,573,275		5,474,653	5,544,591	69,938
Inactivated Polio vaccine (IPV)	(1 Vial = 10 doses)	4,441,960	16,673,000	12,956,590		8,158,370	7,648,100	510,270
Pneumococcal Conjugate Vaccine (PCV)	(1 Vial = 4 doses)	918,824	22,475,800	19,900,704		3,493,920	3,333,400	160,520
Measles and Rubella	(1 Vial = 10 doses)	2,551,600	14,498,000	13,374,640		3,674,960	7,720,290	4,045,330
BCG	(1 Vial = 20 doses)	891,940	19,225,000	13,687,180		6,429,760	6,147,460	282,300

Stock reconciliation for 2023

ANTIGEN	UoM	OPENING BALANCE as of 1 Jan 2023 (A)	TOTAL RECEIPTS (Vaccine Register/Stock Card) [Jan '23 - Dec' 23]	TOTAL ISSUES (Vaccine Register/Stock Card) [Jan '23 - Dec' 23]	ADJUSTMENTS (damages, expiries etc.) [Jan '23 - Dec' 23]	EXPECTED BALANCE (B)	STOCK BALANCE (C)	VARINANCE (C-B)
Pentavalent vaccine	(1 Vial = 1 dose)	5,544,591	16,123,900	19,133,916		2,534,575	2,534,575	0
Inactivated Polio vaccine (IPV)	(1 Vial = 10 doses)	7,648,100	11,769,000	15,314,570		4,102,530	3,842,000	260,530
Pneumococcal Conjugate Vaccine (PCV)	(1 Vial = 4 doses)	3,333,400	21,303,000	20,796,200		3,840,200	3,840,200	0
Measles and Rubella	(1 Vial = 10 doses)	7,720,290	11,389,500	16,881,260		2,228,530	2,518,900	290,370
BCG	(1 Vial = 20 doses)	6,147,460	12,284,000	16,558,600		1,872,860	1,872,860	0

Annex 8c: Stock reconciliation at PVS/FTVS

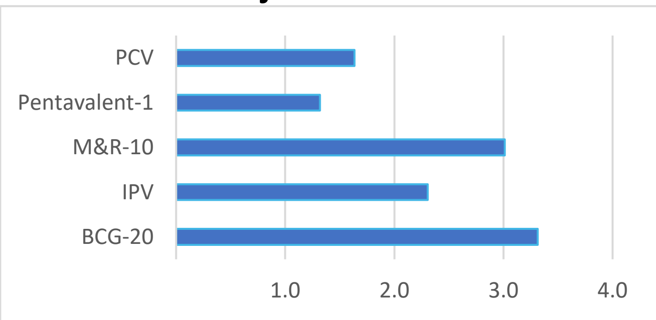
Province/Federating Territory Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)
Punjab – 1	834,982	834,982	0	1,094,200	1,094,200	0	1,080,660	1,080,660	0	1,954,000	1,954,000	0	1,424,600	1,424,600	0
Sindh	134,569	134,569	0	58,900	58,900	0	414,200	414,200	0	25,510	25,500	10	58,000	58,000	0
Punjab - 2 (Multan)	208,564	127,556	81,008	1,355,600	151,700	1,203,900	318,052	182,600	135,452	238,500	94,500	144,000	250,000	281,700	-31,700
Khyber Pakhtunkhwa (KP)	59,477	65,364	-5,887	306,010	120,370	185,640	61,152	54,016	7,136	0	26,430	-26,430	313,760	313,740	20
Balochistan	59,483	59,483	0	107,100	107,100	0	386,300	386,300	0	66,400	66,400	0	103,820	103,820	0
Azad Jammu and Kashmir (AJK)	78,007	0	78,007	78,090	73,600	4,490	17,920	0	17,920	66,180	0	66,180	30,000	0	30,000
Gilgit-Baltistan (GB)	10,374	10,374	0	2,330	2,330	0	7,300	7,300	0	2,250	2,250	0	1,409	1,409	0

Annex 8d: Stock reconciliation at DVS

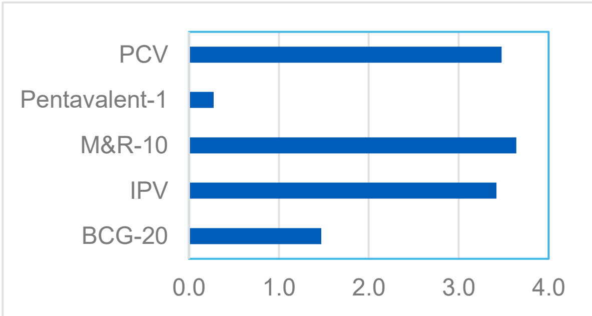
District Vaccine Store Name	Pentavalent			IPV			PCV			MR			BCG		
	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)	Expected Balance (f) = (b + c - d - e)	Actual Balance on Stock register as at 31 Dec 2023 (g)	Variances in Expected Balance & Actual balance (f - g)
Hyderabad	300	292	8	9,920	9,920	0	6,800	6,800	0	50	50	0	960	960	0
Multan	174	174	0	9,200	9,200	0	12,800	12,800	0	6,100	6,100	0	6,700	6,700	0
Lahore District	12,672	12,672	0	22,000	22,000	0	28,200	28,200	0	9,000	9,000	0	26,000	26,000	0
Karachi Central District(Nazimabad)	10,210	10,210	0	16,500	16,500	0	21,400	21,400	0	-410	400	-810	11,000	11,000	0
Gujrat	41,796	41,796	0	50,960	50,960	0	60,896	60,896	0	41,980	41,980	0	38,760	38,760	0
Peshawar	-42,843	35,518	-78,361	29,960	69,490	-39,530	0	51,804	-51,804	0	28,630	-28,630	202,640	168,600	34,040
Quetta	2,700	2,700	0	3,640	3,640	0	3,340	3,340	0	15,280	15,280	0	9,620	9,620	0
Abbotabad	2,810,758	4,668	2,806,090	223,392	4,340	219,052	766,569	4,768	761,801	244,903	3,390	241,513	160,707	4,500	156,207
Muzafarabbad	18,100	18,100	0	1,439	1,439	0	6,801	6,801	0	2,063	2,063	0	272	268	4
Gilgit	6,468	2,542	3,926	55	518	-463	250	298	-48	784	141	643	483	511	-28

Annex 9: Stock levels at PVS/FTVS on the day of the audit

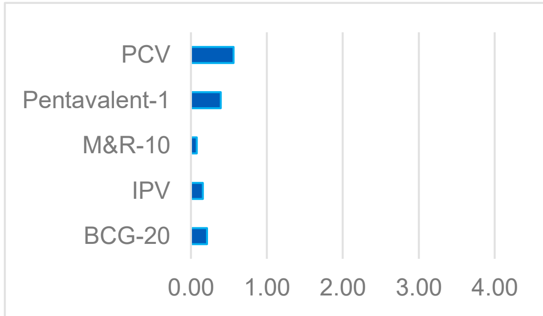
Punjab EPI Store

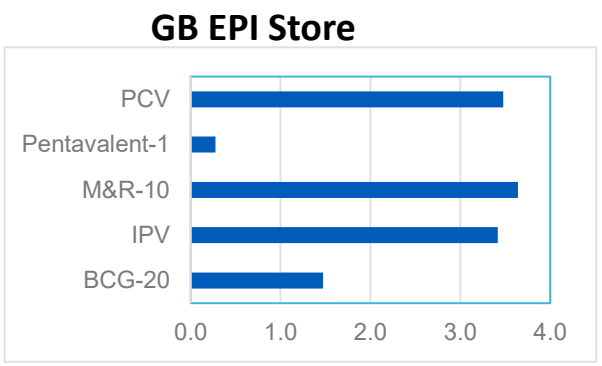


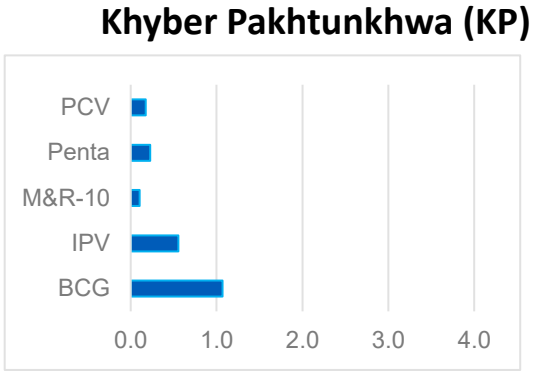
GB EPI Store

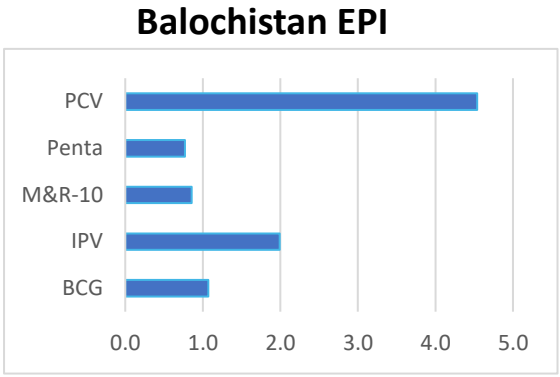


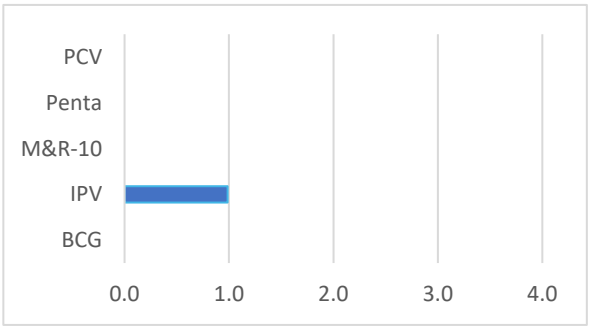
Sindh EPI Store











Annex 10a: Variances between physical counts and stock records at PVS/FTVS

Province/Federating Territory Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c) - Penta	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)
Punjab – 1	834,982	834,982	0	1,094,200	1,094,200	0	1,080,740	1,080,740	0	1,954,000	1,954,000	0	1,424,600	1,424,600	0
Sindh	350,191	138,240	-211,951	35,400	60,000	24,600	610,800	410,400	-200,400	47,000	25,000	-22,000	48,000	58,000	10,000
Punjab - 2 (Multan)	127,556	127,680	124	151,700	151,400	-300	182,600	182,600	0	94,500	94,500	0	281,700	281,700	0
Khyber Pakhtunkhwa (KP)	65,364	65,364	0	120,370	120,370	0	54,016	54,016	0	26,430	26,430	0	313,740	313,740	0
Balochistan	59,483	59,483	0	107,100	107,100	0	386,300	386,300	0	66,400	66,400	0	103,820	103,820	0
Azad Jammu and Kashmir (AJK)	0	0	0	73,600	0	-73,600	0	0	0	0	0	0	0	0	0
Gilgit-Baltistan (GB)	3,868	2,256	-1,612	2,469	1,880	-589	3,018	6,500	3,482	3,167	1,926	-1,241	1,076	900	-176

Annex 10b: Variances between physical counts and stock records at DVS

District Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)
Hyderabad	86,584	86,584	0	6,174	6,174	0	41,639	41,650	11	100	100	0	457	457	0
Multan	174	174	0	9,200	9,200	0	12,800	12,800	0	6,100	6,100	0	6,700	7,700	1,000
Lahore	12,672	12,672	0	22,000	22,000	0	28,200	28,200	0	9,000	9,000	0	26,000	26,000	0
Karachi Central (Nazimabad)	10,210	10,210	0	16,500	16,500	0	21,400	21,400	0	639	400	-239	11,000	11,000	0
Gujrat	41,796	41,796	0	50,960	50,960	0	60,896	60,896	0	41,980	41,980	0	38,760	38,760	0
Peshawar	35,518	10,850	-24,668	69,490	18,390	-51,100	51,804	18,520	-33,284	28,630	3,520	-25,110	168,600	84,100	-84,500
Quetta	2,700	2,563	-137	3,640	3,580	-60	3,340	3,284	-56	15,280	15,280	0	9,620	9,300	-320
Abbotabad	4,668	4,668	0	4,340	4,340	0	4,768	4,768	0	3,390	3,390	0	4,500	4,500	0
Muzafarabbad	18,100	18,046	-54	1,439	1,422	-17	6,801	6,795	-6	2,063	2,055	-8	268	265	-3
Gilgit	2,542	5,274	2,732	518	602	84	298	775	477	141	484	343	511	106	-405

Annex 10c: Variances between physical counts and stock records at TVS

Tehsil Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)
Qasimabad	832	816	-16	920	920	0	360	360	0	10	10	0	1,220	1,220	0
Hyderabad Rural RHC Tando Jam	562	562	0	100	100	0	2,000	2,000	0	10	10	0	800	800	0
Garhi Shahu	650	650	0	2,420	2,420	0	2,000	2,000	0	4,330	4,330	0	1,480	1,480	0
City Taluka Store Sindh Government hospital Pretabad	630	630	0	2,450	2,450	0	2,756	2,800	44	10	10	0	460	460	0
Multan Rural	40	40	0	1,640	1,640	0	1,400	1,400	0	2,600	2,500	-100	4,740	4,740	0
North Nazimabad Town Council Vaccine Store	1,302	1,352	50	820	820	0	1,408	1,408	0	330	330	0	660	660	0
North KarachiTown Council	4,904	4,904	0	1,920	1,920	0	800	800	0	100	100	0	120	120	0
Kharian	264	264	0	110	110	0	164	164	0	90	90	0	60	60	0
Gujrat	10	10	0	50	50	0	40	40	0	50	50	0	100	100	0

Annex 10d: Variances between physical counts and stock records at HFs

Health Facility	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)
CMC DOLAT GATE	10	10	0	10	10	0	20	20	0	40	40	0	60	60	0
SGH Qasimabad	241	169	-72	111	90	-21	181	144	-37	0	0	0	60	60	0
GD Marvi Garden	45	44	-1	157	150	-7	105	96	-9	10	10	0	20	20	0
BHU BASTI ALMAGIR	5	5	0	60	60	0	4	4	0	20	20	0	60	60	0
RHC Tando Qaiser	43	42	-1	170	169	-1	80	79	-1	80	80	0	320	320	0
Basic health unit Khessana Mori	75	75	0	66	1	-65	41	41	0	0	0	0	160	160	0
UC 75 - M.C.H Center Muhammad Nagar	10	10	0	150	150	0	0	0	0	0	80	80	120	120	0
Trauma Center	67	35	-32	60	60	0	74	40	-34	30	10	-20	320	280	-40
UC-96 EPI Centre Basti Saidan Shah	92	92	0	100	100	0	24	24	0	90	90	0	40	40	0
BHU Alipur Saadaat Health Facility	31	31	0	20	20	0	4	4	0	60	60	0	60	60	0

Health Facility	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)	Quantity on Manual register/Stock card (c)	Total Quantity Counted (a)	Variance in Quantities counted (a - c)
Health Facility Urban 113	34	34	0	100	100	0	20	20	0	40	40	0	40	40	0
BHU Inayatpur	114	114	0	80	80	0	56	56	0	60	60	0	180	180	0
BHU Murala Gujran	72	72	0	130	130	0	72	72	0	50	50	0	60	60	0
THQ Shabbir Sharif, Kunjah	197	197	0	29	29	0	396	396	0	420	420	0	660	660	0
THQ Hospital Kharian	30	30	0	90	90	0	40	40	0	120	120	0	100	100	0
UC 2 - Sindh Children Hospital - Farooq E Azam	250	250	0	75	70	-5	303	300	-3	110	110	0	20	20	0
UC 07 Hyderi (Meryam) Hospital	634	634	0	392	401	9	689	665	-24	130	130	0	80	80	0
UC 11 Hakim Ahsun	482	432	-50	340	340	0	276	276	0	140	140	0	420	420	0
UC 04 – Kalaschool (Sindh Govt Kal Market Hospital)	46	34	-12	50	50	0	144	156	12	80	80	0	280	260	-20
UC 12 – Kalyana (Urban Health Center)	168	153	-15	10	0	-10	168	172	4	160	150	-10	160	160	0
DHQ Gilgit - Health Facility	415	391	-24	30	7	-23	108	108	0	36	27	-9	82	34	-48
CD Gulbahar Town	191	191	0	195	195	0	183	183	0	200	200	0	170	170	0
ACD Danyore	165	120	-45	12	11	-1	38	27	-11	26	22	-4	7	6	-1
RasheedAbad-Yaka Toot	284	276	-8	337	337	0	327	313	-14	220	220	0	160	160	0
Cantt Hospital	253	247	-6	220	220	0	284	284	0	90	90	0	60	60	0
Basic Health Unit Kakul	326	326	0	238	238	0	324	324	0	210	210	0	220	220	0
District Abbottabad	98	98	0	69	69	0	99	99	0	60	60	0	100	100	0
Benazir Bhutto Hospital	65	65	0	70	70	0	65	65	0	80	80	0	140	140	0
ACD Furfoo Bagroot	23	22	-1	2	1	-1	2	2	0	2	1	-1	2	2	0
Balochistan Institute Of Child Health Service	576	576	0	400	400	0	504	504	0	460	420	-40	300	300	0
BHU Jalalabad	105	74	-31	10	7	-3	25	17	-8	24	21	-3	6	4	-2
Christian Hospital Quetta	318	318	0	180	180	0	302	302	0	390	390	0	120	120	0
Cantt General Hospital	136	152	16	119	120	1	133	152	19	130	130	0	120	120	0
Sandeman Provincial Hospital	209	288	79	190	200	10	193	248	55	260	290	30	200	220	20
ACD PARRI	154	148	-6	12	10	-2	44	39	-5	15	15	0	10	10	0
FAP JUTAL	67	51	-16	6	6	0	25	21	-4	15	12	-3	2	1	-1
BHU NOMAL	110	83	-27	3	1	-2	25	17	-8	11	8	-3	4	3	-1
CMH Hospital- Muzaffarabad	892	889	-3	435	580	145	892	756	-136	410	410	0	140	480	340
Abbas Institute of Medical Sceinces (AIMS) Hospital - Mzd	374	374	0	220	220	0	374	374	0	210	210	0	400	400	0
Mother Child Health Centre-Chehla Bandi - Mzd	153	153	0	62	80	18	153	152	-1	100	100	0	80	80	0
BHU Jhangi Syedan	1,418	1,418	0	600	600	0	1,409	1,424	15	1,110	1,110	0	840	840	0
RHC Tarlai	997	1,032	35	640	650	10	1,261	1,328	67	690	720	30	900	860	-40

Annex 11a: Variances between vLMIS & Stock registers at PVS/FTVS

Province/Federating Territory Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)
Punjab - 1	834,982	834,982	0	1,094,200	1,094,200	0	1,080,740	1,080,740	0	1,954,000	1,954,000	0	1,424,600	1,424,600	0
Sindh	350,191	134,569	-215,622	35,400	58,900	23,500	610,800	414,200	-196,600	47,000	25,500	-21,500	48,000	58,000	10,000
Punjab - 2 (Multan)	127,556	0	-127,556	151,700	0	-151,700	182,600	0	-182,600	94,500	0	-94,500	281,700	0	-281,700
Khyber Pakhtunkhwa (KP)	65,364	65,364	0	120,370	120,370	0	54,016	54,016	0	26,430	26,450	20	313,740	313,740	0
Balochistan	59,483	59,483	0	107,100	107,100	0	386,300	386,300	0	66,400	66,400	0	103,820	103,820	0

Province/Federating Territory Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)
Azad Jammu and Kashmir (AJK)	0	85,111	85,111	73,600	12,490	-61,110	0	57,668	57,668	0	74,000	74,000	0	32,100	32,100
Gilgit-Baltistan (GB)	3,868	10,374	6,506	2,469	2,330	-139	3,018	7,300	4,282	3,167	2,250	-917	1,076	1,409	333

Annex 11b: Variances between vLMIS & Stock registers at DVS

District Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance in Quantities counted (b - c)
Hyderabad	86,584	86,584	0	6,174	6,174	0	41,639	41,639	0	100	100	0	457	457	0
Multan	174	0	-174	9,200	0	-9,200	12,800	0	-12,800	6,100	0	-6,100	6,700	0	-6,700
Lahore	12,672	12,672	0	22,000	22,000	0	28,200	28,200	0	9,000	9,000	0	26,000	26,000	0
Karachi Central (Nazimabad)	10,210	10,210	0	16,500	16,500	0	21,400	21,400	0	639	400	-239	11,000	11,000	0
Gujrat	41,796	21,828	-19,968	50,960	29,960	-21,000	60,896	32,096	-28,800	41,980	20,980	-21,000	38,760	20,760	-18,000
Peshawar	35,518	34,072	-1,446	69,490	71,750	2,260	51,804	33,760	-18,044	28,630	28,910	280	168,600	273,440	104,840
Quetta	2,700		-2,700	3,640	0	-3,640	3,340	0	-3,340	15,280	0	-15,280	9,620		-9,620
Abbotabad	4,668	5,341	673	4,340	6,470	2,130	4,768	4,768	0	3,390	6,100	2,710	4,500	10,060	5,560
Muzafarabbad	18,100	0	-18,100	1,439	0	-1,439	6,801	0	-6,801	2,063	0	-2,063	268	0	-268
Gilgit	2,542	0	-2,542	518	0	-518	298	0	-298	141	0	-141	511	0	-511

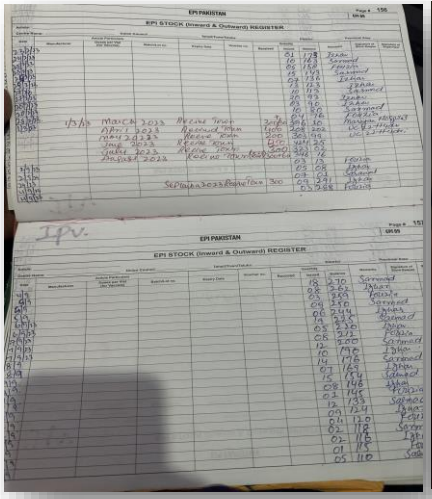
Annex 11c: Variances between vLMIS & Stock registers at TVS

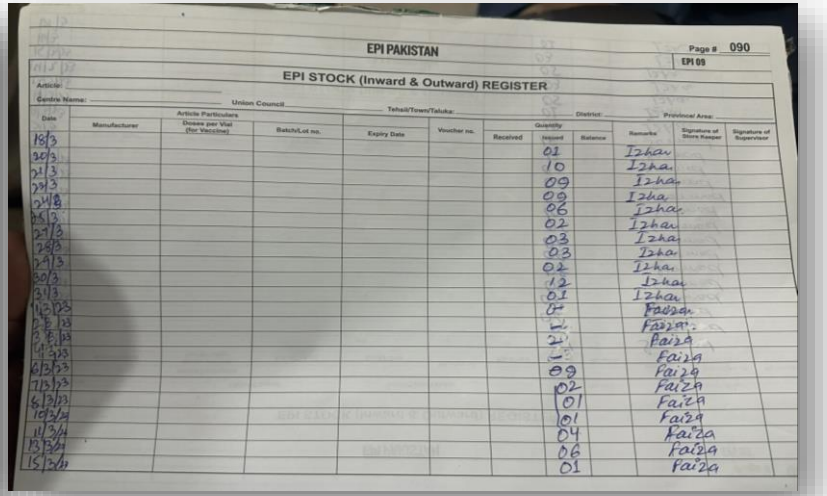
Tehsil Vaccine Store	Pentavalent			IPV			PCV			MR			BCG		
	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance (b - c)	Quantity on Manual register/Stock card (c)	Quantity on vLMIS (b)	Variance (b - c)
Qasimabad	832	7,770	6,938	920	4,390	3,470	360	10,216	9,856	10	0	-10	1,220	6,440	5,220
Hyderabad Rural RHC Tando Jam	562	562	0	100	100	0	2,000	2,000	0	10	10	0	800	800	0
Garhi Shahu	650	36,526	35,876	2,420	11,070	8,650	2,000	77,384	75,384	4,330	15,090	10,760	1,480	17,320	15,840
City Taluka Store Sindh Government hospital Pretabad	630	630	0	2,450	2,450	0	2,756	2,756	0	10	10	0	460	460	0
Multan Rural	40	0	-40	1,640	0	-1,640	1,400	0	-1,400	2,600	0	-2,600	4,740	0	-4,740
North Nazimabad Town Council Vaccine Store	1,302	1,352	50	820	820	0	1,408	1,408	0	330	330	0	660	660	0
North KarachiTown Council	4,904	4,904	0	1,920	1,920	0	800	800	0	100	100	0	120	120	0
Kharian	264	1,532	1,268	110	1,030	920	164	10,896	10,732	90	1,860	1,770	60	1,460	1,400
Gujrat	10	12,629	12,619	50	11,830	11,780	40	24,224	24,184	50	21,410	21,360	100	15,160	15,060

Annex 12: Extract of Excel Output from vLMIS at a Sub National Vaccine Store

S.No	Voucher Date	Voucher Number	Type	Batch No.	Expiry	Qty Vials Receive	Qty Vials Issue	Batch Balance Doses	Batch Balance Vials	Product Balance Doses	Product Balance Vials
171	30/04/2019	I19040128	Issue	220113218A	30/06/2021		50,000	-100,000	-100,000	-37,145	-37,145
172	30/04/2019	I19040129	Issue	2PLK004D18	31/08/2020		30,000	3,890	3,890	-67,145	-67,145
1685	05/09/2023	I23090004	Issue	220101523C	31/07/2025		15,310	24,862	24,862	-10,848	-10,848
1686	05/09/2023	I23090004	Issue	220102523A	30/09/2025		3,890	0	0	-14,738	-14,738
1687	05/09/2023	I23090005	Issue	220101523C	31/07/2025		13,056	11,806	11,806	-27,794	-27,794
1688	05/09/2023	I23090005	Issue	220101523C	31/07/2025		5,900	5,906	5,906	-33,694	-33,694
1689	05/09/2023	I23090005	Issue	220101523C	31/07/2025		1,298	4,608	4,608	-34,992	-34,992
1690	05/09/2023	I23090006	Issue	220101523C	31/07/2025		4,608	0	0	-39,600	-39,600

Annex 13: Incomplete stock registers at the health facilities





Annex 14a: Stock Outs at PVS/FTVS

Province/Federating Territory Vaccine Store	Pentavalent		IPV		PCV		MR		Rota Virus Vaccine		TCV		BCG	
	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days
Punjab - 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sindh	0	0	84	56	17	11	37	21	0	0	0	0	74	45
Punjab - 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Khyber Pakhtunkhwa (KP)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balochistan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Azad Jammu and Kashmir (AJK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gilgit-Baltistan (GB)	0	0	0	0	0	0	7	7	0	0	0	0	0	0

Annex 14b: Stock Outs at DVS

Division Vaccine Store Name	Pentavalent		IPV		PCV		MR		Rota Virus Vaccine		TCV		BCG	
	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days
Hyderabad	0	0	105	64	1	0	67	39	77	42	39	32	48	12
Multan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lahore	45	27	25	13	34	21	34	16	0	0	0	0	0	0
Karachi Central (Nazimabad)	97	46	47	11	97	46	74	46	121	46	72	34	193	101
Gujrat	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peshawar	0	0	0	0	0	0	17	9	39	39	0	0	22	22
Quetta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abbotabad	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muzafarabbad	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gilgit	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annex 14c: Stock Outs at TVS

Tehsil Vaccine Store Name	Pentavalent		IPV		PCV		MR		Rota Virus Vaccine		TCV		BCG	
	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days	Total number of stock out days	Max. number of stock out days
Qasimabad	0	0	14	14	20	20	0	0	66	20	17	17	0	0
Hyderabad Rural RHC Tando Jam	12	6	8	6	23	9	14	14	24	10	65	22	132	47
Garhi Shahu	25	9	0	0	0	0	0	0	0	0	0	0	4	4
City Taluka Store Sindh Government hospital Pretabad	0	0	208	208	110	110	86	86	207	207	31	20	81	74

Multan Rural	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Nazimabad Town Council Vaccine Store	0	0	0	0	0	0	37	13	67	32	134	33	0	0
North KarachiTown Council	29	29	179	57	54	29	141	62	143	55	136	48	0	0
Kharian	112	74	0	0	0	0	31	31	0	0	0	0	0	0
Gujrat	31	31	0	0	14	14	0	0	34	34	0	0	0	0

Annex 15: Order fill rate for selected vaccines in 2023

Vaccine	Sindh			Punjab			KP			Gilgit Baltistan			Balochistan			CDA			Average	Min	Max
	Quantity on Approved Allocation	Quantity issued to the Province	OFR	Quantity on Approved Allocation	Quantity issued to the Province	OFR	Quantity on Approved Allocation	Quantity issued to the Province	OFR	Quantity on Approved Allocation	Quantity issued to the Province	OFR	Quantity on Approved Allocation	Quantity issued to the Province	OFR	Quantity on Approved Allocation	Quantity issued to the Province	OFR			
BCG-20	3,427,987	3,506,000	102%	7,739,856	7,021,380	91%	5,474,720	4,489,060	82%	265,877	261,320	98%	859,420	802,000	93%	120,000	119,000	99%	94%	82%	102%
IPV	3,571,104	3,413,400	96%	8,639,628	8,021,340	93%	3,078,330	2,979,710	97%	108,956	104,450	96%	537,150	474,800	88%	60,000	57,000	95%	94%	88%	97%
M&R-10	3,967,893	4,333,720	109%	8,639,628	8,338,890	97%	3,078,330	2,865,000	93%	123,813	116,000	94%	902,390	800,500	89%	75,000	73,000	97%	96%	89%	109%
Pentavalent	4,999,545	3,637,770	73%	10,885,932	10,544,055	97%	3,878,687	3,442,226	89%	156,005	122,136	78%	1,353,598	865,546	64%	96,000	88,640	92%	82%	64%	97%
PCV	5,285,233	4,478,400	85%	11,507,988	10,962,652	95%	4,100,328	3,699,200	90%	163,433	159,000	97%	1,430,944	975,000	68%	96,000	93,200	97%	89%	68%	97%
Rotarix	3,333,030	2,684,450	81%	7,257,288	6,661,000	92%	2,585,791	2,408,250	93%	104,003	77,850	75%	902,397	622,550	69%	60,000	59,650	99%	85%	69%	99%

Annex 16a: Inadequately supported expenditure

Name of Sub-grantee	Details	Inadequately supported (PKR)	Exchange rate*	Inadequately supported (USD)	Audit comments
Civil Society Human and Institutional Development Program (CHIP)	Salary for ACSD Coordinators	11,634,730	192	60,597	Coordinators monthly reports not attached to payment vouchers as required by the Coordinators Terms of Reference.

Annex 16b: Variances between sub-granted amounts and FACE forms

IP name	Date	IP Records/ FACE Forms (PKR)	UNICEF Records (PKR)	Difference (PKR)
MEDICAL EMERGENCY RESILIENCE FOUNDATION (MERF) - 2500241602	27-May-22	1,688,254.00	-	1,688,254
	13-Apr-21	1,982,500	-	1,982,500

IP name	Date	IP Records/ FACE Forms (PKR)	UNICEF Records (PKR)	Difference (PKR)
CIVIL SOCIETY HUMAN AND INSTITUTIONAL DEVELOPMENT PROGRAMME (CHIP) - 2500221098	28-Jul-21	5,279,000	-	5,279,000
	3-Jul-19	9,933,342	-	9,933,342
	22-Aug-19	9,393,810	-	9,393,810
DEPUTY DIRECTOR, EPI KPK	29-Sep-21	34,501,000.00	-	34,501,000
	5-Jul-22	75,430,440.00	12,664,000	62,766,440
	9-Jun-24	37,145,410.00	11,987,410	25,158,000
	10-Nov-22	167,503,280.00	11,943,855	155,559,425
Total	**PKR**	**342,857,036**	**36,595,265**	**306,261,771**
Total	**USD**	**1,785,706**	**190,599**	**1,595,106**

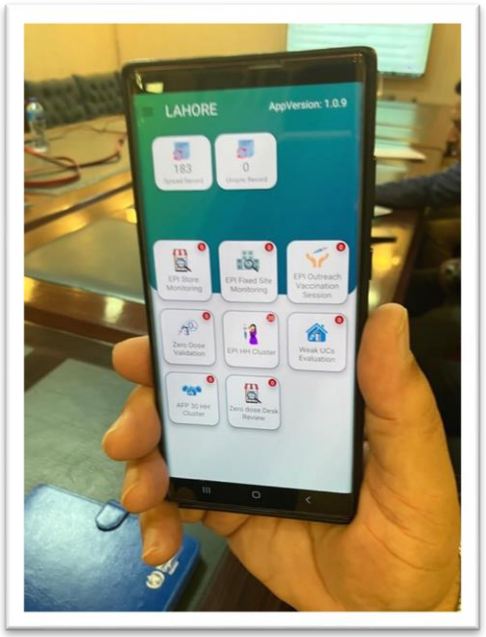
Annex 17a: Uncoordinated support supervision

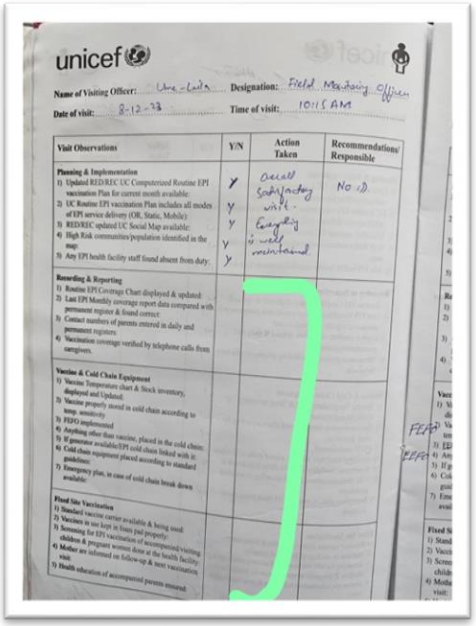
EXTRACT FROM EPI Store monitoring and EPI Fixed site Monitoring REPORT

Province	District	Tehsil	Union Council	EPI Center	Supervisory visit carried out at EPI Center during last 30 days?	Created By	Created On
PUNJAB	MULTAN	MULTAN RURAL	MAKHDOOM RASHID	BHU 11MR	Yes	ASV Multan Sadar1	22/05/2024
PUNJAB	MULTAN	MULTAN RURAL	MAKHDOOM RASHID	BHU 11MR	Yes	ASV Multan Sadar1	20/06/2024
PUNJAB	MULTAN	MULTAN RURAL	KOTLA MAHARAN	BHU	Yes	Muhammad Imran	21/02/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	DDHO Jalalpur Pir Wala	17/02/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	ASV Multan JPPW	17/02/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	Majid Zahoor	23/02/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	Dr. Zeeshan Haider Gardezi	04/03/2024

Province	District	Tehsil	Union Council	EPI Center	Supervisory visit carried out at EPI Center during last 30 days?	Created By	Created On
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	ASV Multan JPPW	05/03/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	DDHO Jalalpur Pir Wala	05/03/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	ASV Multan JPPW	15/03/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	DDHO Jalalpur Pir Wala	15/03/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	Majid Zahoor	08/04/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	ASV Multan JPPW	22/04/2024
PUNJAB	MULTAN	MULTAN RURAL	BANGAL WALA	BHU	Yes	Muhammad Imran	23/04/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	DDHO Jalalpur Pir Wala	22/04/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	DDHO Jalalpur Pir Wala	10/05/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	ASV Multan JPPW	10/05/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	ASV Multan JPPW	20/06/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	Majid Zahoor	24/06/2024
PUNJAB	MULTAN	JALALPUR PIRWALA	BAHADER PUR	bhu bahadar pur	Yes	DDHO Jalalpur Pir Wala	20/06/2024
PUNJAB	MULTAN	MULTAN RURAL	LOOTHER	BHU Loother	Yes	Muhammad Imran	21/02/2024

Annex 17b: Unstandardised support supervision registers

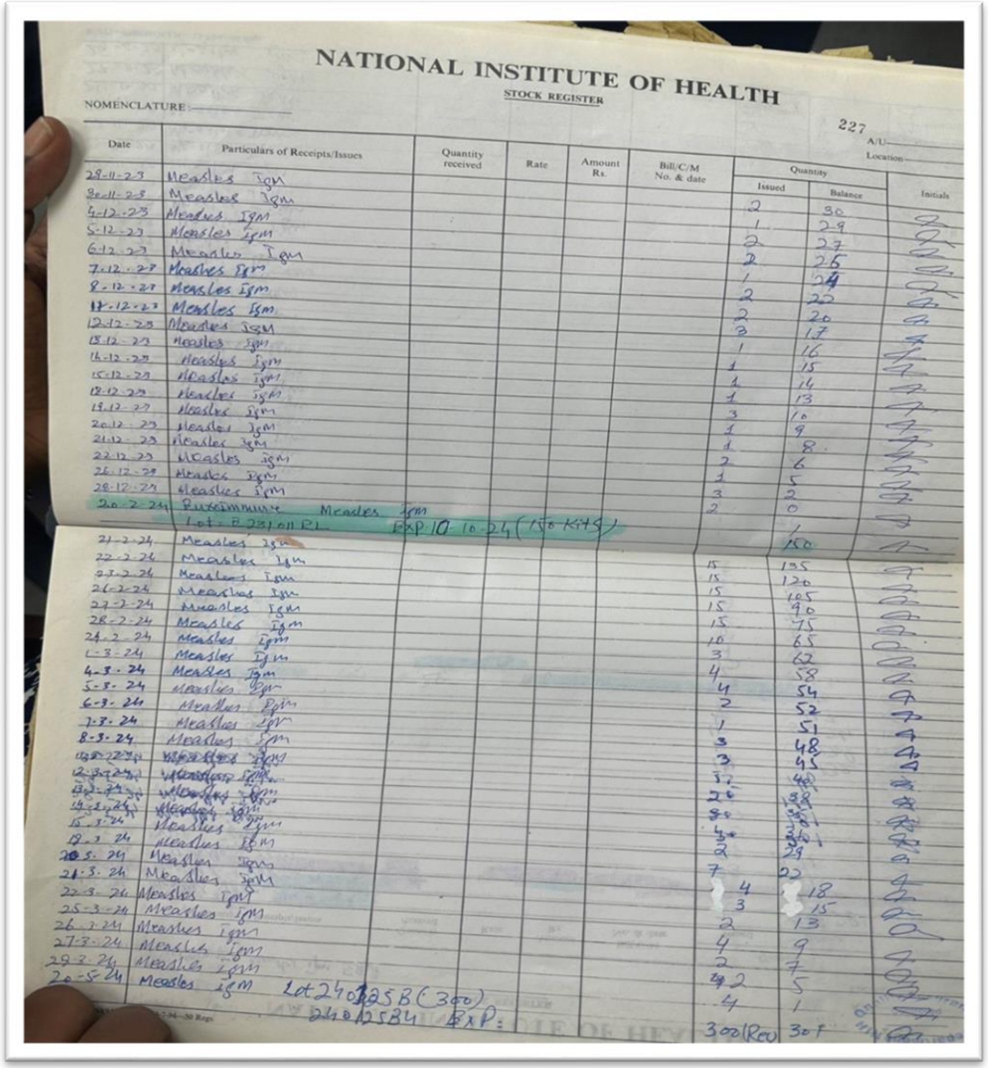




Annex 17c: Lack of documented feedback

PHO	Does the FDI/Partners provide written feedback to the province after supervision? Was there evidence?
Punjab	NO
Sindh	NO
Khyber Pakhtunkhwa (KP)	YES
Balochistan	NO

Annex 18: Reported stock outs of laboratory supplies and sample collection kits



NATIONAL INSTITUTE OF HEALTH

STOCK REGISTER

NOMENCLATURE:

227

A/U

Location

Date	Particulars of Receipts/Issues	Quantity received	Rate	Amount Rs.	Bill/C/M No. & date	Quantity Issued	Quantity Balance	Initials
28-11-23	Measles IgM					2	30	
30-11-23	Measles IgM					1	29	
4-12-23	Measles IgM					2	27	
5-12-23	Measles IgM					2	25	
6-12-23	Measles IgM					1	24	
7-12-23	Measles IgM					2	22	
8-12-23	Measles IgM					2	20	
11-12-23	Measles IgM					3	17	
12-12-23	Measles IgM					1	16	
13-12-23	Measles IgM					1	15	
14-12-23	Measles IgM					1	14	
15-12-23	Measles IgM					1	13	
18-12-23	Measles IgM					3	10	
19-12-23	Measles IgM					1	9	
20-12-23	Measles IgM					1	8	
21-12-23	Measles IgM					2	6	
22-12-23	Measles IgM					1	5	
26-12-23	Measles IgM					3	2	
28-12-23	Measles IgM					2	0	
20-2-24	Euroimmune Measles IgM Lot: E231011RL EXP 10-10-24 (150 Kits)						150	
21-2-24	Measles IgM					15	135	
22-2-24	Measles IgM					15	120	
23-2-24	Measles IgM					15	105	
26-2-24	Measles IgM					15	90	
27-2-24	Measles IgM					15	75	
28-2-24	Measles IgM					10	65	
29-2-24	Measles IgM					3	62	
1-3-24	Measles IgM					4	58	
4-3-24	Measles IgM					4	54	
5-3-24	Measles IgM					2	52	
6-3-24	Measles IgM					1	51	
7-3-24	Measles IgM					3	48	
8-3-24	Measles IgM					3	45	
11-3-24	Measles IgM					5	40	
12-3-24	Measles IgM					2	38	
13-3-24	Measles IgM					3	35	
14-3-24	Measles IgM					4	31	
15-3-24	Measles IgM					2	29	
18-3-24	Measles IgM					7	22	
20-3-24	Measles IgM					4	18	
21-3-24	Measles IgM					3	15	
22-3-24	Measles IgM					2	13	
25-3-24	Measles IgM					4	9	
26-3-24	Measles IgM					2	7	
27-3-24	Measles IgM					2	5	
29-3-24	Measles IgM					4	1	
20-5-24	Measles IgM Lot 240125B (300) 240125B4 EXP:					300 (Rec)	301	

Annex 19: Detailed management responses

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
Weaknesses in programme leadership at national and sub-national levels	Recommendation 2 To strengthen leadership and oversight of FDI and the national immunisation programme, the Ministry of National Health Services, Regulations and Coordination (MoNHSR&C) should: • Appoint a substantive Director-General for the FDI and • Expedite the ongoing reform process within the Ministry to address critical human resource gaps at the federal level, particularly within the FDI structure.	**Action 1** DG FDI has been appointed and in place since 2nd January 2025 **Audit Note: We note that Dr Soofia Yunus, Deputy Director General Health, has taken on additional duties at FDI director. Gavi is still awaiting official confirmation on permanent appointment** **Action 2** Key positions are either being filled or in the process. Director Technical has been filled with plans to fill Deputy Director Procurement, Deputy Director M&E and Assistant Director Surveillance.	**Action 1** MoNHSR&C **Action 2** MoNHSR&C and FDI	**Action 1** December 2025 **Action 2** December 2025
	Recommendation 2 To strengthen accountability within the Ministry and reinforce country ownership of the immunisation programme, Gavi should: • Collaborate with the MoNHSR&C to establish a robust accountability framework grounded in the National Immunisation Strategy (NIS) and other key strategic documents. This framework should include measurable indicators to hold both federal and provincial authorities accountable for staffing key human resource positions. • Align all programmatic technical assistance with a structured capacity-building agenda, phasing out operational gap-filling activities within a three-year timeline at the federal level. • Within the same accountability framework, define a clear plan for skills transfer at the provincial level, aiming to gradually reduce reliance on Gavi-supported staff during the current 5.0 funding cycle, as new grants are just being implemented.	**Action 3** The development and costing of the NIS were completed in June 2025, along with a robust accountability mechanism. The KP government has endorsed its Provincial immunisation Strategy (PIS), while other provinces are in the final stages of endorsement. **Action 4** Pakistan is approaching the accelerated transition phase in GAVI support, where the GOP will be graduating from the support, and the phasing out plan for all technical assistance will be accounted for to achieve long-term sustainability. **Action 5** The national and provincial immunisation strategies have put emphasis on the accountability framework at all levels. In order to finalise the accountability framework, FDI will work with the expanded partner which was commissioned by Gavi to develop an accountabiltiy framework after a consultative process. Once finalised, the same framework will be added to the NIS/PIS accordingly	**Action 3** FDI and Provincial EPI Programs **Action 4** FDI and Provincial EPI Programs **Action 5** FDI and Gavi	**Action 3** Dec-25 **Action 4** Dec-25 **Action 5** Dec-25
Weaknesses in strategic planning	Recommendation 3	**Action 6**	**Action 6**	**Action 6** December 2025

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
impacting programming	To strengthen strategic planning, MoNHSR&C/FDI should • Complete the development and costing of the NIS in accordance with WHO's IA2030 guidance with leadership of FDI and the provincial levels, along with support from partners; • In the finalisation of the NIS, include strategic and operational indicators that are: specific; measurable; achievable; relevant and timebound. These indicators should then form the single accountability framework for NIS and for Gavi. See recommendation 2.	The consultative process for the NIS/PIS at the national and provincial levels, involving all stakeholders, was started in October 2024. The situational analysis was completed in November/December, followed by the strategic development and M&E framework in January - March 2025, and finally costing in April/May 2025. Although KP governement has endorsed their PIS, there are some final adjustment going on to reflect urban immunisation and routinisation of catch up activities. Once finalised all the provinces and federating areas will endorse their NIS/PIS through the respective health department. The NIS/PIS development process utilised the WHO NIS/PIS and UNICEF costing tools to make it fully aligned with IA2030, EMRO framework and GAVI 6.0 strategy. **Action 7** The National immunisation Strategy (NIS) as well as Provincial immunisation Strategies (PISs) describes yearly objectives and targets at national and provincial levels with a clear accountability framework. For this purpose Monitoring and Evaluation Framework has been developed to ensure implementation and elavaution of all the planned activities formulated under yearly workplans of NIS/PIS.	FDI and Provincial EPI Programs **Action 7** FDI and Provincial EPI Programs	**Action 7** December 2025
Concerns over the sustainability of the programme	Recommendation 4 To address concerns over sustainability of the immunisation programme, the MoNHSR&C/FDI should: • Strengthen advocacy efforts at both national and subnational levels, collaborating with the government to secure increased funding allocations for the immunisation programme and to ensure that co-financing obligations are paid timely • Review available technical capacity funding and develop a transition plan that outlines short-term, medium-term, and long-term actions, along with	**Action 8** Since the commencement of the Pakistan and GAVI partnership agreement framework signed in 2015, the GOP has been fulfilling its co-financing obligations. FDI has been advocating and sensitising provinces in regard to timely meeting of the co-financing obligations leading to timely payments. Target setting and vaccine forecast workshops are annually held by FDI where key stakeholders from health and finance department are called to remain part of such programmatic and financial planning process. In this regard FDI is planning to conduct annual vaccine forecasting exercise in December 2025 for the fiscal year 2026 - 27. So that the respective provincial EPI/Health departments submit the requirements to their finance department prior to commencement of budgetary planning and allocations for the respective fiscal year.	**Action 8** MoNHSR&C	**Action 8** Dec-25

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
	clear responsibilities for each stakeholder. This plan should include a defined and phased approach for skills transfer. • Obtain and share written commitment regarding the absorption of human resources currently funded by Gavi by 2026 as requested by the Gavi IRC.	However, FDI is cognisant of the fact that Pakistan will soon cross the 50% threshold therefore early payment will ensure vaccine availability and no stock out. Moreover, FDI through the MoNHSR&C will continue to work with the Ministry of Inter Provincial Coordination (IPC) to sensitise the provinces in terms of increasing their health budgets and increased investments. **Action 9** Based on Gavi 6.0 TCA policy, FDI will develop the HR transition plan at federal and provincial levels. Approved NIS/PIS will also help to advocate national and provincial government to create or fill desired technical positions in the government. Continuous advocacy would be required from donors/partners to create Schedule of New Expenditure (SNE) that will ensure absorption of key positions required in the government for better sustainability. **Action 10** Through a consultative process, FDI will work with the provinces to obtain commitment from the respective governments to absorb HR supported by Gavi, subject to the fulfilment of legal/codal formalities	**Action 9** FDI and Provincial EPI Programs **Action 10** FDI and Provincial EPI Programs	**Action 9** Jun-26 **Action 10** Dec-26
Oversight through the NICC needs to be improved	Recommendation 5 To address concerns over sustainability of the immunisation programme, the MoNHSR&C/FDI should: • The FDI should strengthen governance oversight mechanisms by ensuring that all meetings are	**Action 11** Recently, FDI revised the composition, terms of reference, and standard operating procedures for NICC and NITAG. In addition, minutes of the NITAG, NICC, other EPI-related committees, TWGs, etc., are now being documented. FDI is also working towards increasing the frequency of these meetings possibly to a quarterly basis for efficient and effective tracking of action points with regular follow-ups.	**Action 11** FDI	**Action 11** Dec-25

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
	supported by confirmed agreed agendas which will include: ○ reminder of ToRs when membership changes, ○ minutes of the previous meeting, ○ review of the previous action points tracking purpose, ○ status of immunisation activities, ○ grant implementation status ○ brief summary of discussions at the lower levels or TWG, that meetings are held conducted as planned, minutes signed and that the required actions are assigned to officers for follow-up • The FDI should ensure accountability against decisions made by the ICC for all actors and at all levels (government, partners, CSOs) • Sub-national levels should ensure coordination and upward representation / escalation of issues from various committees.	**Action 12** Since provinces, partners, and CSOs are part of NICC, FDI, in close collaboration with key stakeholders, will ensure the smooth implementation of decisions/endorsement of NICC. **Action 13** Subnational representation (provinces) is reflected in NITAG and NICC. In case of any pressing issue or to seek technical guidance, there is a proper mechanism of communication.	**Action 12** FDI **Action 13** FDI	**Action 12** Dec-25 **Action 13** Dec-25
Weaknesses in the routine management of measles has resulted in prioritisation of campaigns	Recommendation 6 To prioritise management of measles the MoNHSR&C/FDI should review its Routine Immunisation (RI) strategies and develop country-specific guidance aligned with the Measles-Rubella Strategic Framework 2021–2030. At a minimum, this guidance should include: • Clearly defined roles and responsibilities for national and sub-national stakeholders holding them accountable for delivering immunisation outcomes; • A shift from uniform approaches to strategies tailored to the endemic outbreak locations. • Embed all measles and rubella activities—including surveillance, case management, and vaccination—within broader PHC systems to support universal health coverage (UHC). • Strengthen measles routine immunisation through the PHC packages, as part of comprehensive health	**Action 14** FDI is in the process of developing the National Measles Rubella Elimination Strategy. The document will outline clear roles and responsibilities at the federal and provincial levels, and define milestones to track implementation. The strategy comprising of recommendations to improve immunisation coverage, community based surveillance, strengthen laboratory support, outbreak investigation and targeted response, would be embedded within the PHC system strengthening goals. FDI will review weekly VPD surveillance data including measles-rubella and share recommended actions; field investigation, response vaccination to the provinces.	**Action 14** FDI	**Action 14** June 2026

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
	delivery, with a focus on improving coverage for both first and second doses. • Document and implement strategies to strengthen partnerships especially through civil society and health care workers at community level, to help identify unimmunised and under immunised children and communities to maximise impact and sustainability.			
Improvements needed in vaccine preventable disease (VPD) surveillance	Recommendation 7 To improve the VPD surveillance efforts MoNHSR&C/FDI should: • Strengthen coordination across surveillance agencies by enhancing collaboration among the various surveillance agencies to minimise duplication of efforts and promote knowledge sharing across the surveillance system. • Assess and align human resource requirements by conducting a comprehensive review of human resource needs for VPD surveillance in consultation with provincial authorities, including updating FDI guidelines to ensure adequate staffing, with clearly defined roles and responsibilities at all levels. • Implement continuous training and support tools by introducing regular training programs and provide on-the-job aids and tools to strengthen staff capacity in VPD surveillance. • Standardise record-keeping systems by establishing a consistent and reliable system for recording and managing VPD surveillance data to improve accuracy and accessibility. • Integrate VPD Surveillance into supervision and monitoring by ensuring VPD surveillance activities	**Action 15** FDI coordinates with the National Institute of Health and the federal and provincial disease response units (DSRUs) for timely detection, confirmation, and response to VPDs. NIH, in collaboration with partners, has draft standard operating procedures (SOPs) for an incident management system for rapid response. Besides, PEI - EPI synergy engages the services of the polio eradication staff to support VPD surveillance. The revitalisation of the national AEFI committee is completed and FDI is in the process of revising the AEFI guidelines. Core and Surge members have been identified at the national, provincial/federating areas, and districts, and data is maintained in the DHIS2. FDI has established coordination with NIH to utilise the core and surge team for responding to VPD outbreak. Field Epidemiology training program (FETP) has been transitioned into the government system and they train government officers on surveillance. FDI, in collaboration with provinces and partner agencies, revised the VPDs Case Investigation Forms (CIFs) in 2024. A standardised linelist form that is being digitised for recording and reporting across Pakistan.	**Action 15** FDI and Provincial EPI Programs	**Action 15** March 2026

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
	are systematically incorporated into existing supervision and monitoring frameworks to enhance accountability and performance tracking.	A comprehensive supervisory checklist has been developed on the EPI MIS for use by all supervisors to monitor routine immunisation related to VPD surveillance		
Weaknesses in approach to engagement of civil society organisations	Recommendation 8 To improve the CSO engagement MoNHSR&C/FDI should: • Establish the Community of Practice in Demand (CoPD) for CSO engagement in Pakistan. This should include the development of a national framework that outlines clear strategies for reaching zero-dose and under-immunised children. The framework should also incorporate a robust monitoring and evaluation (M&E) system with defined indicators and targets to track progress and ensure accountability. • Define and tailor the role of CSOs in the national context by identifying the types and capacities of CSOs best suited to support Gavi's CSO engagement strategy in Pakistan. Provide recommendations to Gavi on a country-specific, tailored approach to ensure CSOs are effectively integrated into immunisation efforts, with clear roles and expectations. Integrate the CSO Approach with existing health systems by aligning the CSO engagement with established health structures—particularly the Lady Health Worker (LHW) programme—to ensure complementarity and avoid duplication. This integration is essential for the sustainable identification and inclusion of unreached and marginalised populations in immunisation efforts.	**Action 16** FDI has established a CSO Unit to streamline planning and coordination for CSOs engagement across the country. This unit is tasked with developing a CSOs Strategy to outline service delivery and demand generation guidelines at the federal and provincial levels and include a standardised results framework tailored to track zero-dose and under-immunised children, aligned with national priorities and Gavi expectations. **Response from Gavi CDD team -** • Strategy and M&E Integration: As stated, a CSO strategy was developed, and has been operationalised through the Fund Manager mechanism. The strategy includes a standardised results framework tailored to track zero-dose and under-immunised children, aligned with national priorities and Gavi expectations. • Tailored Role Definition and CSO Selection: The development of the call for proposals (May-Sept 2024) and the CSO selection process (Sept-Dec 2024) involved thorough engagement with the FDI and provincial leaders. Following endorsement and approval in December 2024, the shortlisted CSOs have collaborated with provinces to finalise their scopes of work, objectives, and geographic focus areas based on identified needs and capacities. • Integration with Community Health Structures: CSOs are actively coordinating with established community health systems, including the Lady Health Worker (LHW) program, to ensure synergy and avoid duplication in line with the activities outlined in the FPP. This integration reinforces efforts to reach underserved and marginalised populations sustainably.	**Action 16** FDI and Provincial EPI Programs	**Action 16** June 2026

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
		Significant improvements have been made since the audit, including the establishment of a standardised mechanism for CSO engagement, structured M&E, and integration with Federal and Provincial systems. **Audit note - The auditors note that progress has been made since the audit but was not validated by the audit team and would be part of the follow up of recommendations.**		
Supportive supervision arrangements need improvement	Recommendation 9 To improve the supportive supervision MoNHSR&C/FDI should: • Develop ToRs for supportive supervisions, and enforce the operationalisation of the supervision guidelines, for all such missions across all levels. • Work with provincial EPI cells to ensure there is a comprehensive supportive supervision plan covering all levels. This plan should identify the roles and responsibilities of each player including partners and agencies to ensure that visits are coordinated. Partners and provincial EPIs should: • Ensure that supervision tools for each level are synchronised. • Recording of observations and agreed actions to enable follow-up • Incorporate results from supportive supervision into decision making processes.	**Action 17** A national workshop was held to standardise supervision processes, including unified checklists, feedback mechanisms, and documentation protocols. As a result, these standardised tools have been integrated into the "EPI Pakistan" mobile app, replacing all previous tools across provinces. All supervisory visits are now recorded digitally, ensuring consistency. A digital dashboard is used to track supervision activities, and the app allows supervisors to review past reports before planning new visits, helping to prevent unnecessary repeat visits to the same sites. Monitoring and evaluation (M&E) systems within the EPI program have also been digitised and are still being refined. We'll continue to improve these systems based on feedback from the workshop review, with a formal communication plan to support wider implementation. We are committed to improving coordination, feedback, and ensuring supportive supervision effectively enhances program performance.	**Action 17** FDI's M&E Team and Data Systems Management Unit (DSMU)	**Action 17** June 2026
Sub-optimal visibility and performance	Recommendation 10	**Action 18** FDI to finalise TCA plans for 2026 and 2027 with clear transition plans at federal and provincial levels. TCA plan would include quarterly milestone across all partners.	**Action 18** FDI and Provincial EPI Programs	**Action 18** December 2025

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
monitoring of the TCA	To strengthen the capacity building processes, ensure capacity building efforts are realised, MoNHSR&C/FDI and provincial EPIs should: • Conduct a needs assessment at national and sub-national levels to inform and guide future investments in TCA. • Develop a collaborative plan for TCA delivery by creating a framework for collaboration that ensures short-term gap-filling efforts evolve into long-term skills transfer, promoting sustainable capacity building. The plan should clearly define the roles and responsibilities of each stakeholder, outline a clear modality for skills transfer, and present a phased implementation approach. This plan should also be incorporated into the overall accountability framework; and • Implement a skills and competency measurement mechanism by creating a system to assess skills and competencies, focusing on a limited set of key indicators that directly measure changes in targeted outcomes. To collaborate effectively with TCA providers MoNHSR&C/FDI should: • Provide guidelines to TA partners for TCA performance milestones by ensuring that TCA performance milestones are validated by FDI before being reported and submitted to Gavi.			
The forecasting process requires refinement	Recommendation 11 To foster improvement and sustainability of the forecasting process, FDI/ MoNHSR&C should work with the provinces and federal territories to:	**Action 19** The Deputy Director Operations (DD) is the designated focal point for the forecasting process. FDI has conducted a comprehensive exercise for forecasting the fiscal year 2025-26 with the active participation of all provinces. FDI to work with provinces to conduct the same in December every year so that there is ample time for provincial EPI to	**Action 19** FDI and Provincial EPI Programs	**Action 19** December 2025

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
	• Designate dedicated personnel within the FDI structure to take charge of the forecasting process and revise their job descriptions to reflect this responsibility as a core function. • Strengthen their capabilities through mentoring and skills transfer initiatives. • Develop comprehensive SOPs and work instructions to guide and support the forecasting process. • Establish a system for collecting consumption data at EPI centres, aggregating it at the Tehsil, District, and Provincial levels, and periodically triangulating this data with program performance metrics.	sensitise finance departments for resources. FDI Operations team to have annual forecasting in their TORs.		
Missed opportunity to procure more vaccines	Recommendation 12 FDI/MoNHSR&C should carry out independent market assessments and price benchmarking surveys to ensure value for money in their procurement processes. The options considered should include the opportunity cost for each option to support the decision making processes. Any shortfall arising from the Country's decision should be reported to Gavi, and a consensus reached on how to address the shortfall, taking into account its impact on the Country	**Action 20** FDI will initiate the official process to seek approval from the competent authority for market assessment.	**Action 20** FDI/MoNHSR&C	**Action 20** March 2026
Inventory management practices at both the federal and subnational levels require enhancement	Recommendation 13 To improve inventory management at Federal and sub national level, FDI/MoNHSR&C should work with Provincial EPI to: • Periodically conduct data checks in vLMIS and reconcile the data after obtaining the necessary approvals • Review the vLMIS system design and institute adjustments to address system errors (with support from partners) • Develop well-structured, detailed, and up-to-date SOPs tailored to the specific operations, capacities,	**Action 21** FDI in close collaboration with partners is working on updating Vaccine and Logistics management module in National electronic immunisation registry (NEIR) to have visibility of vaccine stocks, consumption, wastages up to the last mile. Mechanism of reconciliation and periodic physical stock count is in place, and adjustments in the system are managed through segregation of responsibilities of the persons working in the warehouse. capacity building for the development of the SOPs has been completed and workplan for the development and implementation is in process.	**Action 21** FDI	**Action 21** March 2026

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	and workforce needs of sub-national vaccine handling points. As part of the SOPs, define process of passing adjustments in inventory management systems. • Review current support supervision mechanisms, harmonise them, design and disseminate standard support supervision tools for recording and follow up of action points at all levels	Checklists for supportive supervision have been digitised and harmonised with the provinces.		
Need to strengthen distribution scheduling and planning	Recommendation 14 To improve distribution management at Federal and sub national level, FDI/MoNHSR&C should work with Provincial and Federal Territories to: • Strengthen human resource capacity by leveraging existing technical and financial support from partners to build the capacity of personnel at all levels—national, provincial, district, and tehsil—in effective vaccine distribution management. Training should cover planning, scheduling, stock tracking, and last-mile delivery. • Establish and implement annual distribution schedules by developing and disseminating comprehensive annual distribution schedules that clearly define reporting deadlines for peripheral stores and outline expected delivery periods for each distribution cycle. All distribution points—including FDI, PVS, FTVS, DVS, and TVS—should be required to align with these schedules to ensure coordinated planning and timely vaccine delivery across the supply chain. Refer to recommendation in section 4.3.3 on enhancing support supervision	**Action 22** This has been done in 2024 and 2025 through a comprehensive vaccine management training covering all effective vaccine management thematic areas and best practices from national through to HF levels. Annual distribution schedule is developed and vaccine and logistics are being distributed based on quarterly and monthly requirement on agreed target during forecasting. in addition FDI with the technical support of partners is in process to enhance storage capacity at Provincial level including Punjab , Sindh and Balochistan through construction of new warehouses; that would be followed for the change of point of entry as per recommendation of immunisation supply chain system design study, that would help to make distribution system risk free , cost effective and more resilient. The vLMIS is also being optimised to flag stock thresholds (min, max, reorder) in a colour coded manner triggering effective distribution	**Action 22** FDI & Provincial EPI	**Action 22** March 2026
Need to enhance cold chain	Recommendation 15	**Action 23** Cold Chain equipment maintenance Plans are developed and incorporated in the National logistics manual and all CCEs procured	**Action 23** FDI	**Action 23** December 2025

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
management practices	To improve cold chain management and the service life of cold chain equipment, FDI/MoNHSR&C should work with the Provincial and Federal Territories to: • Develop detailed preventive maintenance plans that outline daily, weekly, and monthly activities, along with comprehensive checklists to support and document these tasks. Ensure that the checklists are used consistently at all levels. • Build capacity of cold chain officers and vaccinators at sub national level in cold chain management through on-the-job training and mentorship programmes • Strengthen the existing support supervision tools to include continuous monitoring and oversight of both preventive and corrective maintenance activities.	have plans attached to them for adherence however, maintenance units do not exist and activities carried out are not documented. HFs are being instructed to keep logbooks for documentation of maintenance activities carried out. Maintenance units to be enforced as well as subsidiaries of the NLWGs Maintenance trainings are ongoing - 52 completed, 112 to be trained by September 2025. Tool kits and spare parts have also been provided through UNICEF iSC components on effective vaccine management are part of the integrated supportive supervisory checklists however we will work with FDI and WHO to revise the checklists to include recommended parameters and modalities. EVM coordinators and ESMP consultants are on board as stop gap but does not replace government personnel		
Recommendations from the EVM assessment must be addressed	Recommendation 16 MoNHSR&C should address the leadership challenges at FDI including filling up of all vacant positions as noted in recommendation 1.	**Action 24** DG FDI has been appointed and in place since 2nd January 2025 **Audit Note: We note that Dr Soofia Yunus, Deputy Director General Health, has taken on additional duties as FDI director. Gavi is still awaiting official confirmation on permanent appointment.**	**Action 24** MoNHSR&C	**Action 24** January 2026
	Recommendation 17 To stay on track with addressing recommendations from previous assessments, FDI/MoNHSR&C, Provincial and Federating Territories EPI teams should: • Prioritise implementing activities outlined in the EVM-IP; • Elevate related discussions in technical working groups and at the ICC.	**Action 25** Key positions are either being filled or in the process. Director Technical has been filled with plans to fill Deputy Director Procurement, Deputy Director M&E and Assistant Director Surveillance. **Action 26** Implementation of EVMIP 2020-25 is in progress **Action 27** In July 2025, an SCIP (Supply Chain Improvement Plan) workshop was held for national and provincial focal points to assess status of implementation and put points actions in place. Cascade to all districts is ongoing.	**Action 25** MoNHSR&C **Action 26** FDI **Action 27** FDI	**Action 25** January 2026 **Action 26** December 2025 **Action 27** December 2025

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
Weaknesses in design of health information systems	Recommendation 18 To strengthen the design of health information systems MoNHSR&C/FDI should: • Set up a data governance council to oversee implementation and data quality of systems; • Strengthen federal, provincial coordination on systems to address aspects of system refresher trainings, system adoption and system performance monitoring tailored to each provinces needs • Harmonise unique identifiers for children across systems (NEIR, SEIR, EMR) to ensure consistency. • Conduct an in-depth review of the live systems identify gaps in areas of system validation checks, security, data completeness and data redundancies and subsequently develop a plan to address identified bottlenecks • Update and align SOPs (technical and end user guides) to match the latest versions of systems and ensure these documents are accessible to relevant systems users.	**Action 28** The Federal EPI - MIS dashboard is currently in place, which consolidates data and reports from all provincial EPIMIS systems. This dashboard is undergoing enhancements to improve data validation, expand reporting features, and strengthen visualisations to better support national-level oversight. It is important to note that Pakistan operates under a decentralised health system, with provinces independently managing and implementing their respective health information systems. The role of the FDI is to coordinate, regulate, and support standardisation across provinces. Accordingly, provincial EPIMIS systems have been developed based on their specific needs and operational contexts. FDI maintains its own integrated dashboard that pulls data from all levels, enabling national-level visibility and coordination. Regarding vLMIS, it was initially developed with USAID support and managed by an external vendor. With Gavi's support, a Data Management System Unit (DMSU) has now been established at FDI to oversee, upgrade, and harmonise all EPI-related data systems. Plans are in place to transition vLMIS operations from the vendor to FDI, allowing for improved customisation and alignment with EPI needs. This transition is expected to resolve the current stock visibility limitations. On the matter of unique identifiers, FDI acknowledges the inconsistencies across NEIR, SEIR, and EMR systems. Provinces maintain their own registries; however, progress is being made—Punjab, for instance, has adopted a standardised QR code-based unique identifier within its EMR system. Similar alignment efforts are ongoing in other provinces, and FDI continues to engage with provincial EPI teams to support standardisation. Regarding EMR performance issues, particularly in Punjab, the dashboards are managed by HISDU under the provincial health department. The FDI has already raised concerns with both Punjab	**Action 28** FDI and Provincial EPI	**Action 28** June 2026

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
		EPI and HISDU to address dashboard performance, including optimising loading speeds and system responsiveness. FDI is working on strengthening on coordination, standardisation, and interoperability across all digital health platforms, and to ensuring the quality, usability, and reliability of data for decision-making at all levels. Recommendation on establishing a Data Governing Council under the FDI is well taken and we will plan to establish it by end of June 2026.		
Sustainability of health information systems must be addressed	Recommendation 19 The MoNHSR&C, with support from partners should establish a federally-led oversight mechanism that is province-focused. This mechanism should offer clear guidelines and define minimum standards for system design, ensuring interoperability, reducing system duplication, and enhancing data quality—while granting provinces the flexibility to tailor systems according to their specific local needs.	**Action 29** The findings accurately reflect the challenges encountered during the transition and management of key platforms, and we appreciate the clear recommendations provided. At the time of the audit, several of these issues—particularly related to the NEIR transition—were still being resolved. Since then, the situation has significantly improved. The NEIR system is now fully managed and operated by the FDI through its expanded Data Management System Unit (DMSU). While some operational challenges remain, NEIR is now functioning under government leadership and with reduced dependency on external partners. FDI with the support of WHO is currently supporting and completing the transition process. All provincial EPIMIS systems are hosted on the physical server totally managed and controlled by FDI. This reflects a strong and ongoing shift toward full government ownership of digital platforms. Nevertheless, development of a parallel Electronic immunisation System by one of the expanded partner will lead to duplication of efforts and jeopardise the huge investments in NEIR. This fragmented approach undermines efforts to ensure system interoperability, standardisation, and alignment with national strategies.	**Action 29** FDI & Provincial EPI	**Action 29** June 2026
Weaknesses in immunisation data management	Recommendation 20	**Action 30** Following the 2023 Census, the FDI has adopted updated population targets for immunisation planning and monitoring. A target-setting	**Action 30** FDI & Provincial EPI	**Action 30** March 2026

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
	To strengthen the design of health information systems MoNHSR&C/FDI should: • Create a national Data Quality Improvement Strategy and associated policies to offer clear guidance and assistance to the provinces, ensuring uniform and efficient data quality practices. This strategy should include guidance on denominators through support of the technical alliance partners. • Support the provinces and federal territories in the development of data quality improvement plans. These plans should be closely monitored to ensure that the identified improvements are successfully implemented.	workshop was conducted engaging experts from Pakistan Bureau of Statistics (PBS), technical experts, and other data-producing institutions. This resulted in significantly improved national targets, with greater alignment between population estimates and immunisation planning. To further enhance data accuracy at the sub-national level, a second consultative workshop is scheduled for December 2025, bringing together key stakeholders including WHO, UNICEF, and technical partners. This workshop will adopt a WUENIC-style methodology to estimate more realistic coverage levels by reconciling administrative data with adjusted population estimates. The outcomes of this forum will inform the development of recommendations for a National Data Quality Improvement (DQI) Strategy. On the issue of Data Quality Audits (DQAs), we note the audit's observations. Progress has already been made since the audit period: the Punjab EPI program has developed a DQI plan, and Gilgit-Baltistan conducted a DQA in line with the audit's recommendations.		
Value-for-money of the Multi-Donor-Trust-Fund may not have materialised	Recommendation 21 We recommend that in future, The FDI should ensure that clear, measurable objectives that ensure value for money are assigned for MDTF grant activities. More specifically, FDI should consider to: • Establish clear, measurable objectives, ongoing reporting structures for the MDTF • Delineate MDTF indicators and other FDI indicators to ensure that the investment contributions are clear • Clarify the oversight role of the ministry and provinces • Include the MDTF in the country joint appraisal processes.	**Action 31** FDI takes note of the recommendation for future and also remains relevant for the ongoing NHSP which is still in progress up to 2027. **Audit note - Since the audit, Gavi has worked directly with the government and partners to restructure the NHSP including revising its own contribution in MDTF downwards to a total of USD 19.6 million. The oversight of the indicators will be followed up as part of the follow up of recommendations.**	**Action 31** MoNHSR&C and FDI	**Action 31** December 2026
	Recommendation 22 For any future MDTF arrangements, Gavi should work with other donors and relevant national stakeholders to strengthen fund-specific assurance mechanisms. This	**Action 32** FDI takes note of the recommendation for future.	**Action 32** Gavi	**Action 32** December 2025

Issues	Audit Recommendations	Management Action	Action Owner	Timelines
	could include enhanced financial reporting, dedicated audits, and performance monitoring specific to immunisation-related expenditures. Additionally, Gavi should advocate for increased visibility and transparency over fund utilisation to ensure accountability, safeguard its significant investment, and better demonstrate value for money in alignment with its health systems strengthening objectives.	**Audit note - The CDD team took note of the recommendations. This is indicated through the revisions of the ongoing NHSP.** **Given the amount of work and attention CDD has paid to ongoing NHSP, the audit has concluded to close this recommendation and would only follow-up the recommendation no. 21.**		
Weaknesses in financial controls over sub-grants to government agencies and CSOs	Recommendation 23 To strengthen the financial management MoNHSR&C/FDI should • develop a mechanism to ensure all implementing partners (CSOs and government agencies) prepare detailed reconciliations of Gavi funds received from UNICEF on a quarterly basis. • liaise with UNICEF to ensure that an annexure be provided along with the FACE forms to enable implementing partners to report on all funds received and expenditure by source of funding. Unutilised funds should be taken into account by UNICEF in subsequent requests if not refunded.	**Action 33** UNICEF follows a standardised framework "harmonised Approach to Cash Transfers (HACT) to transfer cash to government and non-government partners, which is also commonly adopted by other Excom UN agencies. Under this framework, UNICEF conducts micro assessments of Implementing Partners (IPs) expected to receive more than USD 100,000. Based on the resulting risk rating, UNICEF determines the appropriate cash transfer modality and the frequency of assurance activities for each IP. Funds are transferred to Implementing Partners (IPs) through the use of the Funds Authorisation and Certificate of Expenditure (FACE) form. The standard FACE form is used by all IPs to request cash transfers and report on their use, along with an itemised cost estimate. Implementing Partners (IPs) are required to complete FACE forms on at least a quarterly basis, except in cases where no expenditures have been incurred and no additional funds are being requested. UNICEF conducts assurance activities on funds transferred to Implementing Partners (IPs), which include periodic on-site reviews (spot checks), programmatic monitoring and scheduled and special audits (financial or internal control) on the funds transferred to IPs. The scope, type, and frequency of assurance activities are guided by the overall risk rating assigned through the micro assessment. IPs assessed as high risk are subject to more frequent and rigorous assurance activities.	**Action 33** FDI & Partners	**Action 33** June 2026

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		As UNICEF already operates under a structured framework HACT, there is no need to establish a new system for managing funds through Implementing Partners. **Audit Note - While UNICEF has explained their assurance process during the audit field work, the audit still identified questioned expenditures which were not identified by the UNICEF assurance activities which indicates weaknesses in the current processes.** **We also note that while most of the CSO funds will now be channelled through Manion Daniels, some funds will still be channelled to CSOs through UNICEF.** **We also note that there are ongoing discussions on the Use of Country Systems (UCS), which will inform on the roadmap to return funds through the government.** **Therefore this recommendation remains relevant and will be followed up as part of the follow up of recommendations.**		