Vaccine Preventable Disease Surveillance systems in **Liberia**

Assessment of the implementation and use of VPD surveillance systems in Africa.

July 2025

KEY FINDINGS

- VPD systems in use: DHIS2
- Dual entry on paper-based and digital tools
- Case-based surveillance

Analysis Overview

The vaccine-preventable disease (VPD) surveillance system in Liberia operates through both paper-based and digital tools, with one digital system, DHIS2, currently in use. A dedicated national focal point oversees VPD case surveillance and there is a formal governing body and a national HMIS digital strategy, along with a costed work plan funded by both the departmental budget and a single donor. However, funding gaps persist for software maintenance, infrastructure, and hardware. Despite having processes for performance monitoring and disaster recovery, the MOH technical team is understaffed, and training is not regularly assessed or updated. The system supports national-level planning and produces required reports and dashboards, although data quality issues exist, especially in the case-based surveillance system.

Access to the VPD surveillance system is widespread across rural and urban areas. However, infrastructure disparities, including unstable power and internet connectivity, and differences in staffing and mobile device use, hinder consistent reporting, particularly in rural regions. Only a small percentage of sites use computers or mobile devices for data entry, and while users are provided with mobile data, they are not equipped with devices. There are no specific strategies in place to promote equitable access between rural and urban areas. Furthermore, the system lacks a structured approach to data quality assurance, and no dedicated personnel or regular training exists for data quality management.

Liberia's VPD surveillance system submits data to WHO AFRO and one national health information system, and data can be exchanged via Excel/CSV. However, it does not currently use global data exchange standards like HL7 FHIR or ADX . The MOH lacks a trained and confident team to manage integrations, and no regular training or assessments are in place. Overall, user satisfaction is low, and stakeholders have expressed the need for a fully digital and interoperable VPD surveillance system. Additionally, there is a noted institutional split, with the surveillance system housed at the National Public Health Institute (NPHIL) while VPD surveillance remains under the Ministry of Health, highlighting the need for improved coordination moving forward.

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Foundational	Developing	Established	Not Applicable or No Data

Domain/Theme	Sub-domain	Maturity Level
Governance and Strategic Alignment	Existence of a formal governing body	2
	Existence of a Digital Health Strategy	2
	Sustainable funding	2
	Equity infrastructure	0
	Equity policies (rural/urban)	0
	Submission to WHO AFRO regional system	2
Workforce/Technical Capacity	Dedicated VPD surveillance officer	2
	Admin/monitoring team in place	1
	Availability of monitoring tools/SOPs	2
	Software maintenance team in place	
	Integration/interoperability tech capacity	0
End-user Readiness	End-user satisfaction	2
	End-user training	0
Infrastructure Readiness	Availability of computers	0
	Mobile devices and mobile data access	1
	Stable power/internet infrastructure	1
	Capacity to maintain infrastructure	1
	Infrastructure disparities	0
System Lifecycle and Localization	Length of time system has been in use	0
	Multilingual software maturity	2
	VPD surveillance system transition	
	User support during system transition	0

DIGITAL HEALTH SYSTEMS TO SUPPORT VPD SURVEILLANCE IN **LIBERIA**

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Foundational	Developing	Established	Not Applicable or No Data

Domain/Theme	Sub-domain	Maturity Level
Interoperability	Integration with WHO AFRO system	2
	Integration with national HIS	1
	Interoperability standards use (FHIR, ADX)	0
	Existence of national interoperability framework	0
Data Standards and Data Quality	Metadata dictionary	2
	Org units structure	2
	Compliance with WHO AFRO standardized indicators	2
	Data quality governance	0
	Data entry/management training	0
Data Use and Reporting	Data reporting needs	2
	Data sharing practices	2
	Timeliness and quality of CBS data	2
	Timeliness and quality of aggregate data	
	Case-based data security compliance	2

Use and limitations of the maturity model

The maturity model provides a framework for identifying strengths and gaps in Liberia's VPD surveillance system. It covers key domains like governance, data quality, and infrastructure. However, it simplifies complex realities and may overlook regional variation or the interplay between paper based and digital tools. Results should be interpreted with field insights and stakeholder input.

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