



Vaccine Preventable Disease Surveillance systems in South Sudan

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

July 2025

KEY FINDINGS

- VPD systems in use: DHIS2 , Power BI, ODK, GIS, EpiInfo, Excel spreadsheets, REDCap
- Dual entry on paper-based and digital tools
- Case-based surveillance

Analysis Overview

South Sudan's vaccine-preventable disease (VPD) surveillance system is overseen by a dedicated focal person and uses multiple digital tools, with seven digital systems currently in operation. Despite this, the system lacks a formal digital platform for routine data collection, relying heavily on paper-based and fragmented reporting mechanisms. Data is submitted weekly and consistently reaches the national level, where it is also shared with WHO AFRO. A national digital health strategy and formal governance structure are in place, and the system produces essential reports for national use.

However, the system faces major gaps in infrastructure, funding, staffing, and data quality assurance frameworks, with limited sub-national capacity. Case-based surveillance is operational and not limited to specific diseases, with systems in place for priority conditions such as AFP, measles, pertussis, neonatal tetanus, yellow fever, and meningitis. Nevertheless, both case-based and aggregated data suffer from accuracy and timeliness issues. The population data used for indicator calculations is derived from outdated projections, with local consultation used to adjust discrepancies. Key foundational components such as metadata dictionaries, documented backup and recovery plans, and comprehensive data security policies are missing. Additionally, while integration with WHO AFRO and two other systems exists, South Sudan lacks interoperability standards and relies heavily on external support for system integration and maintenance.

The surveillance infrastructure in South Sudan is highly uneven, with significant disparities between rural and urban areas in power, connectivity, staffing, and mobile device access. Only 2% of sites use computers for data entry, and just 32% use mobile devices, none of which are government-issued or supported with mobile data. Infrastructure instability and a shortage of skilled MOH staff for system maintenance further hinder performance. Despite these challenges, South Sudan is committed to expanding its VPD surveillance system to county and facility levels and is steadily working toward building a stronger, more resilient health information system. The country's determination to improve disease surveillance, even under complex and resource-constrained conditions, reflects its resilience and commitment to protecting public health.

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Foundational	Developing	Established	Not Applicable or No Data
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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	0
	Availability of monitoring tools/SOPs	1
	Software maintenance team in place	0
	Integration/interoperability tech capacity	0
End-user Readiness	End-user satisfaction	0
	End-user training	0
Infrastructure Readiness	Availability of computers	0
	Mobile devices and mobile data access	0
	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	2
	Multilingual software maturity	
	VPD surveillance system transition	0
	User support during system transition	0

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