



Liberia Polio Outbreak Response SITREP

November 26 – December 06, 2024

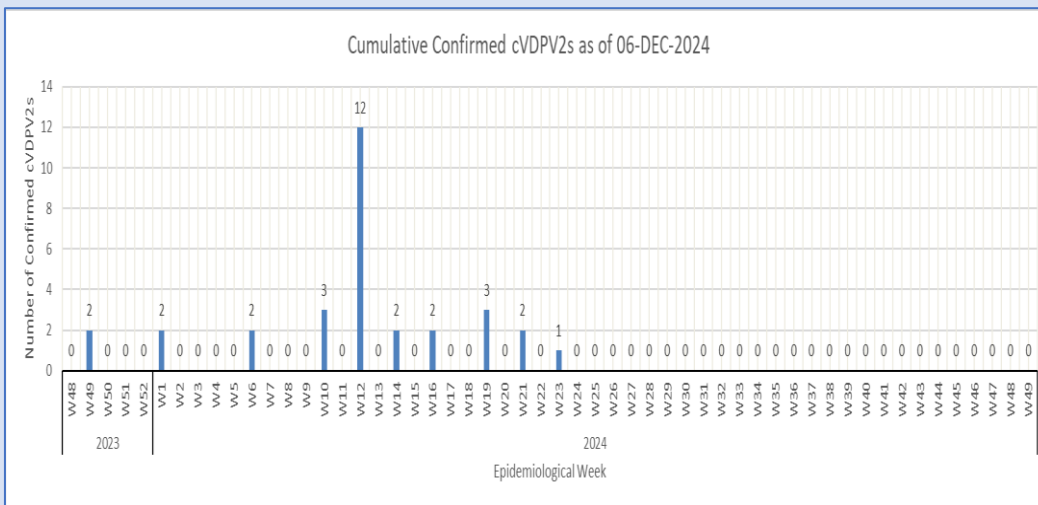
Polio Outbreak Summary

Liberia is still carrying out response activities against an outbreak of variant type 2 poliovirus (cVDPV2) since first lab confirmation notification on 23 February 2024.

- As of December 06, 2024, there are still 30 cVDPV2s reported (latest reported in **RED**):

Source	Source Description	Number of cVDPV2s	Latest Isolation	Date of latest Isolation	Days since last isolation
Acute flaccid paralysis (AFP) case	1-year-7-months old boy, from Kpanyan Town, Sinoe County	1	LIB-SIN-KPA-24-059	8-Jun-24	181
ES Sites (17)	Fiamah Treatment Plant (FTP)	8	ENV-LIB-MON-MON-FTP-24-011	7-May-24	213
	Redemption Street Bridge (RSB)	9	ENV-LIB-MON-MON-RSB-24-012.	7-May-24	213
Healthy community children	Communities drained by the Monrovia ES Sites	12	LIB-MON-MON-24-CC068	20-Mar-24	261

- Below Figure shows cumulative number of cVDPV2 by epidemiological week of ES/contact sample collection/AFP week of onset:



Background Polio Dates

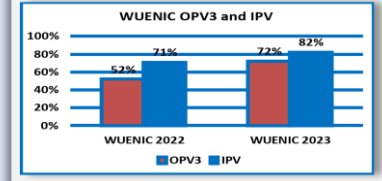
- Certification**
 - 1999** – The last indigenous wild poliovirus type 1 (WPV1) detected in Liberia.
 - 2008** – Liberia officially certified free of endemic WPV.
- Outbreak Responses**
 - 2009** – Outbreaks of 11 imported WPV1 cases.
 - 2010** – Two (2) more WPV1 cases detected. (There has been no WPV since 8 Sept 2010 (14yrs))
 - tOPV campaign response
 - 2020** – 4 cVDPV2 ES site isolations
 - 2021** – 3 cVDPV2s from cases
 - A two-round national nOPV2-initial-use SIAs in 2021 targeted ~1 million children aged <5 years
 - 2024** – Currently there are 30 cVDPV2s from 2 ES sites, AFP case & community children nOPV2 SIAs R1, R2, R3 done.
 - RI, Polio Surveillance, SBC.

AFP Surveillance (Week 47, 2024)

- AFP cases: **100** (15/15 counties)
- NPAFPR: **4.5/100,000**
- Stool Adequacy rate: **100%**
- NPENT or NPEV rate: **14%**.

Immunity

- OPV3 & IPV (WUENIC 2022 & 2023):



- OPV3 & IPV (DHIS2 2021-2024):

2021	2022	2023	2024 (Jan-May)
OPV3 IPV	OPV3 IPV	OPV3 IPV	OPV3 IPV
82% 81%	70% 89%	90% 107%	85% 86%



Outbreak Response Plan

- Outbreak response activities implemented with funding from the GPEI through established partner agencies are:
 - TWG Meetings since outbreak notification and EOC re-opening on 1st May 2024.
 - MOH-GPEI partners' coordination meetings with partner representations from WHO, UNICEF, US CDC, BMGF, Gavi, Rotary Group, USAID, as well as Africa CDC, AFENET, MSF, JHPIEGO and more.
 - RI intensification activities e.g.:
 - Monthly outreaches.
 - Quarterly Periodic Intensifications of Routine Immunization (PIRIs).
 - Use of SIAs to improve RI.
 - Enhanced polio surveillance activities e.g.:
 - Increased active case search (ACS) with plans for retroactive case search in place.
 - AFP/VPDs searches by vaccination teams.
 - Electronic surveillance (eSURV) and integrated supportive supervision (ISS).
 - Increased ES sample collections; plans for ad hoc ES sites; training for the Surv. Networks.
 - Rapid surveillance assessment (RSA) plan in readiness for the outbreak response assessment (OBRA).
 - Ongoing intensified communication and SBC activities.
 - nOPV2 SIAs completed:

	Round 1: May 10-13	Round 2: Jun 7-10	Round 3: Sep 27-30
Target	857,768	857,768	857,768
Admin. Coverage (Target >=95%)	876,573 (102%)	927,673 (108%)	934,689 (109%)
End Process IM (Mean In- and Outside-HH) Coverage (Target >=95%)	98%	94%	97 %
LQAS coverage (n=98, Target >=80% lots/districts accepted at 90% vaccination coverage)	64%	86%	79%
Number of Teams	2,423	2,521	2,581
nOPV2 Used (Doses)	1,046,150	1,068,900	1,079,156
%Wastage Rate	9%	8%	10%

- Major challenges during the nOPV2 SIA Round 3 implementation emanated from the effects of heavy rains that affected logistics and access.



More Highlights in the cVDPV2 Outbreak Response (OBR) in Liberia

+ Update on recent activities in the cVDPV2 Outbreak Response

- Liberia has planned destruction of **21,207** unusable and empty nOPV2 vials by all counties to be conduct on 11th of December 2024.
 - The remainder, **951 usable vials**, will be transferred to the National Cold Store for secure storage in an “nOPV2 ONLY’ fridge until use or destruction upon expiry.
- On 26-NOV-2024, the samples for the Grand Cape Mount’s **PV2+ case LIB-GRC-GAR-24-079** sent for genetic sequencing reference lab on 22nd October 2024 has turned out to be **Sabin-like type 2 virus** which may be interpreted to be a VAPP (vaccine-associated paralytic polio).
 - It is commendable that the National Rapid Response Team (RRT, composed of MOH/NPHIL Officers) and the Grand Cape mount CHT, already conducted the detailed case and social investigations.
- Another reported **PV2+** isolation from environmental surveillance (ES) sample **ENV-LIB-MON-MON-RBS-24-034** has also been reported on 28-NOV-2024 as Sabin-like type 2. Isolation of ES Sabin post-SIAs is expected and may be an indicator of potent vaccines used.

+ Way Forward

- Final submission to RRT of the nOPV2 destruction and containment report, signed by the NPEC/NCC chairman.
- To follow-up on funding approvals for the planned After-Action Review (AAR) meeting (an IHR (2005) requirements) and planned AFP/VPDs retroactive case search (RACS)/rapid surveillance/EPI assessment (RSA) in readiness for OBRA.

 **Weekly Polio Surveillance Indicators (as of 47th Week, 2024)**

(Cumulative AFP Indicators for 2024 are as summarized in text, tables and figures below. (Source: Surveillance Database entries)

Table 1: Days since last poliovirus Isolation as of 6th December 2024

Poliovirus Source	Date Last Isolated	Days	Weeks	Months	Years
Wild Poliovirus Type 1 (WPV1)	8-Sep-10	5,203	743	173	14
Environmental Surveillance (ES)	7-May-24	213	30	7	<1
Community Children (CC)	20-Mar-24	261	37	9	<1
Acute Flaccid Paralysis (AFP)	8-Jun-24	181	26	6.0	<1





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National AFP Indicators (as of 47th Week, 2024)

- AFP cases reported from 100% counties (all cases <15 years of age): **100**.
 - Confirmed cVDPV2 result: **1** (1%).
 - Confirmed Sabin-like type 2: **1** (1%).
 - Discarded: **89/95** (89% culture results).
 - Pending: **9/100** (9%).
- National Annualized Non-Polio AFP rate (NPAFPR): **4.5/100,000** (Target 3/100,000 children under 15 years).
- National Stool Adequacy Rate: **100%** (Target is $\geq 80\%$).
- National Non-polio Enterovirus (NPENT or NPEV) rate: **14%** (Target is 10%).



County AFP Indicators (as of 47th Week, 2024)

- **100%** (15) had reported at least one AFP case (no silent counties).
- **73%** (11) had reported NPAFPR rate $\geq 3/100,000$ under-15 aged children.
- **47%** (7) had isolated NPENT/NPEV more than 10%.
- **100%** (15) had reported stool adequacy rate $\geq 80\%$.
- **73%** (11) had met both indicators NPAFPR rate ≥ 3 and stool adequacy rate $\geq 80\%$.



National ES Site Indicators (as of 47th Week)

ES site reports/update according to WHO report: None.

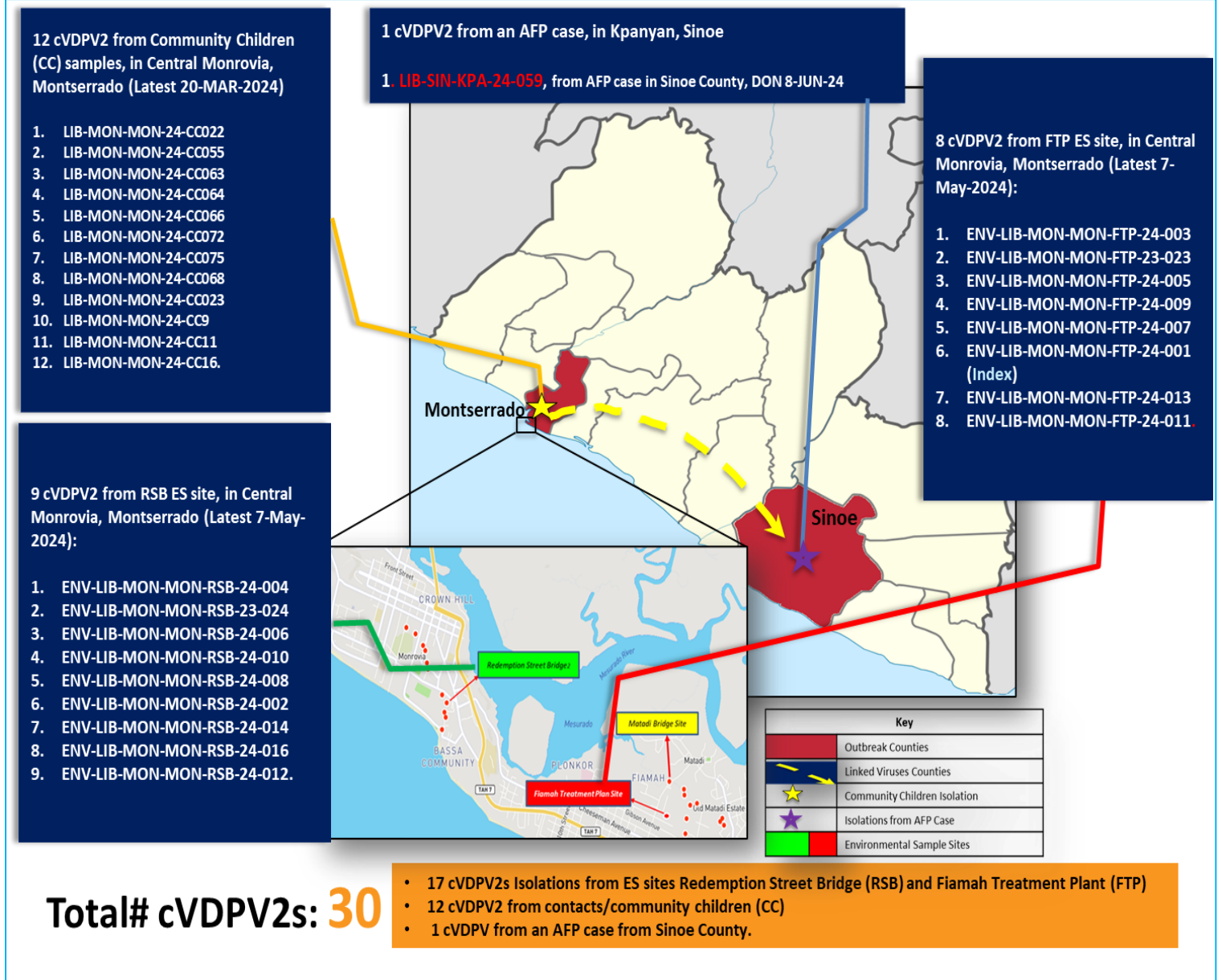
Liberia stool and ES samples are processed by National Polio Laboratory (NPL) of Côte d'Ivoire that is hosted by the Institut Pasteur de Côte d'Ivoire in Abidjan. Some samples are then sent to the National Institute for Communicable Diseases (NICD) in South Africa for further genetic VP1 sequencing as such most samples arrive more than 3 days.

- The two (2) environmental surveillance (ES) sites of Fiamah Treatment Plant (FTP) and Redemption Street Bridge (RSB) in Monrovia have isolated non-polio enteroviruses in $\geq 50\%$ of the samples as supposed.



Extra Data Presentations:

Figure 1: Liberia's list of all poliovirus isolations as of 6th December 2024 (latest per source of isolation in RED below):



Source: WHO AFRO Database (cumulative line list)



Table 2: Liberia AFP Surveillance Indicators by Counties as of Week 47, 2024

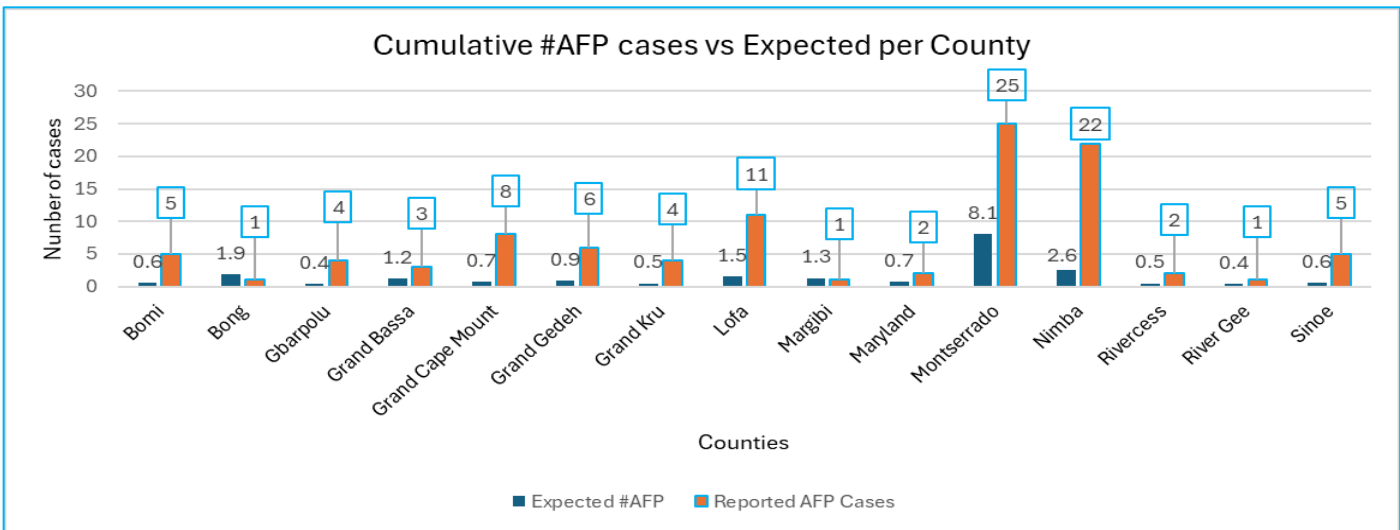
County	< 15 years pop	Expected	Reported	Non-Polio AFP Rate	Number of cases <14 days specimen collected	% of stool <14days	Number of cases with lab result	Number of NPENTs	% of NPENT	with out lab
Bomi	62196	0.6	5	8.9	5	100	5		0	
Bong	215425	1.9	1	0.5	1	100	1		0	
Gbarpolu	43630	0.4	4	10.1	4	100	4		0	
Grand Bassa	134743	1.2	3	2.5	3	100	3		0	
Grand Cape Moun	82471	0.7	8	10.7	8	100	5	1	13	2
Grand Gedeh	101412	0.9	6	6.5	6	100	5	1	17	
Grand Kru	51467	0.5	4	8.6	4	100	3	1	25	
Lofa	168626	1.5	11	7.2	11	100	9	1	9	1
Margibi	140931	1.3	1	0.8	1	100	1		0	
Maryland	78808	0.7	2	2.8	2	100	1		0	1
Montserrado	898124	8.1	25	3.1	25	100	16	4	16	5
Nimba	285705	2.6	22	8.5	22	100	15	5	23	2
Rivercess	57047	0.5	2	3.9	2	100	2		0	
River-Gee	42729	0.4	1	2.6	1	100	1		0	
Sinoe	69556	0.6	5	8.0	5	100	3	1	20	
Liberia	2432868	22.0	100	4.5	100	100	74	14	14	11
Non-Polio AFP Rate	<3 =									
	≥3 =									
Stool adequacy	<80% =									
	≥80% =									
Non-Polio Enterovirus	<10% =									
	≥10% =									
	Silent									

As of date, we have received lab results for the 89 samples sent to the Lab with 11 pending results.

Source: WHO VPD Surveillance Update

Table 2's Caption: As for **National AFP Indicators** above.

Figure 2: Liberia Reports of AFP cases by Counties, as of Week 47, 2024 (Total cases = 100)

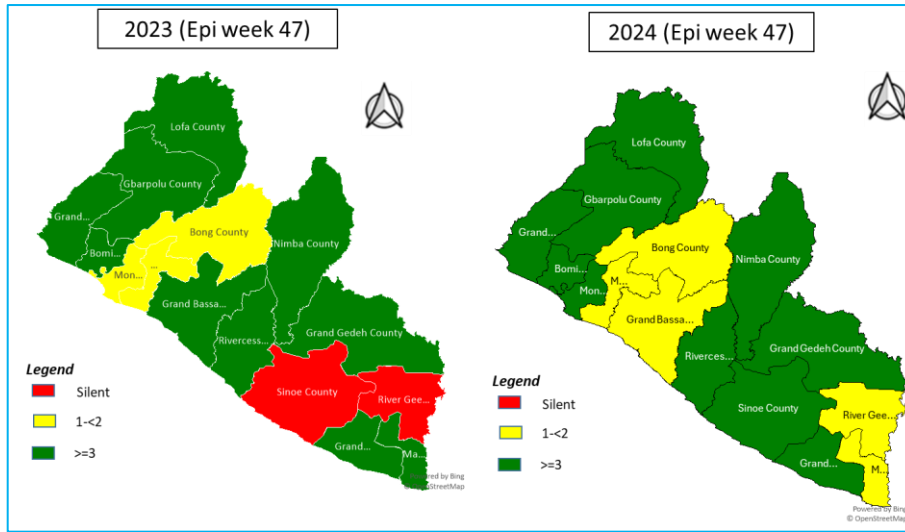


Source: WHO VPD Surveillance Update

Figure 2's Caption: 100 AFP cases reported from 15/15 or 100% counties, with no silent counties. Montserrado has the highest number of case reports at 25, followed by at Nimba 22.



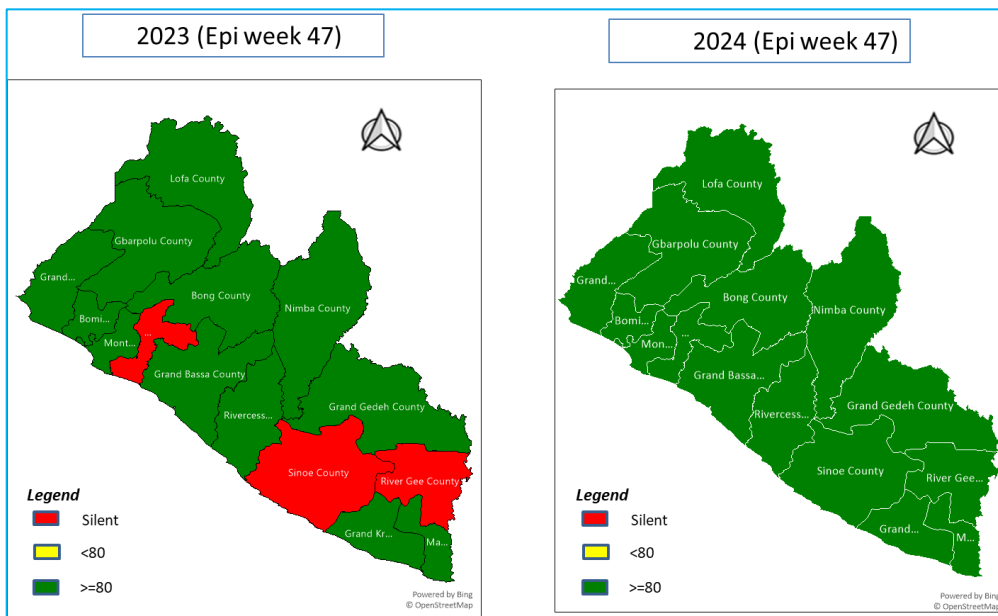
Figure 3: Non-Polio AFP rate as of Epi week 47, 2023 and 2024:



Source: WHO VPD Surveillance Update

Figure 3's Caption: All but Montserrado, Margibi, River Gee and Bong counties achieved Non-polio AFP rate of $\geq 3/100,000$ in Week 47, 2024, compared to Week 47, 2023, when there were 5 sub-optimally performing counties out of which 2 were silent.

Figure 4: Stool Adequacy rate by County as of week 47, 2023 and 2024:



Source: WHO VPD Surveillance Update

Figure 4's Caption: All counties had achieved $\geq 80\%$ stool adequacy rate with no silent counties in Week 47, 2024, which was not the case last year Week 47, 2023, when 3 counties were silent.



For more information contact:

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Updates from the MOH with Support from Partners.

