



Ministry of Health Republic of Liberia

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Liberia Polio Outbreak Response SITREP

30th July 2024

Polio Outbreak Summary:



Liberia is currently responding to an outbreak of circulating type 2 poliovirus variant (cVDPV2)

- Date of laboratory notification of cVDPV2 confirmation: **23 February 2024.**
- Since then, there have been more isolations (newly reported in **RED** below).



The latest virus isolation in an AFP case, a type 2 poliovirus (PV2) is as follow:

- **LIB-SIN-KPA-24-059; D/Onset: 6-JUN-2024; Isolated in stool culture; ITD on: 16-JUN-2024; Pending genetic sequencing; Sent to Reference Lab on: 17-JUL-24.**
- From an AFP case, **Age: 1yr 7months old boy; DoB: 18-DEC-22; from Kpanyan District in Sinoe County; Notified by Kabada Clinic in Tweh Town.**



The cVDPV2's, all from environmental surveillance (ES) sites, with no cases yet as of this publication, are listed below:

- **ENV-LIB-MON-MON-FTP-24-001**, from **Fiama Treatment Plant (FTP) ES Site/Monrovia City/Montserrado County/Liberia**, date of ES sample collection 01-JAN-24 (week 1), cVDPV2 report 23-FEB-24, 46 nucleotide (NT) difference from Sabin2, closest match case GUI-KAN-KAN-23-531 of Kankan Region of **Guinea (1st reported)**.
- **ENV-LIB-MON-MON-RSB-24-002**, from **Redemption Street Bridge (RSB)**, collection 02-JAN-24, cVDPV2 report week 10, 45NT diff., closest match: GUI-KAN-KAN-23-531.
- **ENV-LIB-MON-MON-RSB-24-004**, collection 06-FEB-24, cVDPV2 week 13, 48NT diff., closest match: GUI-KAN-KER-23-496.
- **ENV-LIB-MON-MON-FTP-24-003**, collection 06-FEB-24, cVDPV2 week 15, 44NT diff., closest match: GUI-KAN-KOU-23-565.
- **ENV-LIB-MON-MON-FTP-24-005**, collection 05-DEC-23, cVDPV2 week 21, 46NT diff., closest match: ENV-LIB-MON-MON-FTP-24-003.
- **ENV-LIB-MON-MON-RSB-24-006**, collection 05-MAR-24, cVDPV2 week 21, 49NT diff., closest match: case GUI-KAN-MAN-23-398.
- **ENV-LIB-MON-MON-RSB-23-024**, collection 05-DEC-23, cVDPV2 week 21, 47NT diff., closest match: ENV-GUI-CON-DIX-PDB-24-001.
- **ENV-LIB-MON-MON-FTP-23-023**, collection 05-DEC-23, cVDPV2 week 21, 46NT diff., closest match: GUI-KAN-KER-23-496.
- **ENV-LIB-MON-MON-FTP-24-007**, collection 02-APR-24, cVDPV2 week 24, 49NT diff., closest match: ENV-LIB-MON-MON-RSB-23-024.
- **ENV-LIB-MON-MON-RSB-24-008**, collection 02-APR-24, cVDPV2 week 24, 47NT diff., closest match: ENV-LIB-MON-MON-FTP-24-005.
- **ENV-LIB-MON-MON-RSB-24-010**, collection 16-APR-24, cVDPV2 week 24, 49NT diff., closest match: ENV-LIB-MON-MON-FTP-24-005 AND 44NT diff., closest match: ENV-GUI-CON-DIX-PDB-24-001.
- **ENV-LIB-MON-MON-FTP-24-009**, collection 16-APR-24, cVDPV2 week 24, 49NT diff., closest match: ENV-CIV-AB1-YOE-PCM-23-169.
- **ENV-LIB-MON-MON-RSB-24-014**, collection 14-MAY-24, cVDPV2 on 2-JUL-24, 51NT diff., closest match: ENV-LIB-MON-MON-FTP-24-005.

✓ Certification

- **1999** – The last indigenous wild poliovirus type 1 (WPV1) in Liberia detected.
- **2008** – Liberia officially certified free of indigenous WPV.

🔍 Outbreak Responses

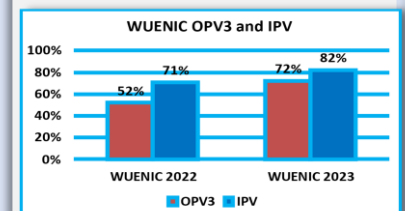
- **2009** – Outbreaks of 11 imported WPV1 cases.
- **2010** – Two (2) more WPV1 cases detected. (There has been no WPV since 8 Sept 2010 (13.9yrs))
- ✓ tOPV campaign response
- **2020** – cVDPV2 in 4 ES site isolations
- **2021** – cVDPV2 in 3 cases
- ✓ A two-round national nOPV2-initial-use SIAs in 2021 targeted ~1 million children aged <5 years
- **2024** – cVDPV2 in 2 ES site isolations
- ✓ nOPV2 SIAs R1, R2, R3 (Sep'24)
- ✓ R1, Polio Surveillance.

🔍 AFP Surveillance

- NPAFPR) is **4.8/100,000**
- Stool Adequacy rate is **100%**
- NPENT or NPEV) rate is **15%**

📊 Immunity

- OPV3 & IPV (WUENIC 2022 & 2023)



- OPV3 & IPV (DHIS2 2021-2024):

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





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Outbreak Response Plan:

- Detailed investigations conducted for cVDPV2 viruses and risk analysis Updates.
- Budgets approved:
 - 100% SIAs-1 and 80% for SIAs-2.
 - Additional/supplemental SIAs.
 - Surge.
 - EOC budget, and
 - Surveillance budget.
- Outbreak response activities ongoing:
 - EOC officially reopened on 1st May 2024 is operational.
 - MOH-GPEI partners' coordination meetings are ongoing since the outbreak notification.
 - GPEI coordination mechanism is operational with partner representations from WHO, UNICEF, CDC/US, BMGF, Gavi, Rotary Group, USAID, as well as Africa CDC, AFENET, MSF, and more.
 - Surge staff recruited.
 - RI intensification activities ongoing e.g.:
 - Data review to determine historical performance of health facilities proximal to PV2 case household in Sinoe.
 - Monthly outreaches (including in communities around the PV2 case in Sinoe).
 - Quarterly PIRIs.
 - Use of SIAs to improve RI.
 - Polio surveillance activities e.g.:
 - Detailed investigations and updates.
 - Increased active case search (ACS) (including in communities around the PV2 case in Sinoe).
 - AFP/VPDs searches by vaccination teams.
 - eSURV.
 - Integrated supportive supervision (ISS).
 - Planning for surveillance enhancement (Ad hoc ES, Training Surv. Network).
 - Communication and SBC activities ongoing.
 - SIAs 1 & 2 rounds implemented **May 10-13 vs. June 7-10**, 2024, each targeting **857,768** children of 0-59 months:
 - Admin. coverage 876,573 (102%) vs. 927,673 (108%).
 - IM coverage 94% in Round 1 vs. 91% in Round 2.
 - LQAS coverage 65% vs. 86% (n=98, target is 80% districts) of lots/districts were accepted at 90% vaccination coverage criterion.
 - Published Liberia nOPV2 Campaign Story can be accessed here on WHO AFRO Website: <https://www.afro.who.int/photo-story/lifesaving-polio-vaccines-reach-927673-children-liberias-nationwide-polio-vaccination>
 - Polio Catch-up Campaign in poorly performed districts and communities and Waste management (vial destruction) reporting next week and to be endorsed by the NCC chairperson.
 - SIAs 3 planned for end September 2024.



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More Highlights of the cVDPV2 Outbreak Response in Liberia

- Liberia, this week, to submit SIAs budget and vaccine request (VRF) by 5th August 2024, for Round 3 (R3) planned for at the end of September 2024.
 - RRT has shared templates for budget and requests.
- Additional budgets for submission are surge- and EOC budgets.



Actions in the quality improvement plan (QIP) for the Next Campaign (R3)

- Budgets to consider synchronization meetings and review meetings with other neighbouring countries.
- To ensure presence and commitment of partner technical officers in the EOC and ensure engagement of NCC and NPEC members.
- To get advice on vaccine arrival, pen-markers ordering and arrival on time.
- To update Social and Behaviour Change (SBC) materials such as: print, audio, and electronic, in several local languages upon definitive dates confirmed by the MOH.
- Timely advocacy and communications, including letters to stakeholders.
- Plan for timely training and deployment of social mobilizers, vaccination teams, vaccine management teams.
- Training plans, materials, and data tools to be reviewed for earlier deployment and procurement.
- ODK tools and login credentials to be reviewed.
- Bottom-up microplanning template shared with county levels to be finalized and submitted.
- Cold-chain inventories and gap analysis to be reviewed and mitigated earlier.
- Deployment plan for National supervisors with field vehicles to the counties carrying bundled vaccines and supplies to be expedited.
- To ensure timely submission of plans for earlier and adequate cascaded county/vaccination team trainings for R3, 2024.
- MOH/EOC to advise on date, target population, number of teams and number of supervisors.
- Counties to submit quality improvement plan (QIP) to form the National QIP.
- Partner coordination support to Counties to be evaluated using SWOT analysis with proffered mitigation and personnel allocation.
- To review IM and LQAS data from previous rounds and quality of survey reports to determine special support to the county personnel.
- Independent monitors' and LQAS surveyors' lists, training plans, and package to be reviewed, aiming for more timely training and better-quality surveys to ensure reliable results.
- Vaccine management teams (CCOs, VACs, VAMs) recruitment, mobile money lists submission & verification, training plans and package to be reviewed aiming for more timely and better-quality training.



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- Procurement plans to be made available earlier including of printing services, chalk, SBC materials.
- The trainings materials to be reviewed and updated in order to address past social and behaviour change (SBC) feedback and frequent reason behind refusal being fears of 'side effects', held 'religious/cultural beliefs', 'child sick' and 'too many doses'.
- The trainings materials to be reviewed and updated in order to address most frequent LQAS reasons for missed children, that included 'HH not visited', followed by 'child absent' and the reasons for child absent that were 'farm', 'travelled', went to 'school' or went to 'market'.
- Resource mobilization to be carried out by the National level, from partners, to ensure team members' EPI aprons for identification including rain gear to avoid delays due to rain and harsh weather.



Weekly AFP Surveillance Indicators (as of Week 30)

(Cumulative AFP Indicators for 2024 are as summarized in text, tables and figures below. (Source: Surveillance Database entries as of Epi week 15, accessed 27 May 2024, WHO Liberia compilation as of Week 21)



- Days since last WPV1: **5,073** (13.9 years)
- Days since last cVDPV2: **76**

- **67 AFP cases** have been reported from 15 out of 15 counties and all cases <15 years of age.
- 6 AFP cases were reported in Week 30.
- The National Annualized Non-Polio AFP rate (NPAFPR) is **4.8/100,000** (Regional Target being 3/100,000 children under 15 years).
- The National Stool Adequacy rate is **100%** (Regional target is $\geq 80\%$).
- National Non-polio Enterovirus (NPENT or NPEV) rate is **15%** (Regional target is 10%).
- #Reported results as discarded as NPAFP 2024 = **61 (91%)**.
- #Confirmed cVDPV (from cases) = **0 (0%)**.
- #Pending AFP cases in Lab = **6 (9%)**.
- #Culture results within 28 days in 2024 = **61/67 (91%)**.
- #Detection & notification within 7 days of onset of paralysis in 2024 = **67 (100%)**.
- #Investigation within 48 hours from date of notification in 2024 = **67/67 (100%)**.

Of Liberia's 15 counties:

- 100% (15) have reported AFP cases with no silent counties.
- 40% (6) isolated NPENT/NPEV more than 10%.
- 73% (11) reported NPAFPR rate $\geq 3/100,000$ under-15 aged children.
- 100% (15) reported $\geq 80\%$ adequate stool samples collected <14 days of date of onset of paralysis.
- 73% (11) met both indicators NPAFPR rate ≥ 3 and stool adequacy rate $\geq 80\%$.



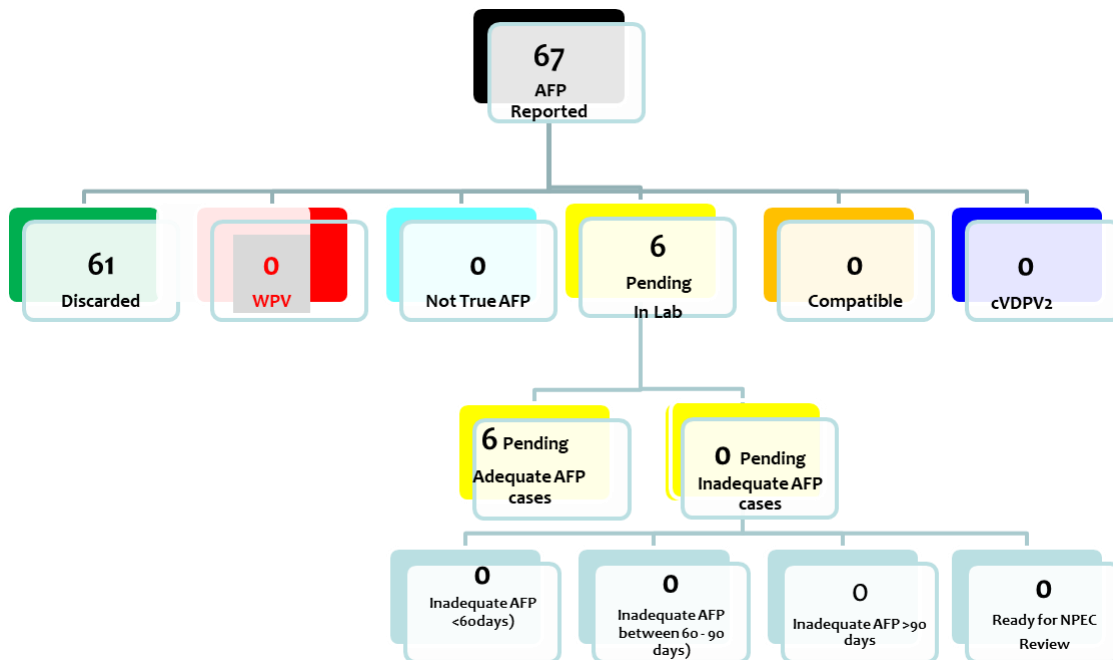
Environmental Surveillance Desk Review:

- Q2 ES Desk Review, at AFRO level, established that Liberia is in the "Medium high risk" category.
- Isolated enterovirus in 100% (n=12, target $\geq 50\%$) of the samples in both Q1 and Q2 period.



Extras Visuals/Narration:

Case Classification for < 15 years, as of Week 30, 2024, Liberia

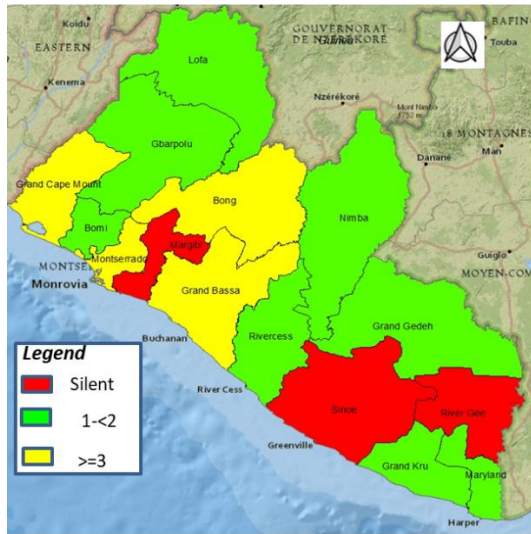


Classification of AFP cases depicting 67 reported cases, 61 discarded (non-polio) cases, and 6 pending adequate cases newly reported in Week 30.

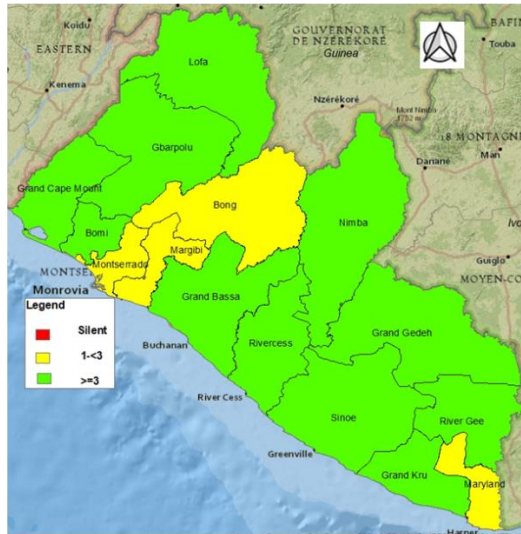


Liberia Schematic Map Depicting Counties in Week 30, 2023 and 2024 and Status of Non-polio AFP Rate:

2023 (Epi week 30)



2024 (Epi week 30)



VPD surveillance update

As of Week 30, 2024, the NPAFP rate for 73% (11) of the 15 counties 4 (27%) were below the target NPAFP rate of 3/100,000 compared to previous year when 7 counties had less than 3/100,000; 3 of which were silent by Week 30.



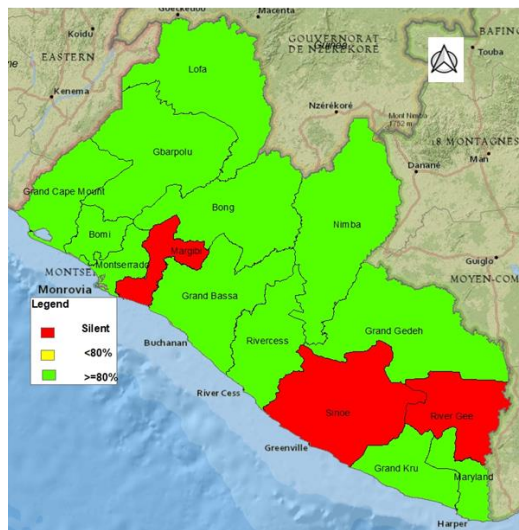


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Stool Adequacy rate by County as of week 30, 2023 and 2024

2023 (Epi week 30)



2024 (Epi week 30)



As of Week 30, 2024, 100% the 15 counties had recorded adequate AFP stool samples as opposed to 2023 where 3 counties were silent by Week 30.

Non-Polio AFP Rate 3/100,000 <15 years by County as of week 30, 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	0.4	2	5.6	2	100%	2		0%		
Bong	215425	1.2	1	0.8	1	100%	1		0%		
Gbarpolu	43630	0.3	2	7.9	2	100%	2		0%		
Grand Bassa	134743	0.8	3	3.9	3	100%	3		0%		
Grand Cape Mount	82471	0.5	5	10.5	5	100%	5	1	20%		
Grand Gede	101412	0.6	5	8.5	5	100%	4	1	20%		
Grand Kru	51467	0.3	3	10.1	3	100%	3	1	33%		
Lofa	168626	1	6	6.2	6	100%	6		0%		
Margibi	140931	0.8	1	1.2	1	100%	1		0%		
Maryland	78808	0.5	1	2.2	1	100%	1		0%		
Montserrado	898124	5.2	13	2.5	13	100%	11	2	15%		
Nimba	285705	1.6	18	10.9	18	100%	16	5	28%		
Rivercess	57047	0.3	1	3	1	100%	0		0%		
River-Gee	42729	0.2	1	4.1	1	100%	1		0%		
Sinoe	69556	0.4	5	12.5	5	100%	5		0%		
Liberia	2432868	14	67	4.8	67	100%	61	10	15%		
Non-Polio AFP Rate	<2 =			*AFP cases reported during Epi week 30 = 6							
	≥2 =			*Total of 67 AFP cases <15 years reported from 15 (100%) counties							
Stool adequacy	<80% =			*NPENT % are calculated from lab result received							
	≥80% =			*NPAFP rate was calculated from non polio cases							
Non-Polio Enterovirus	<10% =										
	≥10% =										
	Silent										

Summary Data Displaying all Counties' indices for Non-Polio AFP Rate 3/100,000 <15 years and Stool Adequacy Rate by County as of week 30, 2024.

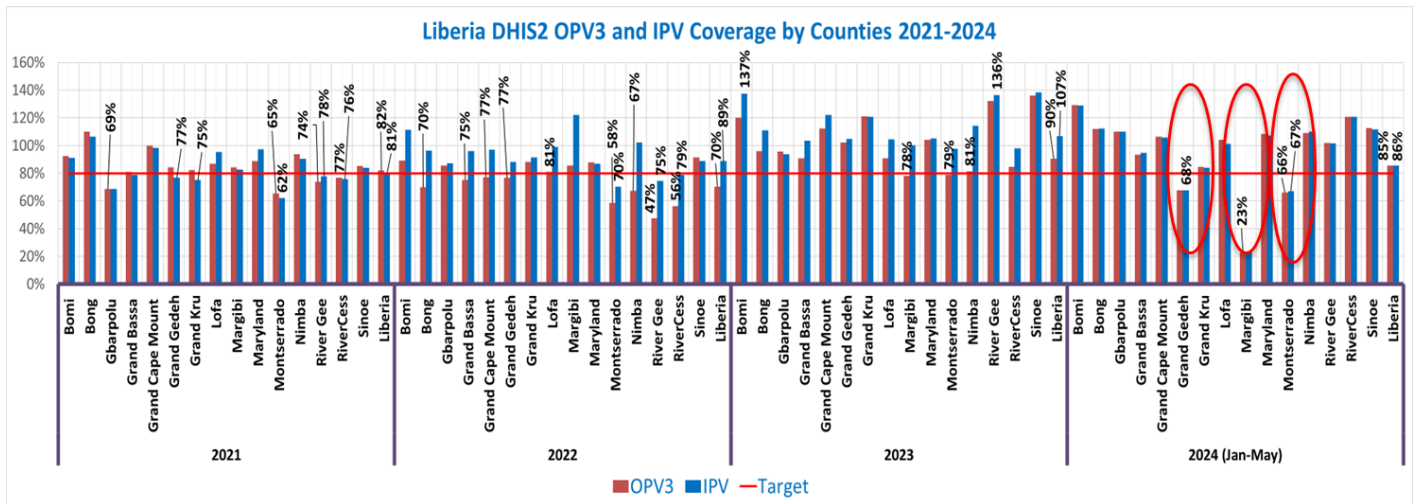
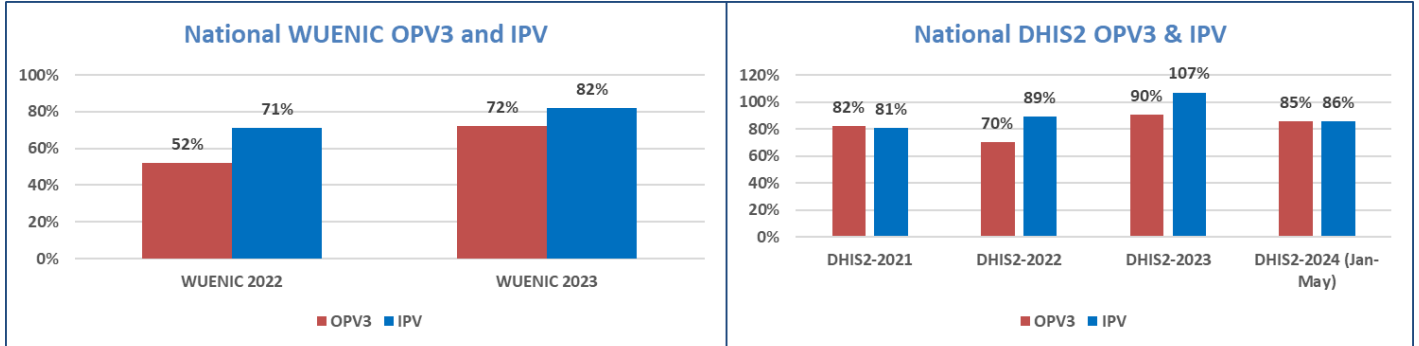




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Immunity 2021-2024



The composite display of OPV3 and IPV in Liberia. Contrasting WUENIC 2022 and the just released 2023 version, show that Liberia had improved immunization coverage from 52% to 72% for OPV3 while IPV rose from 71% to 82% (top left chart).

Using the DHIS2 administrative data at the National level, from 2021-2024 (May), it is observed that both OPV3 and IPV have remained above target of 80% except National OPV3 coverage in 2022 when it dipped to 70% (top right chart).

The serrated chart at the bottom, however, attempts to display the performance of all the counties from 2021 to 2024 (May) with variable but overall borderline to fair performance. However, three counties of Grand Gedeh, Margibi and Montserrado had OPV3 | IPV %coverages of 68% | 68%, 23% | 23%, and 66% | 67% respectively.





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Updates from the MOH with Support from Partners.

