

VOL 06
ISSUE 03
Q3 2022

ZAMBIA'S JOURNAL ON PUBLIC HEALTH, DISEASE
SURVEILLANCE, PREVENTION AND CONTROL

The Health Press - Zambia is published by Zambia National Public Health
Institute, Ministry of Health Zambia SINCE JAN 31, 2017.

ADDRESS: PLOT 13, REEDBUCK ROAD, KABULONGA, LUSAKA.

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MEASLES – SHOULD WE FUSS ABOUT IT?

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Suggested Citation:

[Author Surname, Initial].[Article title].Health Press
Zambia Bull 2022; 06(3):[inclusive page numbers].

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Editorial

By : M L Mazaba

Citation Style For This Article: Mazaba ML. Measles – Should we fuss about it? .Health Press Zambia Bull. 2022; 06(2); pp 1.

According to the World Health Organisation, reported worldwide measles cases increased by 79% in the first 2 months of 2022 with about 17,338 measles cases reported worldwide in January and February 2022, compared to 9,665 in the same period in 2021. It is estimated from report that in 2021, about 9 million measles cases and 128 000 related deaths occurred globally. By April 2022, about 21 large and disruptive measles outbreaks had been reported globally in the last 12 months with the majority of cases being reported in Africa and the East Mediterranean region.



Figure 1: Measles rash in a teenage boy in Zambia

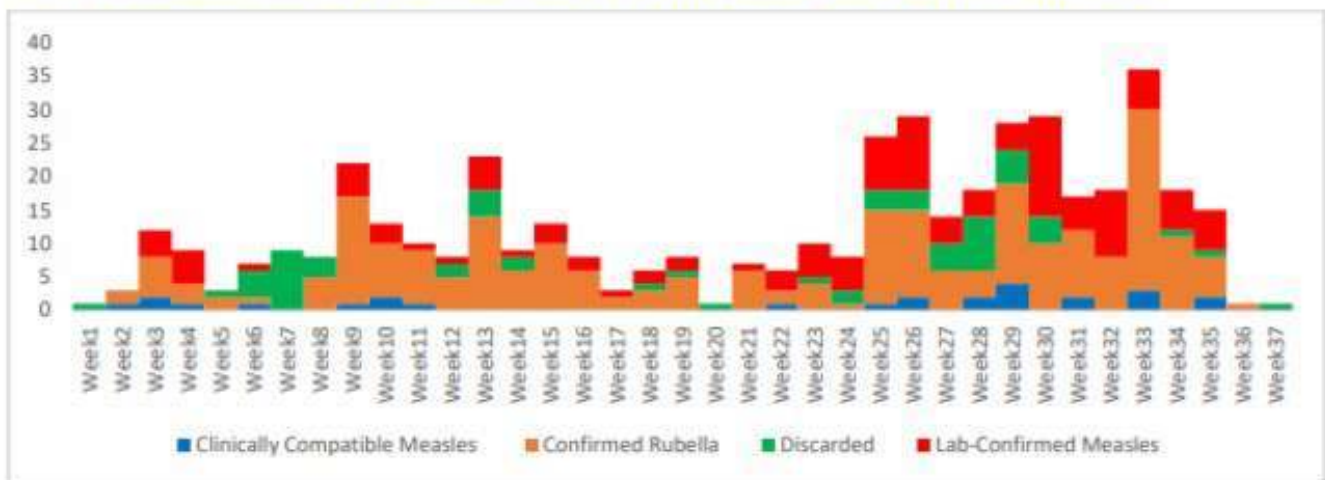
Measles is a highly contagious and deadly disease which can be prevented by vaccinations. To assure a protected community, the experts advise a vaccination coverage equal to or above 95% with 2 doses of the safe and effective measles vaccine can protect children against measles.

This resurgence of measles even in countries that reached elimination goals is concerning and has been attributed to a disruption in healthcare services including the immunization programs. The declines in vaccine coverage, weakened measles surveillance, and continued interruptions and delays in immunization activities due to COVID-19 contributed to the resurgence.

Zambia has continued to report measles cases from several districts with national positivity rates above 5% for the past three consecutive years (2020 to 2023). The disease affected persons aged zero (0) to 59 years, the majority being below 5 years.

In 2022, by epidemiological week a cumulative 422 confirmed cases (laboratory confirmed, epidemiologically linked and compatible) and 37 deaths had been recorded in the country. Of all the cases, the majority were in North-western province (235), followed by Lusaka province (234) and then in Southern province (188) and of the deaths the majority were in Southern province (21) followed by North-western Province (11) and then Lusaka province which recorded 5 deaths.

Final classification case by Epidemiological week (EW) Zambia, 2022 data as of Week 38.



Evidently, Zambia should fuss over the ongoing measles outbreak affecting mostly children. The statistics are an indication of pockets of poorly immunized populations. A Supplementary Immunisation campaign in high risk areas among those aged 15 years and below is recommended.

Situation Report

By : ZNPHI

Corresponding Author: M Chipoya

Citation Style For This Article: ZNPHI. Situation report on zambia's response to wild poliovirus type 1 outbreak in southern africa. Health Press Zambia Bull. 2022; 06(2); pp 2-9.

1.0 Situation Overview

- Zambia received notification of the detection of wild polio viruses type1 (WPV1) in Malawi on February 17, 2022, the virus was detected in the stool of a 3-years old female with onset of paralyses on November 19, 2021, with no history of travel.
- Additional WPV1 cases have also been detected in Mozambique that are genetically linked to the Malawi case.
- Following the Malawi case notification, the country has since conducted three rounds of supplementary immunization activities (SIA) in response to the on-going WPV1 outbreak.
- The date for the three campaigns run from:
 - Round 1 conducted on March 24-27, 2022 (was subnational covering Lusaka, Eastern and Muchinga provinces)
 - Round 2 was conducted on April 25-28, 2022 (countrywide)
 - Round 3: August 11-14, 2022 (countrywide)
- The SIA round four is scheduled tentatively for October 20-23, 2022, with a target population of **5,148,720** children under 5years countrywide as shown in Table 1.
- The total coverage is used as the new target population for the subsequent round since the total SIA coverage of each round is usually above the estimated target population.

Table 2:GPEI Partner Human Resource and Technical Working Group Outline

Regional and global surge human resource	Technical working groups
<ul style="list-style-type: none"> ❖ UNICEF <ul style="list-style-type: none"> • Vaccine management • Community mobilization ❖ BMGF <ul style="list-style-type: none"> • Epidemiologist and public health specialist • EOC operations ❖ CDC <ul style="list-style-type: none"> • Epidemiologist and public health specialist ❖ WHO <ul style="list-style-type: none"> • Coordination • Operations • Epidemiologist and public health specialist • Surveillance 	<ul style="list-style-type: none"> ❖ Coordination <ul style="list-style-type: none"> • Incident manager–Government • GPEI coordinator • Partners agency focal persons ☒ Operations <ul style="list-style-type: none"> • Microplanning • Training • Deployment ❖ Surveillance ❖ Vaccine management and logistics ❖ Community mobilization ❖ Data management, and monitoring and evaluation

Table 3: Partner Mapping Supporting Polio Campaign

Partners	Levels (National/ sub-national)	Number deployed
WHO	National and Subnational	6
UNICEF	National and Subnational	5
CDC/AFENT	National and Subnational	15
Solina	National	1
E-Health Africa	National	3
TFGH	National and subnational	3
IQVIA	National and Subnational	3
BMGF/McKing	National	3
National Supervisors	National	10
Rotary Club Zambia	National	10
Total		59

2.0 Zambia SIA preparedness Level

Table 1: Supplementary Immunisation Activities (SIA) Round 4 Target <5 years Population by Province

	Province	District	Target population
1	Central	12	473,362
2	Copperbelt	10	740,486
3	Eastern	14	591,672
4	Luapula	12	365,574
5	Lusaka	7	1,212,752
6	Muchinga	9	236,938
7	Northern	12	296,019
8	North-Western	11	460,893
9	Southern	13	486,364
10	Western	16	284,660
Total	Zambia	116	5,148,720



Figure 1: Map of Zambia

Planning, Coordination and Funding

- SIA round 3 review meeting conducted with all provinces and issues has been discussed and outlined for action
- Priority districts for SIA improvement have been identified based on performance of previous SIAs as well as their unique challenges.
- National EOC team to conduct face-to-face field visit meeting with leadership of provinces and districts who underperformed in previous polio SIAs.
- The SIA round 4 additional budget is submitted to RRT/ORPG awaiting approval
- Round 3 SIA technical report is completed and shared.
- Compilation of required documents for the upcoming outbreak response assessment (OBRA) is ongoing with 83% completed.
- National Polio Expert Committee met on September 27, 2022, reviewed, and classified 10 additional inadequate AFP cases. This brings the cumulative inadequate cases classified to 30 with 60 pending. Next meeting is set for October 11, 2022.
- The daily meetings at the EOC to monitor the preparatory activities (dashboard) at national and provincial levels is ongoing.
- Country has confirmed measles outbreak in 2 provinces (4 districts)- Southern and Lusaka which are bordering Zimbabwe and Mozambique, respectively. Outbreak response activities ongoing.

Vaccine management and cold chain management

- UNICEF procured the additional 1,436,000 bOPV doses for round 4 and is expected to arrive in country early October 2022.
- Campaign supplies, tools, and materials for round 4 under procurement process
- Ongoing assessment of cold chain in terms of vaccine carrier requirement and distribution

Social Behavioural Change (SBC) communication

- All SBC documents for OBRA have been collected shared with country team for evaluation
- The draft communication, and revised implementation plans for R4 are awaiting final validation by the ACSM subgroup.

4.0 SIA Critical Issues and Next Steps

- COVID-19 campaign rescheduled for October 3-12, 2022, which may affect the polio SIA round 4 initial implementation. The polio SIA date of October 20-23, 2022 is still maintained.
- Measles outbreak in two provinces, risk analyses done and discussed, response plan draft initiated, surveillance heightened, and action dates agreed for various outbreak response activities.

Next steps

- Finalize and share all outstanding reports (OBR plan and QIP)
- Initiate immediate planning activities and dashboard monitoring for Round 4
- Finish up compilation of the OBRA documents.
- Conduct review meeting with the national supervisors and consultants.

5.0 Surveillance

- A total of 268/258 (104%) of expected AFP cases have been reported as at epidemiological week 38 in 2022.
- Of the 268 samples, 265 have lab results of which 44 (17%) were positive for NPEV/SL, 220 (83%) were negative for NPEV/SL/WPV/cVDPV, and 4 (1.5%) samples pending laboratory results.
- The national NP-AFP rate stands at 4.0 per 100,000 population under 15 years and stool adequacy rate is currently at 64% against the 80% expected target.
- The non-polio enterovirus or Sabin-like virus detection rate is 14% which is above the 10% minimum expected.
- At the provincial level, 70% (7/10) of the provinces achieved their NP-AFP rates of 3.0 per 100,000 population under 15 years and the highest stool adequacy is around 77%. Three provinces (Copperbelt, Luapula, and Lusaka) are yet to achieve their two core AFP surveillance indicators.
- Five (50%) of the provinces (Copperbelt, Lusaka, Northern, Southern, and Western) have non-polio enterovirus or Sabin-like virus detection rate below the minimum of 10% recommended.
- At the district level, 38% (32/116) districts met both key AFP surveillance indicators.
- 79% (66/84) districts that reported achieved NP-AFP rate of ≥ 3 with 42% (35/84) having stool adequacy of $\geq 80\%$.
- A total of 32/116 (28%) districts expected to report an AFP case are silent (no report of AFP case).
- A total of 80 environmental samples were collected from the 11 sites as at epidemiological week-38 and 96.3% (77/80) have lab results with 71 (96.8%) of those samples having NPENT/SL, 3 are negative for NPEV/SL/WPV/cVDPV, and 6 pending lab results.

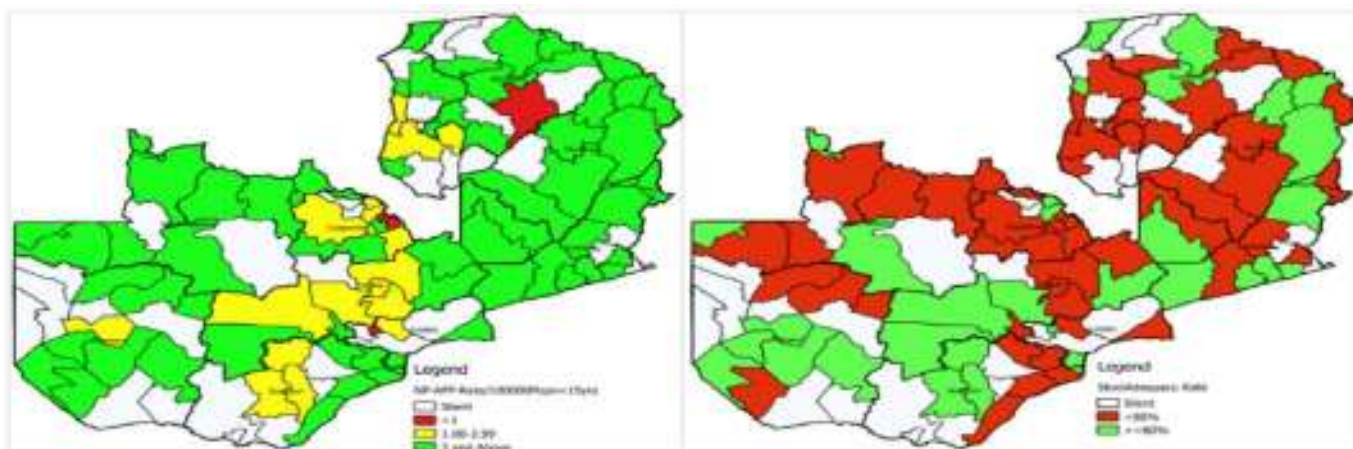


Figure 2: Zambia core AFP surveillance performance by districts as of week 38, 2022

Table 4: Zambia AFP surveillance performance indicators as at week 38, 2022

(Data submitted from provinces (week 38, 2022))

Provinces	2022 estimates =15 pop (million)	Annual Expected AFP Cases	All Reported Cases in districts	Only AFP cases	Attended Non-polio AFP rate	AFP cases w/in 14 days		Confirmed		Composite Outbreak Classification system	AFP Detection rate	AFP cases with results	AFP cases with pending Lab results		Non-polio under-15 cases		Surveillance Index
						#	%	VOPV	Wtd				#	%	#	%	
Central	0.9	26	26	26	4	20	77%	0	0	0	4	26	0	0%	3	12%	3.2
Copperbelt	1.3	38	16	16	2	8	50%	0	0	0	9	16	0	0%	1	6%	0.9
Eastern	1.0	29	81	81	11	51	55%	0	0	0	12	78	2	2%	17	21%	7.1
Lusaka	0.8	19	11	11	2	4	36%	0	0	0	3	11	0	0%	3	27%	0.9
Lusaka	1.6	47	9	9	1	7	78%	0	0	0	7	9	0	0%	0	0%	0.8
Mintops	0.6	17	30	30	7	19	52%	0	0	0	8	29	1	3%	7	23%	4.7
North Western	0.4	13	23	23	7	14	61%	0	0	0	8	23	0	0%	4	17%	4.3
Northern	0.7	21	33	33	6	25	76%	0	0	0	7	33	0	0%	1	3%	4.8
Southern	1.1	33	20	20	3	13	65%	0	0	0	3	19	1	5%	0	0%	1.6
Western	0.5	15	19	19	5	11	55%	0	0	0	6	19	0	0%	1	5%	3.0
Zambia	8.6	258	268	268	4	172	66%	0	0	0	5	264	4	1%	37	14%	2.7

Surveillance gap
Yellow for NP/AFP rate - certification level BUT surveillance gap for stool adequacy
Green for cases with stool AFP, stool adequacy, 1 confirmation level surveillance

Key: 1). Non-polio AFP rate - target ≥ 3 per 100,000 under 15 years children.
 2). AFP cases with stool samples within 14 days (stool adequacy) - target $\geq 80\%$
 3). Surveillance index - target ≥ 1.5

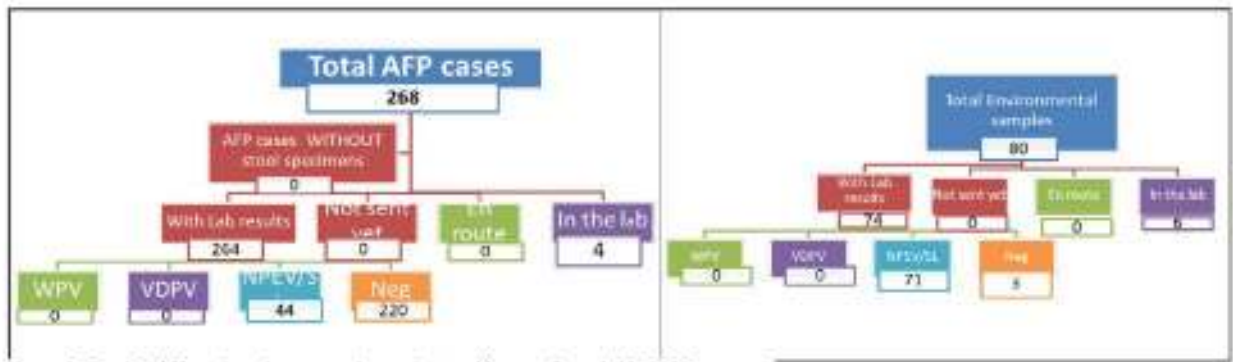
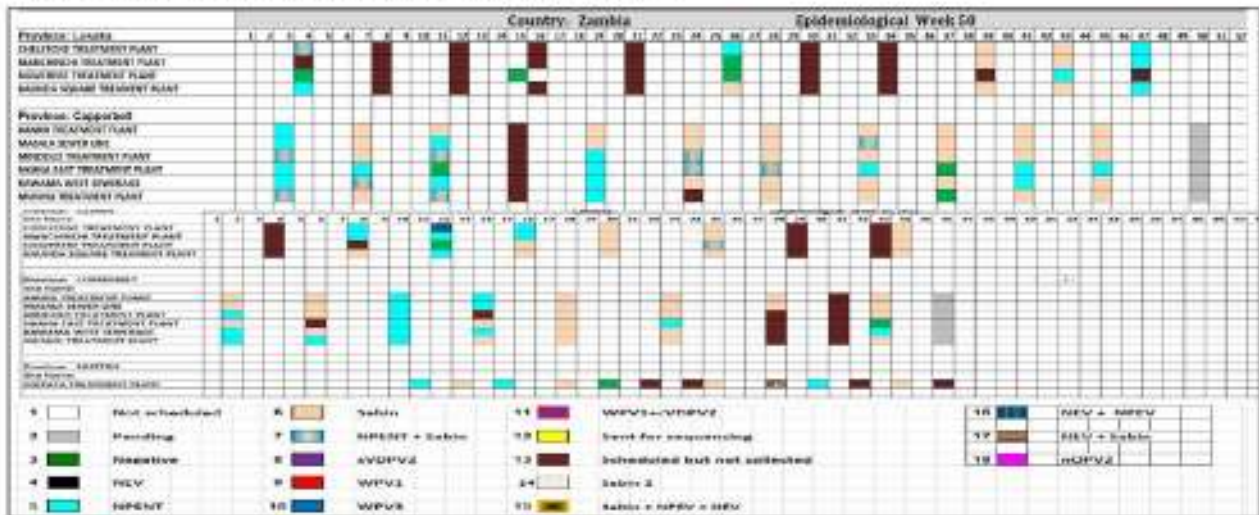
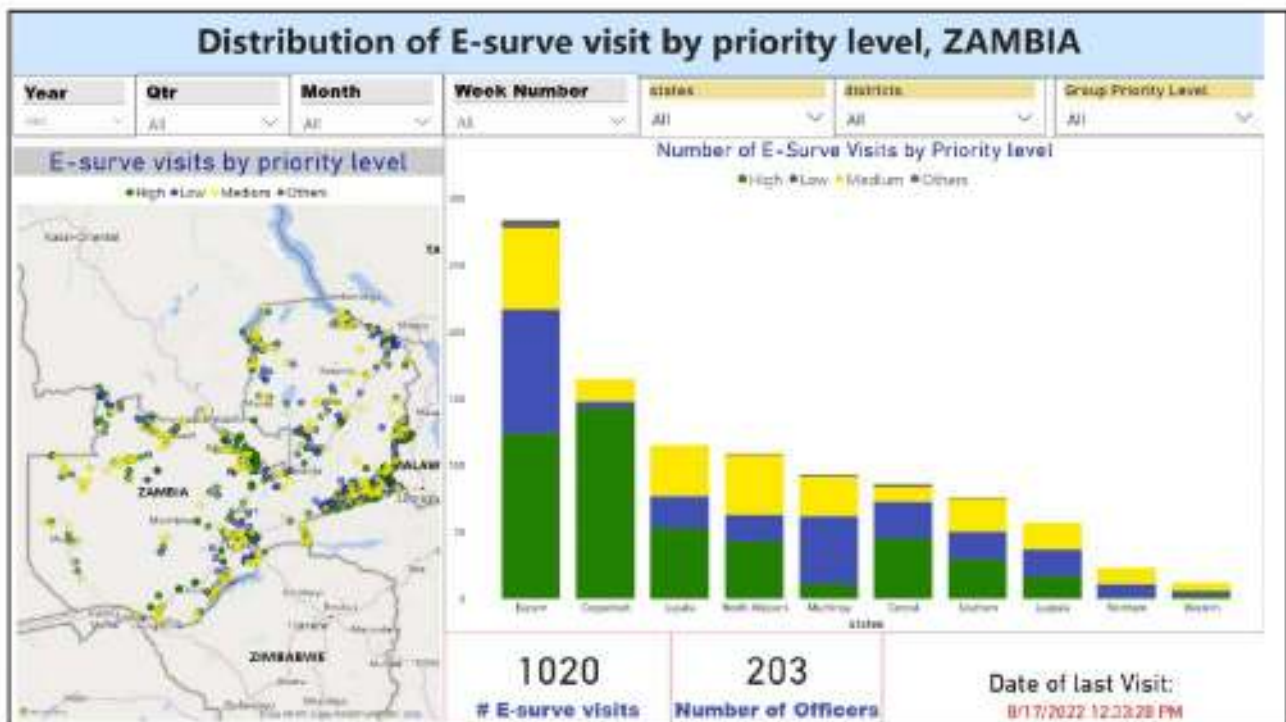


Figure 3: Zambia AFP and environmental samples tracking as of week 38, 2022.

Table 5: Zambia environmental surveillance dashboard as of week 38, 2022





- Total active search visits 1020 across the country January- September 2022
- Most of the visits were conducted in Eastern and Copperbelt

5.0 Surveillance Next Steps

Surveillance critical issues

- A total of 32/116 (28%) of the districts are currently silent in reporting AFP cases with most of those that reported cases having low stool adequacy and NPENT/SL detection rates.
- Need to improve knowledge capacity of surveillance focal points at provincial, district, facility, and community levels to ensure increased surveillance sensitivity and timely reporting.
- Quarterly AFP surveillance review meetings at all levels are not conducted regularly to assess the AFP surveillance performance for action to enhancement surveillance activities.
- Need for funding to support cascade training at facility and community levels
- lack of adequate funding support for quick AFP sample transportation from hard-to-reach areas to the national laboratory.

Urgent actions to improve AFP Surveillance

The surveillance TWG is working with partners in country to address the following:

- Complete the surveillance provincial level training of the remaining Northern provinces
- Urgent need to undertake surveillance desk reviews by provinces and development of surveillance enhancement plans to close all performance gaps
- Extend the refresher training to cover all surveillance focal points and health workers involved in surveillance at all levels.
- Addressing challenges of AFP sample transportation from the provinces to the accredited national virology laboratory with the support of partners (BMGF/Village Reach/CIDRZ)
- Intensify the number of active surveillance visits per province

- Support quarterly AFP surveillance review meetings at national and provincial levels
- Intensify health worker and community health worker's sensitization
- Print and distribute polio eradication job aids (IEC material, case investigation forms (CIF), and 60 day follow up forms).
- Procurement of logistics for stool sample collection and transportation including stool carriers and collection kit (stool bottles, zip lock bags), and reversed cold chain management.
- Increased sensitization of key informants at community level (religious, traditional and community leaders).
- Support laboratory activities such as capacity building of the national accredited polio laboratory personnel and procurement of reagents for processing of ES and AFP samples.
- Expansion of environmental surveillance sites as well as improve performance of already existing sites

Epidemiological Report

By : ZNPHI

Citation Style For This Article: ZNPHI. INTEGRATED DISEASE SURVEILLANCE AND RESPONSE (IDSR) .Health Press Zambia Bull. 2022; 06(3); pp 10-15.

Summary

On-going current outbreaks and public health updates

COVID-19 (Coronavirus): Since March 18, 2020, Zambia has recorded a total of 333,549 confirmed cases, 3,733,167 samples tested, 329,424 recoveries, and 4,017 COVID-19 deaths cumulatively. The country's vaccine coverage now stands at 56.6% from an eligible population of 10,926,800.

Measles: The outbreak continues to evolve in Lusaka, North-western and Southern provinces affecting several districts. Cumulatively, the provinces have recorded 655 measles cases and 31 deaths.

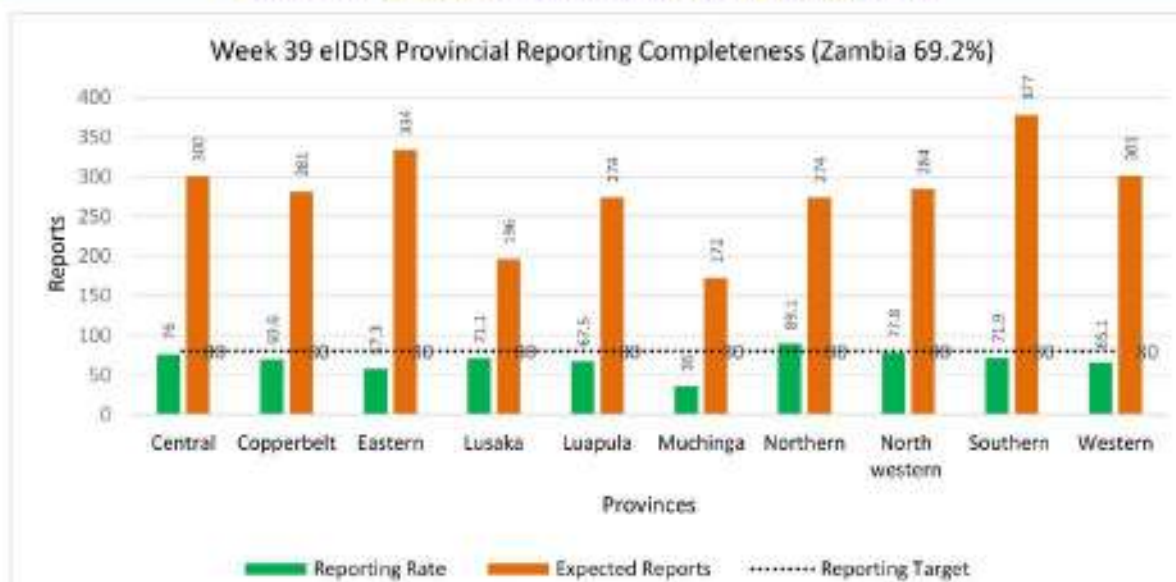
Immediately Notifiable Diseases/Events

- **COVID-19 (Coronavirus):** A total of 5,463 tests were conducted in week 39 resulting in 54 confirmed cases and no deaths.
- **Maternal Deaths:** 15 Deaths were recorded from Central (5), North-Western (4), Lusaka (3), Copperbelt (1), Southern (1) and Western (1) provinces.
- **Measles:** 52 suspected cases were reported from Lusaka (19), Northern (12), Southern (10), Luapula (6), Central (4) and North-western (1) provinces.
- **Acute Flaccid Paralysis (AFP):** 2 case were reported from Copperbelt (1) and Central (1) provinces.

Other diseases/events

- **Dysentery:** 784 suspected cases were reported Southern (174), Central (129), Eastern (92), North-Western (83), Western (76), Northern (87), Luapula (56), Lusaka (50), Copperbelt (41) and Muchinga (16) provinces.
- **Typhoid Fever:** 41 suspected cases were reported from Northern (16), Copperbelt (6), Lusaka (3), and Southern (2) Provinces.

Electronic (eIDSR) Completeness, Health Facility Level

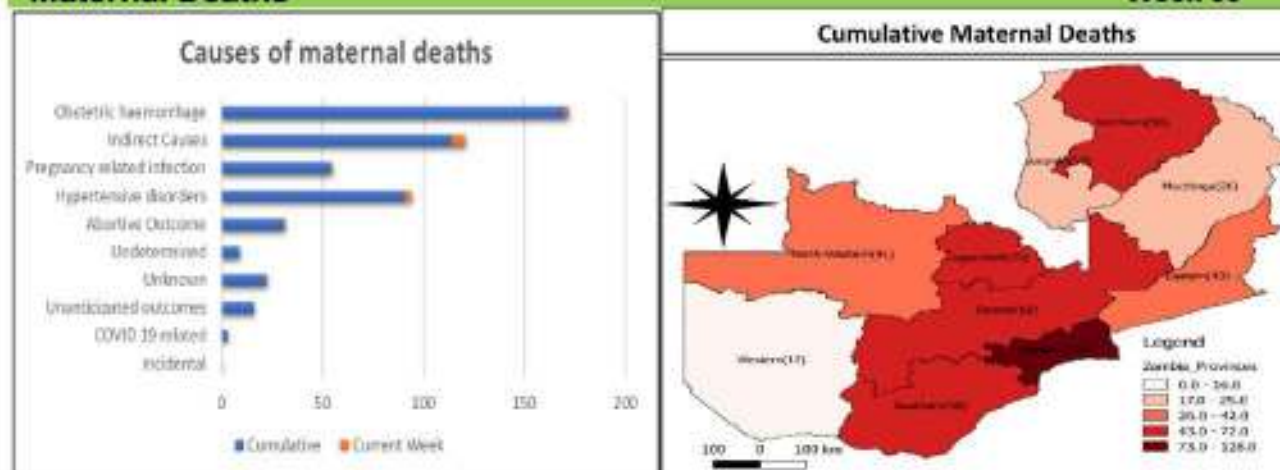


Summary Report Priority Diseases, Conditions and Events (Week 39)

Disease/Event/Condition	Week 39			Week 1-39 Cumulative		
	Suspected	Tested	Confirmed	Suspected	Tested	Confirmed
COVID-19	5,463	5,463	54	744,271	744,271	73,762
AFP	2	2	0	268	268	0
Cholera	0	0	0	163	134	12
Meningitis (Neisseria)	0	0	0	112	59	31
Measles	52	26	1	1,061	751	188
Neonatal Tetanus	0	N/A	N/A	8	0	0
Plague	0	0	0	0	0	0
Rabies	0	0	0	22	0	0
Dog Bites	243	N/A	N/A	9,492	N/A	N/A
Dysentery	784	49	9	21,942	1,071	225
Typhoid Fever	41	41	4	2,548	1,626	1,637
Yellow fever	0	0	0	0	0	0
VHF	0	0	0	0	0	0
Anthrax	1	0	0	12	1	0
Trypanosomiasis	1	1	1	325	124	8
Influenza	68	68	0	3,452	3,452	164
Non-Bloody Diarrhoea	18,628	0	0	494,400	74,407	2,980
Schistosomiasis (Bilharzia)	252	81	18	9,039	2,713	689
Malaria	99,814	97,898	33,641	6,063,564	5,888,821	2,739,001
HIV	26,408	25,404	863	922,456	876,079	44,253
Maternal Deaths	15	N/A	N/A	525	N/A	N/A
Tuberculosis	4,242	3,825	263	172,141	161,465	11,295

Maternal Deaths

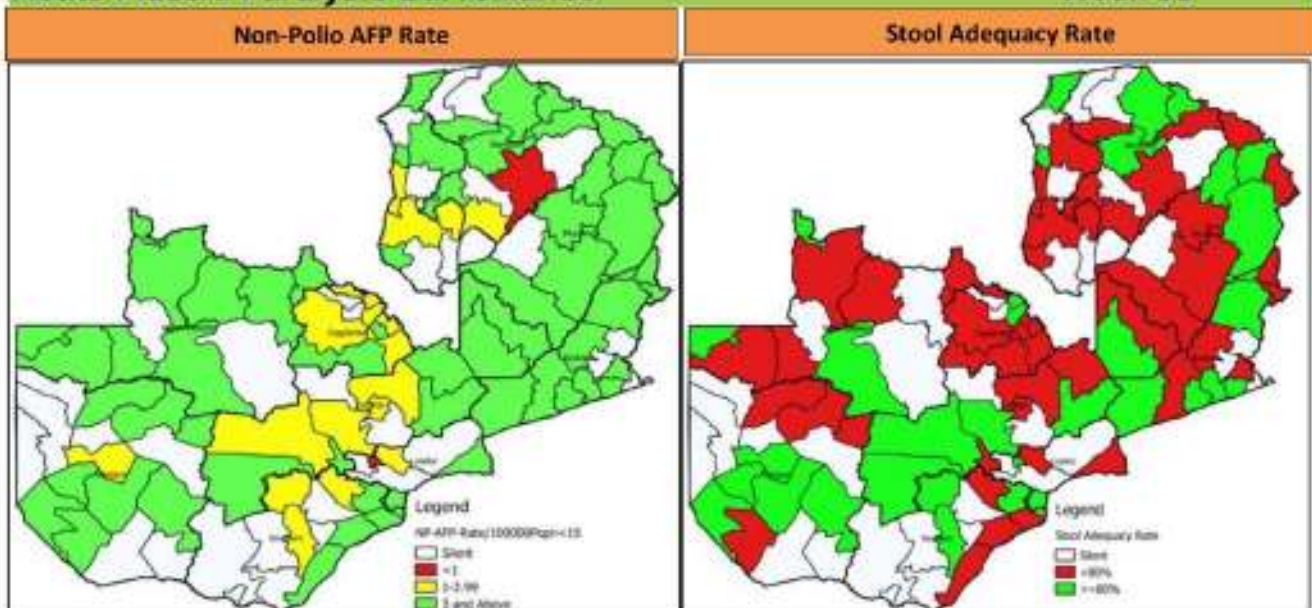
Week 39



- Cumulatively, 525 maternal deaths have been reported as of week 39 of 2022.
- While Obstetric hemorrhages (172) and Indirect causes (121) remain to be significant causes of deaths

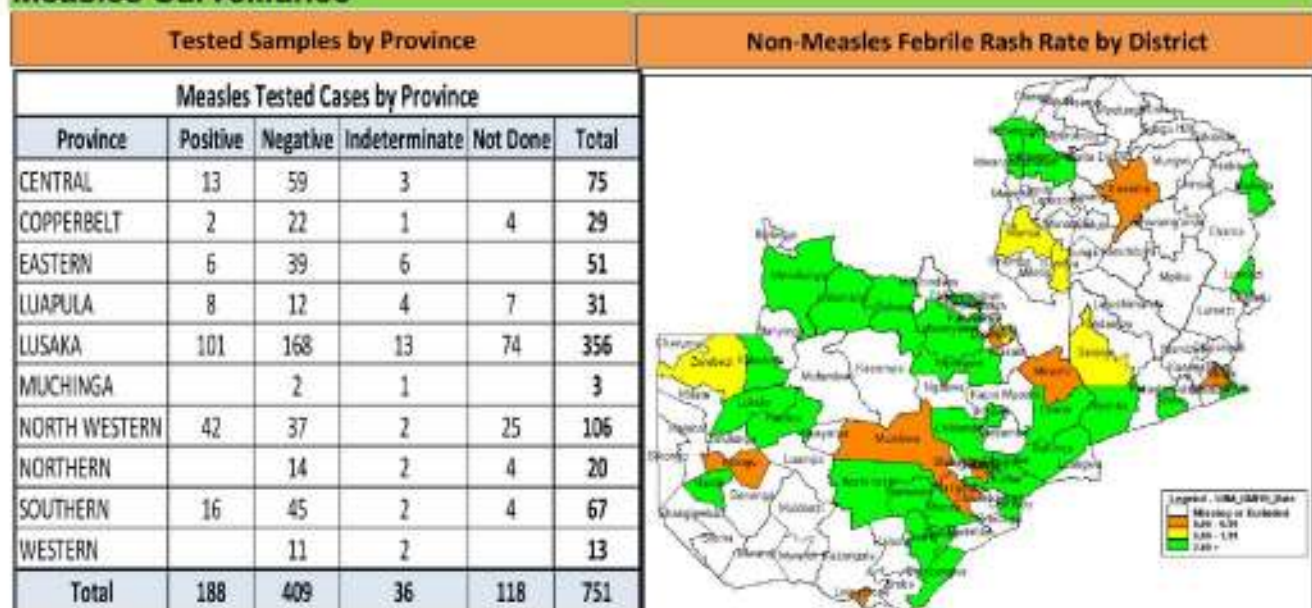
Acute Flaccid Paralysis Surveillance

Week 39

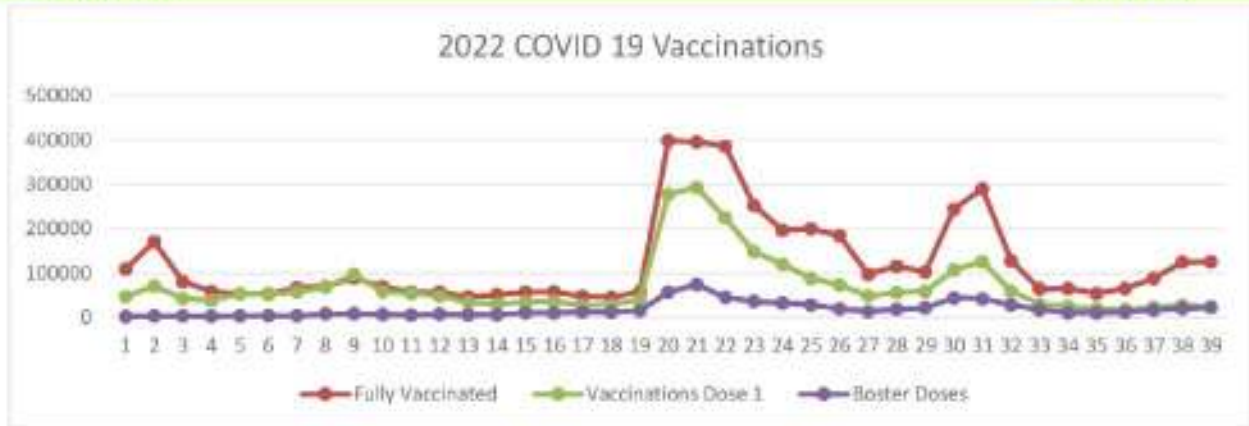


- The country Non-Polio AFP Rate is at 4.0/100,000 children aged under 15 years.
- A total of 268 AFP cases have been reported across the 10 provinces cumulative.
- The country's Stool adequacy rate stands at 64%
- 82 of the 116 districts have reported AFP cases and 32 districts are reported to be silent districts.

Measles Surveillance



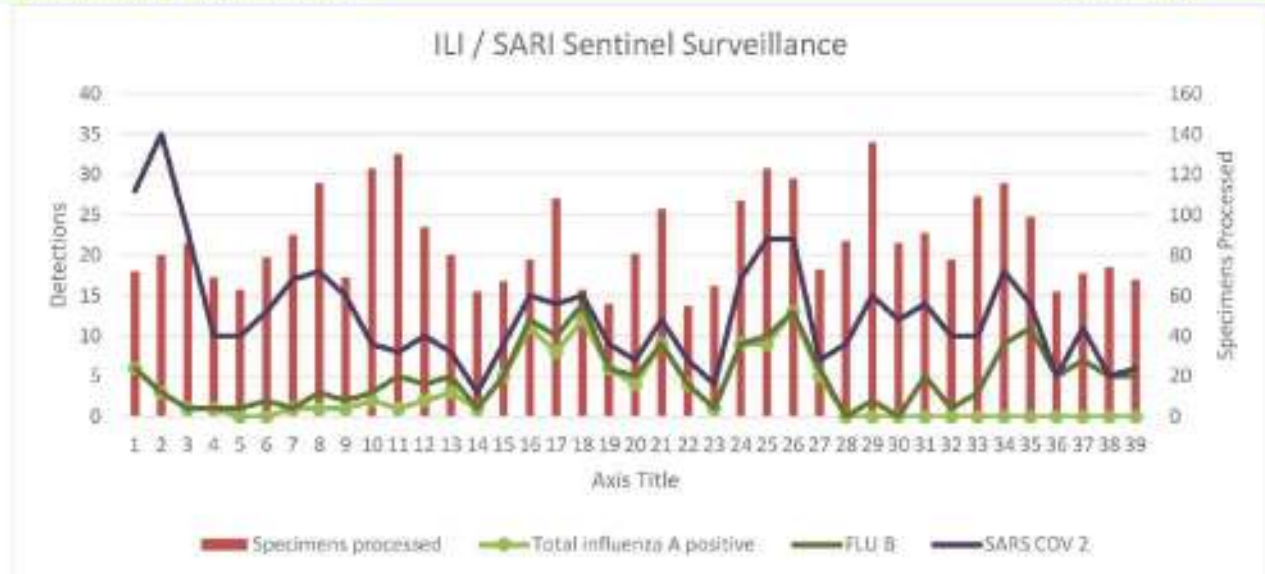
- Cumulatively, 751 samples of suspected measles cases have been collected across the 10 provinces.
- The country has recorded a total of 188 confirmed cases, Measles sample positivity is at 25%.
- Lusaka and Northwestern provinces have contributed the highest number of confirmed measles cases
- On the right is a heat map of districts attaining the non-measles febrile rash rate of 2 cases per 100,000 children aged under 15.



Summary of COVID 19 Indicators							
Indicator	Cum. / Av. (2022)	EW 35	EW 36	EW 37	EW 38	EW 39	Trend Line
Tests Conducted	744,271	10,326	8,902	5,487	6,704	5,463	
Confirmed Cases	73,762	262	155	129	114	54	
Positivity rate	6.3%	2.5%	1.7%	2.4%	1.7%	1.0%	
Deaths	274	1	0	0	0	0	
CFR	0.3%	0.4%	0.0%	0.0%	0.0%	0.0%	
Recoveries	112,503	355	266	192	119	114	
Admissions	1,755	6	6	1	0	1	
Oxygen	4,258	33	18	4	1	0	
Critical	980	7	5	0	0	3	
Fully Vaccinated	4,855,176	54,270	65,450	88,313	120,997	125,470	

Summary

- A total of 54 cases were recorded in week 39, representing a 53% decrease from the 114 cases recorded in week 38. The number of tests conducted in week 39 also decreased by 19%.
- No deaths were recorded in week 39.
- A total of 125,470 people were fully immunized in week 39. This continued high number of vaccinations is attributed to the Nationwide COVID-19 vaccination campaign which began in week 20.



- A total of 68 samples were tested in epi-week 39 of 2022, from ILI/SARI cases investigated at Ndola, Lusaka, Nakonde and Livingstone sentinel sites. Of the samples tested, there were five (5) which tested positive for Flue B and one (1) sample tested positive for SARS COV 2.

Global/Regional/Public Health Events (Cases/Case Fatality Rate)

Ebola	Measles	Cholera	Poliomyelitis	COVID-19
DRC: 1 CFR 100.0%	TAN: 223 CFR 0.0%	Malawi: 3,246 CFR 3.0%	Malawi: 1 CFR 0.0%	Global: 623,342,683 CFR 1.1%
	NAM: 63 CFR 0.0%		MOZ: 4 CFR 0.0%	

Major Issues and Challenges in the African Region include:

- As of 39 (week starting 26thSeptember to 1st October 2022), Cumulative global COVID-19 stands at 623,342,683 while fatality rate is at 1.1%
- As of 1st October 2022, there have been 590 confirmed cases of Monkeypox reported in 11 African countries including nine countries in the WHO African region (Nigeria (277), Democratic Republic of the Congo (DRC) (195), Ghana (84), Central Africa Republic (CAR) (8), Cameroon (7), South Africa (5), Benin Republic (3), Congo (5) and Liberia (3) and two in the WHO Eastern Mediterranean Regional Office countries: Sudan (6) and Morocco (3). The CFR stands at 2.6%

For more information, lookup the [WHO Weekly Bulletin on Outbreaks and other emergencies](#) and for Global Updates on the corona virus COVID19 lookup John Hopkins dash board on <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html?>

Public Health Actions

Planned Surveillance Activities

- Strengthen COVID-19 surveillance in all provinces with the dropping of the COVID-19 mitigation measures.
- Continue with active case search across the 10 provinces to detect cases of COVID-19
- Increase coverage of use of COVID-19 tracker application on the DHIS2
- Outbreak investigations to be conducted in areas reporting suspected outbreaks of Measles.
- Preparation for round four of the Oral Polio Vaccination Supplementary Immunization Activities in Zambia
- Sustain surveillance for all IDSR priority diseases, events and conditions

- Supportive supervision and mentorship to be integrated in other surveillance activities rolling out.

Response to Wild Polio Virus in Malawi and Mozambique

- All provinces to strengthen AFP surveillance using available technological tools and geo code all cases detected.
- All districts are expected to conduct health facilities integrated supervisory active searches at priority sites as per recommended schedule.
- Active Case Search Trainings conducted in all provinces and currently being conducted.
- Non-polio AFP rate adjusted to 4/100,000 for all districts
- Three rounds of the SIA have been conducted since the response to neighboring outbreak commenced.
- Support and Strengthen Polio environmental surveillance in Copperbelt and Lusaka sites to collect specimens weekly.

Heightened Surveillance in Districts Reporting Cases of Measles

- Surveillance (including Event Based Surveillance) is being actively conducted in all districts reporting cases of Measles.
- All districts to be on high alert, as several districts have reported cases of confirmed cases of Measles.
- Targeted immunizations have been commenced in affected districts to raise the immunization coverage and attain optimum immunity.
- IEC materials have been developed and Risk communication teams have been constituted to engage the communities.
- Provincial epidemic preparedness committees to engage all relevant government stakeholders and Multisector partners required to prevent, control and stop transmission of Measles.

Global Alert of the Monkeypox & Preparedness

- Orientation of staff at points of entry on Monkey pox in all provinces to be prioritised.
- Screening at all points of entry to be strengthened especially at international points of entry.
- Awareness materials for public use including factsheets, posters and other IEC materials.
- Report all suspected cases to nearest health facility immediately.
- Isolation centres for suspected and probable cases to be identified.
- Case definitions to be made available and other IEC materials in health facilities and public places.
- A call center has been established at ZNPHI and DMMU and all queries should be channeled to the following numbers: 909/+260 96 4638726/+260 974493553/+260 95 3898941.

Reported by Surveillance and Disease Intelligence Unit: Prof Roma Chilengi, Dr Muzala Kapina, Moses Banda, Lilian Lamba, Moses Mwale, Iness V. Chiwaula, Chilufya Mulenga and Vivian Mwale.