

BACKGROUND

- Vaccines are critical to the prevention and control of many communicable diseases and therefore underpin global health security.
- Rising global temperatures, extreme weather events, and shifting disease patterns are all making it more challenging to deliver and administer essential vaccines.
- Droughts, floods, and supply chain disruptions can disrupt the cold chain storage and transportation required for many vaccines, reducing their efficacy.
- Changing disease vectors like mosquitoes are leading to the spread of vaccine-preventable illnesses to new regions, straining local health systems.
- Displacement of populations due to climate-related disasters also makes it harder to reach children and maintain consistent vaccination schedules.
- Climate-induced flooding significantly impacts the provision and access to health care services including vaccination and may increase the susceptibility of children to vaccine-preventable diseases. This study aims to determine the impact of flooding on the coverage of 3 antigens – Penta, IPV, and measles among children.

METHODS

- This was a retrospective descriptive study conducted to determine the impact of flooding on vaccination coverage in Bayelsa and Delta states using vaccination data on DHIS2.
- The data was accessed on 15th January 2023. Months of flooding across states were determined using information available from the Nigerian Meteorological Agency (NiMet).
- Vaccination coverage for Penta 1, Penta 3 and Measles and IPV 1 and IPV 2 antigens were assessed for pre-flooding (August and September 2022), flooding (October and November 2022), and post-flooding (December 2022 and January 2023) periods.
- Data was analyzed for descriptive statistics using SPSS version 23.

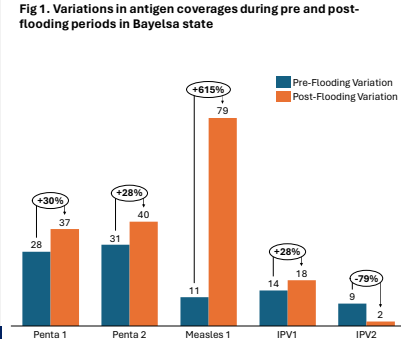
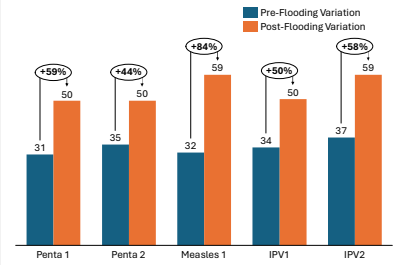
RESULTS

Table 1. Vaccination Coverage of Antigens in Bayelsa State

Timeline	Penta 1	Penta 2	Measles 1	IPV1	IPV2
August 2022	50.0	46.8	36.7	51.4	39.4
September 2022	48.5	48.4	36.6	51.6	40.8
October 2022	28.6	28.4	21.5	29.9	21.1
November 2022	39.1	33.8	28.4	38.4	29.3
December 2022	55.3	50.6	42.8	56.4	44.2
January 2023	46.1	42.6	36.4	46.3	35.8
Mean Values					
August/September 2022	49.2	47.6	36.6	51.5	40.1
October/November 2022	33.8	31.1	24.9	34.1	25.2
December/January 2023	50.7	46.6	39.6	51.3	40.0

Table 2. Vaccination Coverage of Antigens in Delta State

Timeline	Penta 1	Penta 2	Measles 1	IPV1	IPV2
August 2022	82	76.6	74.8	77.1	40
September 2022	79.3	71.9	70.3	72	38.5
October 2022	63.6	59.1	61.1	63.9	37.2
November 2022	51.8	43.3	67.9	64.8	34.5
December 2022	81.1	71.7	154.3	79.9	33.3
January 2023	77.1	71.5	77.1	71.4	37.1
Mean Values					
August/September 2022	80.6	74.2	72.5	74.5	39.2
October/November 2022	57.7	51.2	64.5	64.3	35.8
December/January 2023	79.1	71.6	115.7	75.6	35.2



CONCLUSION

- Climate-induced flooding significantly impacts access to health care services, including vaccination for children.
- The DHIS2 platform can serve as a dependable reference for historical data on the impact of climate events on healthcare service delivery and outcomes.
- This can be a veritable strategy for disaster preparedness to mitigate the impact of disastrous climate-related events.

REFERENCES

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