

Characterisation of National Immunisation Programmes (NIPs) in the context of Public Health Emergencies (PHEs): A case study of 13 countries in the WHO-Afro region

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BACKGROUND

- The World Health Organisation Africa (WHO-Afro) region, experiences multiple public health emergencies (PHEs) annually (1).
- PHEs like the ongoing COVID-19 pandemic means millions of children go without the lifesaving benefits of immunisation (2,3,4).
- There is limited information on the performance of national immunisation programmes (NIPs) in countries that experience PHEs.

METHODS

AIM: To characterise NIP performance between 2010 and 2019 in countries within the WHO-Afro experiencing PHEs that have benefited from the African Public Health Emergency Fund (APHEF)

- Data on 3 types of PHEs (*armed conflicts, disease outbreaks and disasters*) and NIP performance indicators (*global and regional immunisation goals*) were extracted from relevant electronic databases.
- The PHEs and NIP performance indicators were stratified by country and summarised using descriptive statistics.
- The Mann Witney U comparison test was done to compare the frequency of PHEs and the attainment of NIP performance indicators. Statistical significance was defined at ≤ 0.05 .



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Core messages

Public health emergencies were *prevalent* and *innately present* in all the 13 countries during the *entire study period*

Generally, NIPs in the PHE prevalent countries were observed to have *sub-optimal immunisation performance*.

Higher counts of armed conflicts and total PHEs were significantly associated with *not achieving* global and regional immunisation goals for $\geq 90\%$ national DTP3 coverage and *MNT elimination*

RESULTS

- A total count of 175 disease outbreaks, 288 armed conflicts, and 318 disasters were recorded in the 13 countries from 2010 to 2019. The Democratic Republic of Congo had the highest total PHE count (n=208), while Liberia had the lowest (n=20) (**Figure 1**).
- Only three of the 13 countries had a median immunisation coverage value for the third dose of the combined Diphtheria, Tetanus and Pertussis (DTP3) vaccine being $\geq 90\%$ (**Table 1**).
- 5 countries had not achieved Maternal and Neonatal Tetanus (MNT) elimination (**Table 1**).

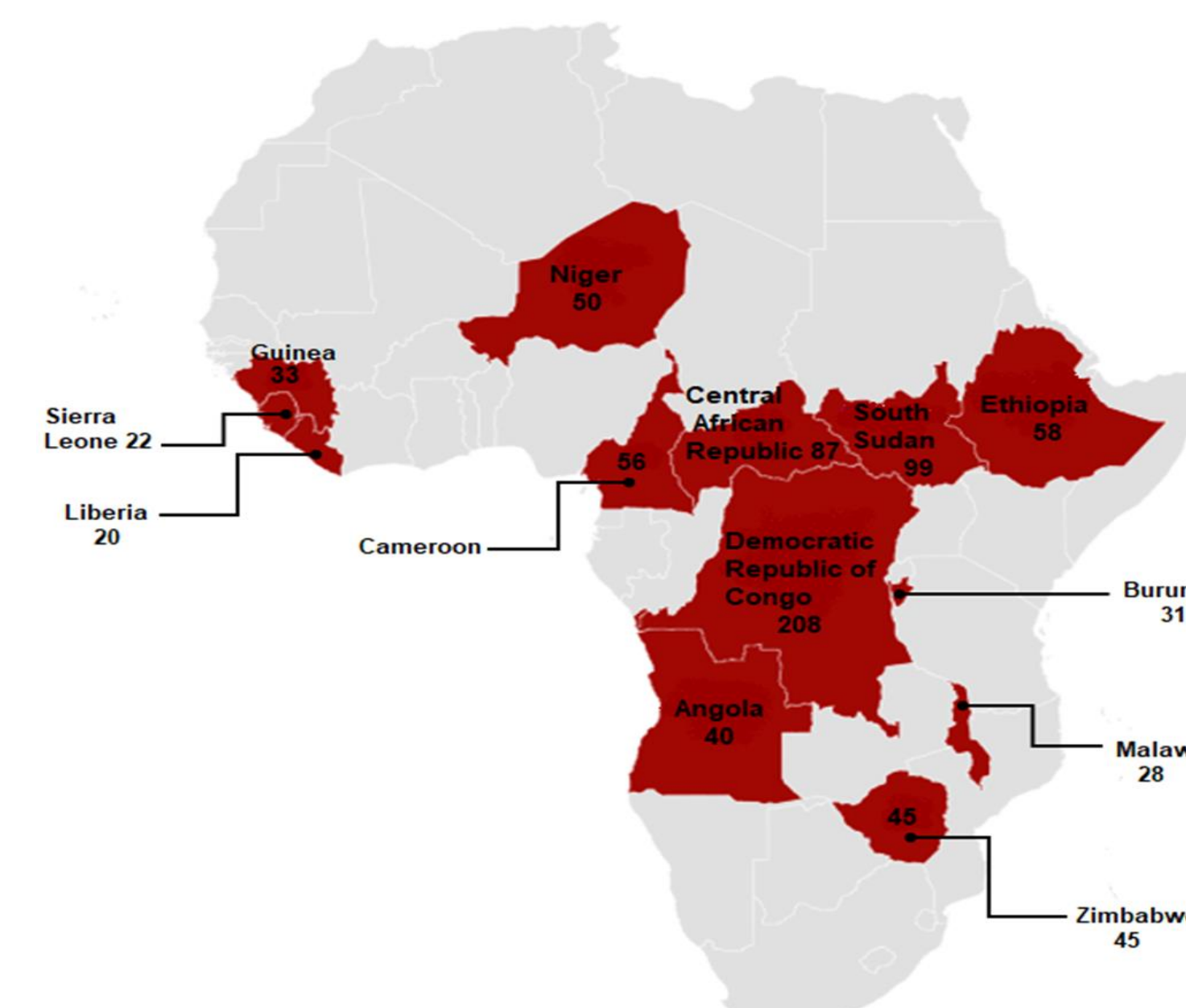


Figure 1: Distribution of total PHE counts by country from 2010 to 2019

- Comparison tests showed that higher counts of armed conflict and total PHEs were associated with not meeting immunisation goals for national DTP3 coverage of $\geq 90\%$ and MNT elimination, $p < 0.01$.
- Higher disaster counts were also associated with not achieving MNT elimination, $p = 0.03$.

CONCLUSIONS

- PHEs are prevalent in the WHO-Afro region.
- Immunisation performance in the PHE prevalent countries is suboptimal and not at par with regional and global immunisation goals.
- In the absence of effective interventions, the PHEs have the potential to stagnate progress of NIPs in the WHO-Afro region.

Literature cited

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Further information

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Table 1: Descriptive summary of NIP related immunisation indicators between 2010 and 2019

Countries	Number of years (n)	National DTP3 coverage $\geq 90\%$ Coverage (Median, [IQR])	Has Maternal and Neonatal Tetanus (MNT) Elimination Achieved ^b (Yes, No)
Angola	10	55.50 [5.25]	No
Burundi	10	94.50 [2.75]	Yes
Cameroon	10	80.00 [9.50]	Yes
Central African Republic	10	47.00 [0.00]	No
Democratic Republic of Congo	10	61.50 [11.00]	Yes
Ethiopia	10	64.50 [6.25]	Yes
Guinea	10	47.00 [8.25]	No
Liberia	10	80.00 [8.25]	Yes
Malawi	10	91.50 [6.25]	Yes
Niger	10	79.50 [7.50]	No
Sierra Leone	10	89.50 [5.75]	Yes
South Sudan ^a	9	49.00 [6.00]	No
Zimbabwe	10	90.00 [3.50]	Yes

^a - South Sudan gained independence in 2011 hence data obtained were for 9 years
^b - Country MNT elimination status as of 2019