

Potential of typhoid conjugate vaccines in the Central African Republic

Typhoid, a serious enteric fever spread through contaminated food and water, is a substantial public health issue that disproportionately impacts children and marginalized populations in Asia and sub-Saharan Africa. In 2021, there were more than 7 million typhoid cases and more than 93,000 typhoid deaths worldwide.¹ Additionally, strains of drug-resistant typhoid are spreading, causing global concern.²

TYPHOID CONJUGATE VACCINES

Typhoid vaccination can reduce the need for antibiotics, slow expansion of drug-resistant strains, and save lives. Typhoid conjugate vaccines (TCVs) are licensed, prequalified by the World Health Organization (WHO), and have advantages over earlier typhoid vaccines. TCVs provide strong protection for at least 4 years, require only one dose, and are safe and effective for children older than 6 months of age.

Three large Phase 3 efficacy studies conducted in Bangladesh, Malawi, and Nepal showed that TCV prevented 79-85 percent of typhoid cases in children 9 months to 16 years of age. These results demonstrate that TCV is protective across diverse settings in Africa and Asia.

WHO RECOMMENDATION AND GAVI SUPPORT

In March 2018, WHO recommended TCVs as the preferred typhoid vaccine because of its improved performance and suitability for younger children. WHO recommends the introduction of TCV be prioritized in countries with the highest burden of typhoid disease or a high burden of drug-resistant typhoid. WHO encourages routine administration to be accompanied by catch-up vaccination campaigns for children up to 15 years of age, where feasible and supported by data.³ Gavi, the Vaccine Alliance has provided financial support for eligible countries to introduce TCVs since 2018. Several countries have already introduced TCV into their routine immunization programs including Burkina Faso, Kenya, Liberia, Malawi, Nepal, Pakistan, Samoa, and Zimbabwe. More than 90 million children have been vaccinated with TCV.



Children queue to receive TCV in Burkina Faso. Credit: TyVAC/Build Africa Communications

AN OPPORTUNITY FOR CAR

TCVs could have a substantial benefit in Central African Republic (CAR), where typhoid inflicts a significant public health burden. The Global Burden of Disease study estimated that CAR experienced more than 1,800 typhoid cases, with the highest burden in children younger than 5 years old.¹ The true typhoid burden is likely higher than these estimates due to challenges in diagnosis and surveillance. A study of pediatric typhoid intestinal perforation, a severe and life-threatening complication of typhoid that requires surgery, found high morbidity and mortality rates for these patients,⁴ demonstrating the severity of this complication and suggesting higher typhoid burden than current estimates.

While cost of illness have not yet been evaluated for CAR, analyses from other settings in Africa have found that families often bear a significant cost, especially for cases in young children.⁵ Existing data demonstrate that vaccination with TCV in a variety of strategies and settings is cost-effective.³

References

1. Institute for Health Metrics and Evaluation. GBD Results tool. 2021. Available at: <http://ghdx.healthdata.org/gbd-results-tool>.
2. Wong VK, Baker S, Pickard DJ, et al. Phylogeographical analysis of the dominant multidrug-resistant H58 clade of *Salmonella* Typhi identifies inter- and intracontinental transmission events. *Nature Genetics*. 2015;47:632-639.
3. World Health Organization. Typhoid vaccines: WHO position paper – March 2018. *Weekly Epidemiological Record*. 2018;93(13):153-172.
4. Sukri L, Banza A, Shafer K, et al. Typhoid intestinal perforation in Francophone Africa, a scoping review. *PLOS Global Public Health*. 2024;4(3):e0003056.
5. Limani F, Smith C, Wachepa R, et al. Estimating the economic burden of typhoid in children and adults in Blantyre, Malawi: A costing cohort study. *PLOS ONE*. 2022;17(11):e0277419.

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