

## Accelerating typhoid conjugate vaccine introduction

The Typhoid Vaccine Acceleration Consortium (TyVAC), a partnership between the Center for Vaccine Development at the University of Maryland School of Medicine, the Oxford Vaccine Group at the University of Oxford, and PATH, an international nonprofit, aims to accelerate the introduction of new typhoid conjugate vaccines (TCVs) as part of an integrated approach to reduce the burden of typhoid in countries eligible for support from Gavi, the Vaccine Alliance (Gavi).

### WHY TYPHOID

Typhoid, a serious enteric fever caused by *Salmonella* Typhi, is spread through contaminated food and water. While largely eliminated in industrialized countries, typhoid continues to be a substantial public health issue that disproportionately impacts children and marginalized populations in much of Asia, sub-Saharan Africa, and parts of Latin America and the Middle East.

The burden of typhoid is likely underestimated due to difficulties in surveillance and diagnostic challenges, but current estimates indicate that each year there are 12 to 21 million cases and almost 150,000 deaths, with young children and adolescents aged 2 to 15 years disproportionately impacted. Though treatable with antibiotics, the rate of cases resistant to the available antibiotics is increasing. Vaccination and improvements in water, sanitation, and hygiene are key components of an integrated strategy to prevent typhoid.

The two typhoid vaccines currently licensed are underutilized in high-burden countries despite typhoid's detrimental impact and the World Health Organization (WHO) recommendation for their use. New TCVs have the potential to overcome many of the

challenges that have impeded uptake of earlier vaccines, including longer-lasting protection and suitability for children under two years of age, allowing for inclusion in routine immunization programs.

### TyVAC'S APPROACH

TyVAC works closely with local and global partners to accelerate the introduction of TCVs in low-income countries and facilitate access to typhoid vaccines in the most at-risk and marginalized communities.

Our approach is multidisciplinary—at the global level, we work closely with WHO, Gavi, and other stakeholders to ensure there is sufficient data and evidence to inform global guidelines, financing decisions, and a sustainable vaccine supply. Similarly, TyVAC works with local partners to support program preparation and ensure evidence-based policy decisions.

TyVAC assesses existing data and generates new evidence related to typhoid disease burden, antimicrobial resistance, cost-effectiveness, health impact analyses, and regional data on TCVs. We conduct country-level analyses to understand cost and economic value of vaccines and inform decision makers at the national level.

TyVAC is committed to ensuring that prevention and control of typhoid is a global health priority. Working with partners to take an integrated approach that includes TCVs along with improved water, sanitation, and hygiene, we can mitigate the substantial and detrimental impact of typhoid.