

## Accelerating typhoid conjugate vaccine introduction

### WHY TYPHOID

Typhoid, a serious enteric fever caused by *Salmonella* Typhi, is spread through contaminated food and water and is a substantial public health issue 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 nearly 12 million cases and more than 128,000 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.

### A TROUBLING OUTBREAK

Pakistan's current outbreak, the first-ever reported outbreak of ceftriazone-resistant typhoid, represents an alarming trend in the spread of drug-resistant typhoid. In the past year, Pakistan has identified over 400 culture-confirmed cases and 1 death. Not only is the strain resistant to ceftriazone, the standard treatment in many parts of the world, but it is also resistant to several other commonly used antibiotics, making it increasingly challenging and costly to treat. This outbreak underscores the urgency of deploying existing, proven interventions—vaccines and water, sanitation, and hygiene improvements—to prevent typhoid infections and therefore reduce the need for antibiotics.

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 typhoid conjugate vaccines (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, the Vaccine Alliance, and other stakeholders to ensure there are 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.

