How data drive decision-making: Reflections from TCV introductions in Pakistan and Malawi and the role of data moving forward

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The Typhoid Vaccine Acceleration Consortium (TyVAC) is led by the Center for Vaccine Development and Global Health at the University of Maryland School of Medicine, the Oxford Vaccine Group at the University of Oxford, and PATH. TyVAC is funded by the Bill & Melinda Gates Foundation.
TyVAC works closely with global partners
The ultimate goal: Get typhoid conjugate vaccines (TCV) to kids who need it, regardless of where they live.
Data can be difficult to identify yet drive decision-making

- Typhoid burden is difficult to measure and often underestimated due to diagnostic and surveillance challenges.
- Yet, typhoid and drug resistance burden data are crucial to identify prevention interventions, especially typhoid conjugate vaccines (TCVs).
- Six counties have successful integrated TCV into their routine immunization program.
- Three countries have successfully applied to Gavi for support and will introduce in 2024.
- Many additional countries in various stages of decision-making and planning.
### TCV introductions to date

<table>
<thead>
<tr>
<th>Country</th>
<th>Introduction Strategy</th>
<th>Age</th>
<th>Decision-making considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>Nationwide (phased) campaign; transition to routine immunization (RI) following campaign.</td>
<td>Campaign: 9 month to younger-than-15 years RI: 9 months</td>
<td>National epidemiological data, including high burden of drug resistant typhoid; ecological conditions that promote typhoid transmission.</td>
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<tr>
<td>Liberia</td>
<td>Nationwide campaign; transition to RI following campaign.</td>
<td>Campaign: 9 months to younger-than-15 years RI: 9 months</td>
<td>Neighboring country, regional, and global data to project local burden and risk; ecological conditions; seasonal peaks in typhoid burden</td>
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<tr>
<td>Zimbabwe</td>
<td>Nationwide campaign (integrated with HPV &amp; IPV); transition to RI following campaign.</td>
<td>Campaign: 9 months to younger-than-15 years RI: 9 months</td>
<td>Prone to typhoid outbreaks and ecological conditions prime for typhoid transmission; drug resistant typhoid burden; high disease burden nationwide, esp. in younger age groups.</td>
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<tr>
<td>Nepal</td>
<td>Nationwide campaign; transition to RI following campaign.</td>
<td>Campaign: 15 months to younger-than-15 years RI: 15 months</td>
<td>National burden data; vaccine coverage/acceptance data; increase uptake of TCV + MCV2.</td>
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<tr>
<td>Malawi</td>
<td>Nationwide campaign (integrated with bOPV, MR, and Vitamin A); transition to RI following campaign</td>
<td>Campaign: 9 months to younger-than-15 years RI: 15 months</td>
<td>National burden data, including data from surveillance study sites; high rates of drug-resistant typhoid; propensity for outbreaks;</td>
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</tbody>
</table>
Today’s decision-making and data deep dive

- Using data in Pakistan and Malawi introduce and strategically implement TCV campaigns
- Ongoing data gathering efforts in the Eastern Mediterranean region that support future country decision-making
Learn more at:
http://takeontyphoid.org
TCV introductions to date

- Pakistan became the first country to introduce TCV into its routine childhood immunization program through a phased campaign that began in November 2019.
- More than 56 million children have been vaccinated with TCV through introduction campaigns.
- Other countries are in various stages of preparing applications and/or planning for TCV introduction into their routine immunization programs.
- TCV has also been used safely and effectively as part of outbreak response efforts, both in Pakistan and in Zimbabwe.
Ensure widespread and sustainable TCV introductions

- Support the use and application of new surveillance tools/assessment methods for TCV introduction decision-making.
- Ensure countries have the latest vaccine performance and health economics data to enable an information-based decision for TCV introduction.
- Provide technical support as needed for countries to submit strong Gavi applications and conduct quality TCV introductions.
- Ensure TCV program sustainability.
TyVAC support for TCV introduction

**Phase 1**  
Decision-making and application

- Provide resources and support for regional and national level stakeholder forums on typhoid and TCVs.
- Assist with collating and reviewing typhoid burden data.
- Develop advocacy and communications materials to support decision-making.
- Help with Gavi application and facilitate post-application responses from Gavi.
- Assess country-specific cost-effectiveness analyses and estimate prospective vaccine program costs.

**Phase 2**  
Post-application

- Support microplanning activities.
- Collaborate with Gavi & UNICEF to develop training and information, education, and communication materials.
- Support AEFI surveillance training.
- Share lessons learned to inform EPI programming and improve policies, coverage, delivery, and equity.