Gavi Typhoid Programme: History of decision-making, current support & early lessons learned

11th International Conference on Typhoid & Other Invasive Salmonelloses
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March 27 2018, Hanoi
Global policy and financing for TCV evolved rapidly

2017
- Gavi Board approves $85M for TCV in 2019-2020
- WHO SAGE recommendation for TCV

2018
- Typhar-TCVTM receives WHO PQ
- Revised WHO recommendation for typhoid vaccines
- Gavi TCV application guidelines available to countries
Updated WHO recommendation for typhoid vaccines informed by wide range of data

**Key data reviewed for updated WHO recommendation:**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Vaccine</th>
<th>Modelling</th>
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<tbody>
<tr>
<td>Typhoid fever epidemiology</td>
<td>Composition and performance of licensed typhoid vaccines</td>
<td>Mathematical modelling of typhoid fever transmission and vaccine impact</td>
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<td>Global and country trends of typhoid fever and its risk factors</td>
<td>Systematic review and grading of immunogenicity, efficacy and safety data for typhoid vaccines</td>
<td>Cost effectiveness evaluation of TCV</td>
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<td>AMR of S. Typhi and implications for typhoid fever control</td>
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Source: Typhoid SAGE Background Paper, WHO. 2017
Historical decisions for Gavi’s investment in typhoid

- Original investment decision made to support typhoid-conjugate vaccines (TCV) in 2008 Vaccine Investment Strategy

- Decision was based on assessment against evaluation criteria which included modelled health impact, cost effectiveness, equity, market shaping opportunity

- Following WHO SAGE recommendation in 2017, analysis was refreshed and presented to Gavi Board to open a funding window for TCV
Support for TCV is closely aligned with Gavi’s mission and strategic goals

- ~1/3 of all cases are among children under five years of age
- Use of TCV can also help the global community to understand its impact on antimicrobial resistance, as well as to identify appropriate immunisation strategies

- High-income countries have virtually eliminated typhoid (water & sanitation improvements)
- Typhoid is still common in lower-income countries
- Gavi support for TCV can help bridge this equity gap

- Improve available supply of TCV
- Encourage new manufacturers to enter the market
- Increase healthy competition in TCV market
Gavi provides support for introduction of TCV into routine immunisation and catch-up campaign

<table>
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<tr>
<th>Introduction of single-dose into routine immunisation</th>
<th>Vaccine support</th>
<th>Financial support</th>
<th>Programmatic guidance</th>
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<td></td>
<td>Doses co-financed between Gavi and country</td>
<td>Vaccine introduction grant provided by Gavi to support start-up investment costs</td>
<td>Gavi recommends routine TCV administration be linked to MCV1 or MCV2 timepoints</td>
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<th>One time single-dose catch-up campaign at time of introduction</th>
<th>Vaccine support</th>
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<td></td>
<td>Doses fully financed by Gavi</td>
<td>Operational cost support provided by Gavi to support effective implementation of catch-up campaign</td>
<td>Catch-up campaign target population between 9 months and 15 years old</td>
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**Additional considerations**

- Gavi also offers support to use TCV to respond to typhoid outbreaks that are laboratory-confirmed.
- Countries are recommended to use assessment of disease burden and availability of surveillance data, operational feasibility and affordability to select immunisation strategy (e.g. national vs. risk-based; phased implementation).
Early lessons learned from Gavi programme

Applications to Gavi for TCV support
- 3 applications reviewed to-date for routine introduction + catch-up campaigns (Liberia, Pakistan, Zimbabwe)
- Limited typhoid surveillance/disease burden data to inform introduction and vaccination strategy decisions
- Robust guidance, tools and support needed to assess typhoid risk – both laboratory-confirmed data and in absence of these data

Outbreak response with TCV in Zimbabwe
- Preliminary data shows relatively high overall coverage and very high coverage among school age children
- Low number of reported AEFIs
- Need to identify best practices to reach 9m-15 yo. target population in campaigns (e.g. integration with MoE, school-based vaccination) to reach high coverage among all target age groups

Gavi typhoid learning agenda
- Evaluation of outbreak response campaign in Zimbabwe will inform future use of TCV in outbreak settings
- Gavi-funded evaluation in early introducing countries will improve understanding of real-world impact and implementation best practices of TCV
  - Outcomes of interest: Changes in bacteriologically confirmed disease burden, impact of vaccination on antimicrobial resistance, identification of best practices for TCV-use
  - Timeline: Proposals due 5th April; intend to finalise agreements by end of April
Partners are collaborating to help countries with their surveillance challenges

Gavi convened a technical sub team of partners to:
1) **Support design and development of typhoid programme** and
2) **Support scale-up and implementation of TCV in Gavi-supported countries**

*Improving tools for countries to assess burden of disease has been a key early focus*

- **Updated WHO surveillance standards for *Salmonella Typhi***
  - Countries now have **clearer guidance about appropriate ways to confirm disease** and perform routine surveillance

- **WHO / CDC rapid assessment framework for typhoid disease***
  - Will **enable countries to rapidly assess disease burden** to inform decision making
  - Currently under-development and will be piloted in Q2 2019

- **Data guidance to countries applying for Gavi NVS***
  - Application guidelines now include **step by step guidance for countries to evaluate local typhoid disease** burden to inform decision making
  - Includes assessing **evidence of both past or current typhoid disease and other data which indicates likely risk of typhoid***