

TUESDAY, DECEMBER 5

8:30–8:50 Opening Session

Welcome Remarks and Housekeeping Items
Denise Garrett, Sabin Vaccine Institute

8:50–9:50 Plenary Session 1: Global Challenges in the Fight against Typhoid and Invasive Salmonellosis: The Urgency to Act

KILIMANJARO BALLROOM

TBD
Anuradha Gupta, Sabin Vaccine Institute

TBD
Samuel Kariuki, Kenya Medical Research Institute

The Global Challenge of Sustainable Access to Effective Antibiotics
Ramanan Laxminarayan, One Health Trust

TBD
Kathleen M. Neuzil, University of Maryland School of Medicine

9:50–10:10 Coffee Break & Poster Viewing

KILIMANJARO BALLROOM

10:10–12:10 Oral Abstract Session 1

Vaccines

SESSION MODERATED BY: TBD

Serological Response using ELISA Anti-Vi-IgG After Single Dose of Typhoid Conjugate Vaccine Against *Salmonella* Typhi Among Children in Hyderabad, Pakistan
Farah N. Qamar, Department of Pediatrics and Child Health, Aga Khan University

The Validity of Different Study Designs in Estimating the Protection of Typhoid Conjugate Vaccine
Xinxue Liu, Oxford Vaccine Group, Department of Paediatrics, University of Oxford,
and the NIHR Oxford Biomedical Research Centre

Persistence of Immune Response Following Vaccination with a Single Dose Typhoid Conjugate Vaccine (Vi-TCV) in Nepalese Children
Mila Shakya, Patan Academy of Health Sciences, Patan Hospital

Effectiveness of Typhoid Conjugate Vaccine (TCV): A Systematic Review
Amira Mahboob, World Health Organization Regional Office for the Eastern Mediterranean

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Efficacy of Typhoid Conjugate Vaccine Against Culture-Confirmed *Salmonella* Typhi — A Systematic Review and Meta-Analysis
Rabab Batool, Aga Khan University Hospital

Safety of Typhoid Conjugate Vaccine Booster Vaccination in Malawian Children
Oswald Nyirenda, Blantyre Malaria Project, Kamuzu University of Health Sciences

Test-Negative Design: An Efficient Method to Assess Typhoid Conjugate Vaccine Effectiveness
Matthew Laurens, University of Maryland School of Medicine

A Phase IV Clinical Study to Evaluate the Immunogenicity and Safety of Typhoid Conjugate Vaccine (Typbar TCVA®) in Elderly Population
Raches Ella, Bharat Biotech International

12:10–13:30 Lunch

KILIMANJARO BALLROOM

13:30–15:00 Maximizing Learnings from Clinical Trials and Public Sector Use — the Full Public Health Value of Typhoid Conjugate Vaccines

SYMPOSIUM SESSION CHAIRED BY: Megan E. Carey, IAVI and London School of Hygiene and Tropical Medicine and Kathleen M. Neuzil, University of Maryland School of Medicine

Longer-Term Efficacy of Typhoid Conjugate Vaccine in Malawi
Priyanka Patel, Malawi-Liverpool-Wellcome Trust

New findings on Immunogenicity of TCV: Booster Dose in School-Aged Children and 1 Versus 2 Dose Regimens in HIV-Exposed Infants
Oswald Nyirenda, Blantyre Malaria Project

Typhoid Fever Surveillance in Urban Dhaka, Bangladesh: Risk Factors and Antimicrobial Resistance Pattern
Farhana Khanam, icddr, b

Impact Assessment of National TCV introduction in Pakistan
Tahir Yousafzai, Department of Pediatrics and Child Health, Aga Khan University

The Impact of a TCV Mass Campaign on Typhoid Fever Cases and Antimicrobial Use in Harare, Zimbabwe
Ioana Diana Olaru, London School of Hygiene and Tropical Medicine, London

Measuring the Impact of Typhoid Conjugate Vaccines on Antimicrobial Usage from Pivotal Efficacy Studies
James E. Meiring, Department of Infection, Immunity and Cardiovascular Disease, University of Sheffield

15:00–15:30 Coffee Break & Poster Viewing

KILIMANJARO BALLROOM

15:30–17:30 Oral Abstract Session 2

iNTS

SESSION MODERATED BY: TBD

Study Design & Initial Data from Phase1 RCT to Evaluate the Safety, Reactogenicity & Immunogenicity of a Vaccine Against iNTS & Typhoid Fever in Healthy Adults

Yasir Shitu Isa, GSK Vaccines Institute for Global Health

Age-Specific Incidence and Associated Mortality of Invasive Non-Typhoidal *Salmonella* in Mozambican Children, 2001 – 2019

Inacio Mandomando, Centro de Investigacao em Saude de Manhica (CISM)

Severe Anaemia Increases Risk Of Invasive Non-Typhoidal *Salmonella* Bacteraemia In Kenyan Children

Kelvin Mokaya Abuga, Kemri-Wellcome Trust Research Programme

Modelling the Global Prevalence of Antimicrobial Resistant Invasive Non-Typhoidal *Salmonella* Infections, 2000 to 2019

Frederick Fell, University of Oxford

IgG and IgA Antigen-Specific B Memory Responses in Healthy U.S. Adults Immunized with a Parenteral Trivalent *Salmonella* Conjugate Vaccine (TSCV)

Marcelo Sztein, Center for Vaccine Development, University of Maryland School of Medicine

Antimicrobial Resistance and Intestinal Shedding of Non-Typhoidal *Salmonella* Among Children Under Five Years and Carriage in Asymptomatic Hosts in Kenya

Celestine Wairimu, Kenya Medical Research Institute

Acquisition of Immunity to Non-Typhoidal *Salmonella* in Malawian Children to Inform Vaccine-Derived Immunity; a Serological Catalytic Model

Helen Dale, University of Liverpool

The Burden of Invasive Non-Typhoidal *Salmonella* Disease in Six Sites in Africa: Results from the Severe Typhoid Fever Surveillance in Africa Program

Hyonjin Jeon, International Vaccine Institute

17:30–18:00 Break

MALAIKA GARDEN

18:00–19:30 Evening Welcome Reception

REMARKS FROM:

#TakeOnTyphoid

WEDNESDAY, DECEMBER 6

7:45–8:30

**Sunrise Symposium:
Salmonella Controlled Human Infection
Models – Insights, Opportunities and Challenges**

ISARO ROOM

SYMPOSIUM SESSION CHAIRED BY: Malick Gibani, Imperial College London

Preliminary Results From an Oral Vaccine in the Paratyphoid Human Challenge Model

Naina McCann, Oxford Vaccine Group, Department of Paediatrics, University of Oxford

A Typhoid Fever Challenge Model in India? – Opportunities and Challenges

Rakesh Aggarwal, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry

Early and Innate Responses to Human Enteric Fever Challenge

Amber Barton, Wellcome Sanger Institute

Development of a Non-Typhoidal *Salmonella* Challenge Model

Christopher Smith, Department of Infectious Disease, Imperial College London

8:30–9:30

**Plenary Session 2:
Amplifying Impact: Tools and Solutions
to Accelerate Progress**

KILIMANJARO BALLROOM

TBD

Jerome Kim, International Vaccine Institute

Enhancement and Utilization of Laboratory Infrastructure to Mitigate Enteric Disease Threats

Proscovia Nalumyima, Makerere University, Walter Reed Uganda

TBD

Braulio Couto, Biobyte Sistemas Ltda

TBD

Jyotshna Sapkota, FIND

9:30–9:45

Recognitions & Awards

9:45–10:10

Coffee Break & Poster Viewing

KILIMANJARO BALLROOM

10:10–12:10 Concurrent Oral Abstract Session 3 & 4

AMR/Genomics SESSION MODERATED BY	ISARO ROOM	Vaccines SESSION MODERATED BY	KILIMANJARO BALLROOM
Role of Bacteriophage Defence Systems in the Spread of Drug-Resistant <i>Salmonella</i> Typhi Yogesh Hooda, Child Health Research Foundation		Vaccines for All: The Malawi National Integrated Typhoid Conjugate Vaccine Campaign Latif Ndeketa, Malawi Liverpool Wellcome Programme	
Genomic Analysis and Antimicrobial Resistance Profiling for the Global Collection of <i>Salmonella</i> Paratyphi B Isolates Junaid Iqbal, Aga Khan University		Antimicrobial Susceptibility Patterns of <i>Salmonella</i> Typhi Isolates Following Mass-Targeted Typhoid Conjugate Vaccine Immunization in Harare City, Zimbabwe, 2023 Kudzai Patience Takarinda, National Microbiology Reference Laboratory	
Assessing the Global Risk of Typhoid Outbreaks Caused by Extensively Drug Resistant <i>Salmonella</i> Typhi Jo Walker, Yale School of Public Health		Modeling Typhoid Vaccination in Nepal: TCV Impact and Booster Dose Strategy Virginia Pitzer, Yale University	
Recent Emergence of Cephalosporin Resistant <i>Salmonella</i> Typhi Carrying IncFIB(K) Plasmid Encoding blaCTX-M-15 Gene in India Tharani Priya Thirumoorthy, Christian Medical College, Vellore		Trend of anti-Vi-IgG and anti-Vi-IgA Antibody Responses Induced in Vi-TT Recipients Over the Period of Five Years Among Bangladeshi Children Farhana Khanam, icddr, b	
A 24-Year Passive Surveillance Study Reveals Trends in Antimicrobial Resistance Amongst <i>Salmonella</i> Typhi and Paratyphi A Cases in Bangladesh Arif Mohammad Tanmoy, Child Health Research Foundation		Assessing the Medium-Term Impact of a Typhoid Conjugate Vaccine in Preventing Typhoid Infections in Bangladesh Firdausi Qadri, icddr, b	
Genetic Heterogeneity in the <i>Salmonella</i> Typhi Vi Capsule Locus: A Population Genomic Study from Fiji Aneley Getahun Strobel, Peter Doherty Institute for Infection and Immunity		The Association Between Vaccine Coverage and Herd Protection: Exploratory Analyses of a Cluster-Randomised Trial of Vi Conjugate Vaccine Yiyuan Zhang, Oxford Vaccine Group	
The Genetic Landscape of <i>Salmonella</i> Enterica Serovar Typhi in Zimbabwe Before the Introduction of Typhoid Conjugate Vaccine (TCV) Tapfumanei Mashe, Ministry of Health and Childcare, World Health Organization		Durability of Anti-Vi IgG and IgA Responses in 15-month-old Children Vaccinated with a Typhoid Conjugate Vaccine in Burkina Faso Alphonse Ouedraogo, Groupe de Recherche Action en Santé (GRAS)	
Genomic Characterization of Invasive <i>Salmonella</i> enterica isolated in Severe Typhoid in Africa Surveillance in Ibadan, Nigeria Oyeniyi Stephen Bejide, Chrisland University		Introduction of Typhoid Conjugate Vaccine – A Successful Implementation in Strengthening National Immunization Program of Nepal Navneet Bichha, IIHMR University (World Health Organization/TDR)	

12:10–13:30 Lunch

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13:30–15:00

**Bridging the Gap: Environmental
and Sero-Surveillance for Estimating Typhoid
Burden and Supporting Vaccine Introduction**

KILIMANJARO BALLROOM

SYMPOSIUM SESSION CHAIRED BY: Richelle Charles, Massachusetts General Hospital-Harvard University, Nick Grassly, Imperial College London, and Kristen Aiemjoy, University of California, Davis

Latest Advances in Seroepidemiology for Enteric Fever

Kristen Aiemjoy, University of California, Davis

Quick and Informative: Schools as a Platform for Rapid Typhoid Seroepidemiological Assessments

Shiva Naga, Dhulikhel Hospital, Kathmandu University and Sira Jam Munira, Child Health Research Foundation

Mapping Typhoid Transmission: Geospatial Analysis and Seroepidemiology for TCV Prioritization

Momin Kazi, Aga Khan University

A Target Product Profile for Wastewater Surveillance of *S. Typhi*

Supriya Kumar, Bill and Melinda Gates Foundation

Wastewater Surveillance of *S. Typhi* in Malawi and Comparison with Clinical/Serological Surveillance

Jon Rigby, Liverpool School of Tropical Medicine/ Malawi Liverpool Wellcome Trust

Wastewater Surveillance of *S. Typhi* in India and Comparison with Clinical and Serological Surveillance

Dilip Abraham, Christian Medical College, Vellore

Direct sequencing of *S. Typhi* in wastewater samples to determine antimicrobial resistance and genotype

Catherine Troman, Imperial College London

9:45–10:10

Coffee Break & Poster Viewing

15:30–17:30 Oral Abstract Session 5

KILIMANJARO BALLROOM

Surveillance

SESSION MODERATED BY: TBD

Development of a Low-Cost Environmental Surveillance Method for Effective Typhoid Fever Control

Shuborno Islam, Child Health Research Foundation

Leveraging Paired Serology to Estimate the Incidence of Typhoidal *Salmonella* Infection in the STRATAA Study

Jo Walker, Yale School of Public Health

Estimating the Burden of Environmental *Salmonella* Typhi in the Asante Akim North District of Ghana: The Role of Novel Techniques

Michael O. Owusu, Kwame Nkrumah University of Science and Technology

The Burden and Trend of Typhoid Fever in Low- and Middle-Income Countries: An Updated Meta-Regression Approach

Harsh Vivek Harkare, Swiss Tropical and Public Health Institute

Blood Culture Positive Typhoid and Paratyphoid Cases in Children Presenting to Patan Hospital, Nepal, Over a 14-Year Period (2009-2022)

Shrijana Shrestha, Patan Academy of Health Sciences

The Ty-FIVE Project – Strengthening Typhoid Surveillance Around a Mass Vaccination Campaign in the Northern Division of Fiji

Alumita Vuakanisakea, Ty-FIVE Project, International Vaccine Institute

Typhoid-associated Ileal Perforations Following the Introduction of the Typhoid Conjugate Vaccine in Pakistan: Findings from a Multi-Center Surveillance Study

Saqib Hamid Qazi, Aga Khan University

Molecular Surveillance of Non-Typhoidal *Salmonella* from Environmental Sources in Disease Endemic Informal Settlement in Nairobi, Kenya

Michael Muraya, Kenya Medical Research Institute

THURSDAY, DECEMBER 7

7:45–8:30

Sunrise Symposium: How Data Drive Decision-Making: Reflections from TCV Introductions in Pakistan and Malawi and the Role of Data Moving Forward

ISARO ROOM

SYMPOSIUM SESSION CHAIRED BY: Emmanuel Mugisha, PATH

Optimizing Surveillance and Interventions to Advance National XDR Typhoid Control: The Pakistan Experience
Nada Taqi, World Health Organization

From Decision-Making to Introduction: How Persistence, Partnership, and Planning Led to the Introduction of Typhoid Conjugate Vaccine in Malawi
Esau Mkisi, PATH

The MENA Typhoid Project: New Insights on Typhoid Burden and Antibiotic Resistance
Antoine Abou Fayad, American University of Beirut

8:30–10:00

Landscape, Strategy, and Progress Update for iNTS Vaccines in Clinical Development

KILIMANJARO BALLROOM

SYMPOSIUM SESSION CHAIRED BY: Melita Gordon, Malawi-Liverpool-Wellcome
and Samuel Kariuki, Kenya Medical Research Institute

Prevalence and Distribution of Non-Typhoidal *Salmonella* enterica Serogroups and Serovars Isolated from Normally Sterile Sites: A Global Systematic Review
John Crump, University of Otago

Sero-Epidemiology of iNTS in Large Field Cohorts from Malawi, Burkina Faso, Kenya and Ghana
Helen Dale, University of Liverpool

Economic burden of iNTS and cost-effectiveness analysis for a hypothetical iNTS vaccine in Ghana, Burkina Faso and Malawi
Jung-Seok Lee, International Vaccine Institute

The Public Health Need for iNTS Vaccines, and Preferred Vaccine Characteristics
Adwoa Bentsi-Enchill, World Health Organization

A LMIC Perspective on iNTS Vaccine Strategy, and Lessons from Recent Vaccine Introductions
Mike Chisema, Malawi Ministry of Health

Current Status of the Clinical Development of Trivalent Salmonella Conjugate Vaccine (TSCV)
Wilbur Chen, Center for Vaccine Development

Development of iNTS Conjugate and Preclinical Study for a Novel Trivalent iNTS/Typhoid Vaccine
SoJung An, International Vaccine Institute

Development of GMMA-Based Vaccines Against iNTS: Current Status
Rocio Canals Alvarez, GSK Vaccines Institutes for Global Health

10:00–10:30 Coffee Break & Poster Viewing

10:30–12:30 Oral Abstract Session 6

KILIMANJARO BALLROOM

Impact of COVID-19 Pandemic on Enteric Fever Diagnosis in Nepal: Findings from the Surveillance of Enteric Fever Asia Project Study

Dipesh Tamrakar, Dhulikel Hospital- Kathmandu University Hospital

The Application of Machine Learning with High-Content Imaging to Infer Antimicrobial Resistance Phenotypes in *Salmonella* Typhimurium

Sushmita Sridhar, Universidad Peruana Cayetano Heredia, University of New Mexico

Evaluation of a Point-of-Care Multiplex Immunochromatographic Assay (DPP Typhoid Assay) for the Diagnosis of Typhoid

Zahida Azizullah, Aga Khan University

Design and Initial Data from a Phase 1 RCT to Evaluate the Safety and Immunogenicity of a Vaccine Against *S. Typhi* and *S. Paratyphi A* in Healthy European Adults

Usman Nasir Nakakana, GSK Vaccines Institute for Global Health

From Rarity to Clarity: The Potential of Seroepidemiology for Monitoring Typhoid Vaccine Impact

Kristen Aiemjoy, University of California, Davis & Mahidol University Faculty of Tropical Medicine

Role of Gallstones in *Salmonella* Typhi Stool Carriage and Shedding in an Urban Typhoid Endemic Setting in Nairobi, Kenya

Samuel Kariuki, Kenya Medical Research Institute

The Impact of Surgical Interventions for Severe Typhoid on Families and Healthcare Systems in Rural South Central Niger

Yakoubou Sanoussi, Hopital de la SIM Galmi

Safety and Immunogenicity of a Bivalent Paratyphoid A-Typhoid Conjugate Vaccine: Phase I Study

Andrew Pollard, University of Oxford

12:30–13:45 Lunch

**13:45–15:45 Late-Breakers
Oral Abstract Session**

KILIMANJARO BALLROOM

Assessing the Protective Efficacy of an Intranasal Vaccine Candidate, rCTB-T2544, Against Typhoid and Paratyphoid Infection Using Iron Overloaded Murine Model
Suparna Chakraborty, ICMR National Institute of Cholera and Enteric Diseases

Diversity and Antimicrobial Resistance of Salmonella Paratyphi A: A Collaborative Global Typhoid Genomics Consortium Initiative
Zoe Dyson, London School of Hygiene and Tropical Medicine

Pan-genome clustering Reveals the Role of Prophage Elements in the Evolution and Adaptation of Salmonella Enteritidis
Jobin John Jacob, Christian Medical College, Vellore

Initial Immunogenicity and Safety Data From a First-in-Human Randomised Controlled Trial of an Invasive Non-Typhoidal Salmonella GMMA Vaccine: the SALVO Trial
Peter D. Skidmore, Oxford Vaccine Group, NIHR Oxford Biomedical Research Centre, Department of Paediatrics, University of Oxford

Forecasting iNTS for the Global Burden of Disease Study
Jeffrey Stanaway, The Institute for Health Metrics and Evaluation, University of Washington

Unmasking Typhoid Vaccine Hesitancy: A Study of Myths Surrounding TCV in Immunisation Programs Within Refugee Communities in Southwestern Uganda
Muhumuza Umar, Africa Centers for Disease Control

Bacterial Profile of Suspected Typhoid Intestinal Perforation Cases, Regional Hospital Centre, Maradi, Niger
Maman Laminou Sani, Regional Hospital Centre, Maradi

Impact of TCV Introduction on Ileal Perforations in Pakistan: A Comparative Analysis
Huma Hussain, Aga Khan University Hospital

15:45–16:00 Coffee Break & Poster Viewing

KILIMANJARO BALLROOM

16:00–17:00 **Closing Plenary: Forging a Path Forward: The Roadmap to Expand Solutions and Catalyze Change**

KILIMANJARO BALLROOM

Charting a Comprehensive and Innovative Path to Fight Typhoid and Invasive Salmonellosis: The Importance of Multi-Sectorial Collaboration, Resource Mobilization, Health Systems Strengthening and Political Will
Robert Agyarko, African Risk Capacity

TBD
Samba Sow, Center for Vaccine Development

Accelerating the fight against invasive salmonella diseases: Perspectives from WHO
Adwoa Benti-Enchill, World Health Organization

TBD
Duncan Steele, Bill and Melinda Gates Foundation

17:00–17:15 **Closing Session**

Closing Remarks
Meeting Adjournment
Denise Garrett and Anuradha Gupta, Sabin Vaccine Institute