

Meeting of the Strategic Advisory Group of Experts (SAGE) on Immunization

22-25 September 2025

and joint meeting of SAGE and the Malaria Policy Advisory Group (MPAG)

24 September 2025

DECLARATION OF INTERESTS

All 15 SAGE members and 16 MPAG members participating in the meeting had updated their declarations of interest prior to the session.

Twelve SAGE members reported relevant interests. Kathleen Neuzil, Shabir Madhi, and Punnee Pitisuttithum recused themselves from the **discussion** on COVID-19, while Hanna Nohynek recused herself from the **recommendation-making** on the H5 session. It was assessed that the remaining SAGE members could participate fully in the meeting.

Thirteen MPAG members reported relevant interests. Melissa Penny recused herself from **recommendation-making** on the Malaria session. It was assessed that the remaining SAGE members could participate fully in the meeting.

All the reported relevant interests are summarized below:

SAGE Members

Rebecca Grais

- Serves as a Scientific Advisory Committee member of the Coalition for Epidemic Preparedness Innovations (CEPI). This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a member of the Davax Advisory Committee. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as sponsor of fractional dose of Pneumococcal Conjugate Vaccine (PCV), funded by European & Developing Countries Clinical Trials Partnership (EDCTP). This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as a principal investigator for Yellow fever fractional dose, funded by Wellcome Trust. This interest was perceived as non-personal, non-specific and financially

- Serves as a principle investigator for Lassa fever vaccine, funded by European & Developing Countries Clinical Trials Partnership (EDCTP). This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2023 as a Data and Safety Monitoring Board (DSMB) member on Serum Institute of India for the yellow fever vaccine. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until November 2022 as site investigator for the effectiveness of the Ebola vaccine, Phase II/III, funded by the Coalition for Epidemic Preparedness Innovations (CEPI). This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served in 2023 on the International Vaccine Institute (IVI) Expert Panel on Hepatitis E vaccine in pregnant women. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until 2023 as a DSMB member on Scandinavian Bio Pharma/EDCTP. This interest was perceived as non-personal, non-specific and financially insignificant*.

Gabriel Leung

- Served on the advisory panel on COVID-19 Vaccines until 2024, Government of Hong Kong SAR. This interest was perceived as non-personal, specific and financially insignificant*.
- Serves on the Wellcome Trust's Board of Governors. This interest was perceived as non-personal, specific and financially insignificant*.
- Serves as executive director, charities and community at Hongkong Jockey Club. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a director at the Institute of Philanthropy. This interest was perceived as non-personal, non-specific and financially insignificant*.

Saad Omer

- Serves as a member for Food and Drug Administration Center for Biologics Evaluation and Research, Vaccines and Related Biological Products Advisory Committee. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a member on the Gavi the Vaccine Alliance Board. This interest was perceived as non-personal, non-specific and financially insignificant*.

- Serves as a member at the WHO Expert Steering Committee on Safety Surveillance in Pregnancy in LMIC. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a member at WHO Technical Advisory Group on Behavioral Insights and Sciences for Health. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a Temporary Voting Members at Food and Drug Administration Center for Biologics Evaluation and Research 181st Vaccines and Related Biological Products Advisory Committee. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a principal investigator for the study of Behavioral Insights for Vaccination Principle Investigator funded by Gates (Bill and Melinda) Foundation. This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as a principal investigator for the study of COVID-19 – Global Mix/Investigation of COVID-19 Disease Parameters for Transmission Models in Low Resource Setting funded by [NIH](#). This interest was perceived as non-personal, specific and financially significant*.
- Serves as co-principal investigator for the study of COVID-19 Vaccine Effectiveness in Pregnant Women and their infants funded by Yale University. This interest was perceived as non-personal, specific and financially significant*.
- Serves as a principal investigator for the study of Child Health and Mortality Prevention Surveillance (CHAMPS) site in Karachi, Pakistan. This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as a principal investigator for the study of Addressing Vaccine Acceptance in Carceral Settings through Community Engagement (ADVANCE). This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2024 as a member on the Board of Trustees of the Sabin Vaccine Institute. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until 2023 as a member on the Gavi Programme and Policy Committee. This interest was perceived as non-personal, non-specific and financially insignificant*.

- Served until 2023 on the Lancet Commission on Vaccines in the USA. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until 2023 on WHO Expert Steering Committee on Safety Surveillance in Pregnancy in low- and middle-income countries. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until 2024 on WHO Technical Advisory Group on Behavioral Insights and Sciences for Health. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until 2022 as member of the Rockefeller Foundation Global Immunization Initiative (GVI) Advisory Council. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Affiliation to the Office of Evaluation Sciences (White House Social and Behavioral Sciences Team) until 2021. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until 2021 as a member for National Academies of Sciences, Engineering, and Medicine, Committee on Equitable Allocation of Vaccines for the Novel Coronavirus. This interest was perceived as non-personal, specific and financially insignificant*.
- Served until 2022 as a consultant for Bill & Melinda Gates Foundation for pooled analysis for three maternal influenza vaccines. This interest was perceived as personal, specific and financially significant*.
- Served until 2023 as principal investigator in the research project funded by Facebook, on evaluating vaccine acceptance messages using social media, this interest was perceived as personal, non-specific and financially significant*.
- Served until 2024 as faculty in the Coursera course digital media for health outcome, funded by META. this interest was perceived as non-personal, non-specific and financially significant*
- Served until 2022 as a member in Rockefeller's global immunization initiative advisory council to advise them on vaccine acceptance initiatives. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2022 as a faculty on Medscape Steering Committee for the COVID-19 Vaccination Education Center. This interest was perceived as personal, specific and financially significant*.
- Served until 2021 as a member of national academies of sciences, engineering, and medicine rapid expert consultation (REC) on building vaccine confidence

in COVID-19 vaccines. This interest was perceived as non-personal, specific and financially insignificant*.

- Served until 2021 as a member of national academies of sciences, engineering, and medicine, committee on addressing issues of vaccine distribution and supply chains to advance pandemic and seasonal influenza preparedness and response. This interest was perceived as non-personal, specific and financially insignificant*.
- Served until 2021 as a member of the WHO measuring behavioural and social drivers of vaccination working group. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Served until 2021 as chair of WHO, global advisory committee on vaccine safety working group on COVID-19 vaccine safety preparedness. This interest was perceived as non-personal, specific and financially insignificant*.
- Served as a principal investigator until 2024 for the study of Digital Media Health Outcomes funded by META. This interest was perceived as non-personal, non-specific and financially significant*.
- Served as a principal investigator until 2024 for the study of Comprehensive Profiling of Social Mixing Patterns in Resource-Poor Countries funded by NICHD (NIH). This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2024 as a principal investigator for COVID-19 Burial Site Surveillance to Measure Excess Mortality-Pakistan, funded by Bill and Melinda Gates Foundation. This interest was perceived as non-personal, specific and financially significant*.
- Served until 2024 as a principal investigator for AFIX-OB: A Customizable Quality Improvement Intervention to Increase Maternal Vaccine Uptake, funded by NCIRD (CDC). This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2023 as a principal investigator for Building Vaccine Confidence Through Tailored Messaging Campaigns, funded by Facebook. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2023 as a principal investigator for Comprehensively Profiling Social Mixing Patterns in Workplace Settings to Model Pandemic Influenza Transmission, funded by the CDC. This interest was perceived as non-personal, specific and financially significant*.

- Served until 2022 as a principal investigator for The Broader Impact of Maternal Immunisation in Sub-Saharan Africa and Asia: a multisite study in randomised clinical control trial cohorts (VoVRN), funded by Bill and Melinda Gates Foundation/Value of Vaccines Research Network. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2022 as a Co-investigator for Vaccine hesitancy and erosion of herd immunity: harnessing big data to forecast disease re-emergence, funded by NIH. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2022 as a principle investigator and supported for the Vaccine Assessments and Interventions Digital Laboratory funded by UNICEF. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2022 as principle investigator assessing on Impact of Eliminating Non-Medical Exemptions in California, funded by –NIAID (National Institutes of Health). This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2022 as a principle investigator on Wastewater Surveillance for COVID-19, funded by PATH/BMGF. This interest was perceived as non-personal, specific and financially significant*.
- Served until 2022 as a principle for investigator Behavioral Insights – Landscape and Technical Expertise funded by Bill and Melinda Gates Foundation. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2021 as a principle investigator for Community-Based RSV Mortality study in Karachi, Pakistan funded by Bill and Melinda Gates Foundation. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2021 as a principle investigator for TweenVax: A Comprehensive Practice-, Provider-, and Parent/Patient-Level Intervention to Improve Adolescent HPV Vaccination funded by National Institutes of Health (via Emory University). This interest was perceived as non-personal, non-specific and financially significant*.

Cristiana Toscano

- Serves as a member in Brazilian National Immunization Technical Advisory Group (NITAG). This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a member of the Advisory group of experts for Fiocruz on COVID-19 vaccine development. This interest was perceived as non-personal, specific and financially insignificant*.
- Serves as a member of the executive Committee of Health For All Institute, Brazil. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Her institution received funding until 2024 from PAHO to provide technical support to evaluate COVID-19 vaccine impact and effectiveness in Latin American Countries. This interest was perceived as non-personal, specific and financially significant*.
- Her institution receives funding for Capacity building activities to support immunization programs in lusophone countries and LAC countries with backsliding vaccine coverages using collaborative learning supported by Linked network. This interest was perceived as non-personal, non-specific and financially significant*.
- Her institution received funding until 2023 from the Pan American Health Organization (PAHO) to provide technical support to research Project on PCV Impact in Latin America. This interest was perceived as non-personal, specific and financially significant*.
- Her institution received funding until 2023 from Results for Development (R4D) to support for implementing and evaluating a capacity building program for immunization team in Angola. This interest was perceived as non-personal, non-specific and financially significant*.
- Her institution received research project to evaluate cost of herpes zoster in Brazil and resource utilization in the healthcare system from GSK until 2024. This interest was perceived as non-personal, non-specific and financially significant*.
- Served on the Pan American Health Organization (PAHO) Technical Advisory Group until 2024. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Her institution received research support until 2024 from CNPq – the Brazilian National Council for Technological Research for COVID epidemiology and modelling research to support decision making during the pandemic. This

interest was perceived as non-personal, non-specific and financially significant*.

- Her institution received funding from Gavi and R4 for capacity building activities to immunization teams in lusophone countries in Africa transitioning from Gavi support, and linked collaborative learning network on immunization supported by Gavi, until 2024. This interest was perceived as non-personal, non-specific and financially significant*.

Shabir Madhi

- Serves as a member of RIGHT Foundation Scientific Advisory Board. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Serves as a member of LeDuq Foundation Scientific Advisory Board on Streptococcus Group A Vaccines. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Serves as a member of Bavarian Nordic Mpox vaccine DSMB. This interest was assessed as personal, non-specific and financially insignificant*.
- Serves as a member of the South African NITAG. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Serves as an advisor to GSK on a Pneumococcal vaccine currently under development. This interest was assessed as non-personal, non-specific and financially insignificant*.
- His institution received the grants from Pfizer on Respiratory syncytial virus (RSV) vaccines. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Serves as a national principal investigator on RSV vaccines, funded through Pfizer and the Gates Foundation. This interest was assessed as non-personal, non-specific and financially significant*.
- Serves as national principal investigator to conduct studies on GBS vaccine funded through Pfizer, Minervax, BMGF and Inventprise. This interest was assessed as personal, non-specific and financially significant*.
- Serves as a national principal investigator until 2024 on RSV monoclonal antibody study, funded through AstraZeneca. This interest was assessed as non-personal, non-specific and financially significant*.

- Served as national principal investigator on COVID-19 vaccines until 2023, funded through the Gates Foundation, Novavax and Gritstone. This interest was assessed as personal, specific and financially significant*.
- His institution received research support from Gates Foundation for RSV, GBS and Klebsiella pneumoniae. This interest was assessed as personal, non-specific and financially significant*.
- His institution received in 2022 grants for GSK symposium on Pneumococcus viruses. This interest was assessed as non-personal, non-specific and financially insignificant*.
- His institution received grants from MSD until 2022 for the study of Pneumococcal conjugate vaccine. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Served as member of CEPI's Portfolio Strategy and Management Board, until 2022. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Served until 2024 as a member of the BMGF global health scientific advisory committee. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Served as principal investigator until 2023 on RSV and COVID-19 studies, funded through Novavax. This interest was assessed as non-personal, specific and financially significant*.
- Served as principal investigator until 2022 on RSV monoclonal antibody study, funded through Medimmune/AstraZeneca. This interest was assessed as non-personal, non-specific and financially significant*.
- His institution received until 2022 a research grant from Pfizer related to GBS. This interest was assessed as non-personal, non-specific and financially significant*.

Kim Mulholland

- Serves as a member on International Society of Pneumonia and Pneumococcal Diseases (ISPPD) board. This interest was perceived as personal, non-specific and financially insignificant*.
- Served as a member until 2023 on the INLLEN board. This interest was perceived as personal, non-specific and financially insignificant*.

- Served until 2022 as Novavax DSMB for COVID-19 vaccine trials in Australia and South Africa. This interest was perceived as non-personal, non-specific and financially insignificant*
- Served until 2024 as principal investigator of a trial of reduced dose number schedules of Pneumosil in Viet Nam, funded by the Gates. This interest was assessed as non-personal, non-specific and financially significant*
- Serves as co-principal investigator on a Human papillomavirus (HPV) vaccine trial in Viet Nam, funded by UKRI. This interest was assessed as non-personal, non-specific and financially significant*
- Served until 2023 as principal investigator for a PCV introduction study in Mongolia funded by the Gavi. This interest was assessed as non-personal, non-specific, and financially significant*.
- Serves as co-investigator on a study of the effectiveness of typhoid conjugate vaccine in Fiji, funded by Korea philanthropy. This interest was assessed as non-personal, non-specific and financially significant*.
- Serves as principal investigator on a COVID-19 trial in Mongolia, Indonesia, Australia, funded by CEPI. This interest was assessed as non- personal, specific and financially significant*.
- Served until 2025 as principal investigator on a study of HPV introduction evaluation in Ethiopia, funded by UK Research and Innovation (UKRI) and BMGF. This interest was assessed as non- personal, non-specific and financially significant*.

Kathleen Neuzil

- Serves as a member of the Board of Directors and government liaison, National Foundation for Infectious Diseases. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a chair at Pfizer DSMB for influenza vaccine. This interest was perceived as non-personal, specific and financially significant*.
- Served until 2021 as an investigator on a grant from University of Washington for a COVID-19 post-exposure prophylaxis study of hydroxychloroquine. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2022 as co-chair of the National Institutes of Health (NIH) COVID-19 Vaccine Prevention Network, which serves as the focal point for USG sponsored trials in COVID-19 vaccines and monoclonal antibodies. This

Network is supported through an NIH grant for the leadership of the Vaccine Treatment and Evaluation Units. This interest was perceived as non-personal, specific and financially significant*.

- Served until 2023 as principal investigator for the NIH funded NIH T32 Fellowship Training Program in Vaccinology. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2024 as principal investigator for NIH-funded Collaborative Influenza Vaccine Innovation Center (CIVICs) program. This interest was perceived as non-personal, specific and financially significant*.
- Served until 2024 as principal investigator for the National Institute of Allergy and Infectious Diseases (NIAID) /NIH funded Advanced Development of a Multivalent Vaccine Candidate for Filovirus and Lassa Fever. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2024 as principal investigator for the BMGF-funded Typhoid Vaccine Acceleration Consortium (2016-2021 and extension 2021-2025), which includes clinical studies of Bharat Biotech, India Typbar-TCV. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2024 as a principal investigator for the Vaccine Company, Inc. funded “A Phase 1, Open-label, Dose-Escalation Study to Evaluate the Safety and Immunogenicity of DCFHP-Alum, A Spike-Functionalized Ferritin Nanoparticle Vaccine Targeting COVID-19, Col-formulated with Aluminum Hydroxide Adjuvant, in Healthy Adults in the United States”. This interest was perceived as non-personal, specific and financially insignificant*.

Carla Vizzotti

- Serves as a member of Global Advisory Group of Experts (GAGE) of the International Vaccine Institute (IVI) This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as member of the World Health Summit Council. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a Secretary on the Board of Directors of the Argentine Society of Vaccinology and Epidemiology, funded by six laboratories and Pfizer. This interest was perceived as non-personal, non-specific and financially insignificant*.

Serves as an advisor for the ARVAC vaccine, funded by T CASSARA, the

producer of a national lab This interest was perceived as non-personal, non-specific and financially significant*.

- Serves as advisor for the RSV peridomestic mortality, funded by Gates foundation This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as an advisor on a collaborative study on ITrials of RSV vaccine effectiveness (2024-2026) funded by Pfizer. This interest was perceived as non-personal, non-specific and financially significant*.
- Participated at the HPV Summit, funded by MSD, This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves at vaccination Vaccination Campaign Awareness, funded by Pfizer, MSD. This interest was perceived as non-personal, non-specific and financially significant*.
- Served as a lead until 2024 on the Health Policy and Equity Innovation Hub at the National University of San Martín, through which the advisory support to Lab Cassará regarding the ARVAC vaccine was conducted. This interest was perceived as non-personal, non-specific and financially significant*.

Hanna Nohynek

- Serves as a member of the ICDDR.b board. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Serves as member to DSMB of COMCov studies of University of Oxford. This interest was assessed as non-personal, specific and financially insignificant*.
- Serves as member of the Finnish Institute for Health and Welfare (THL) NITAG. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as chief physician in charge of advising the Finnish Ministry of Health on vaccines. This interest was perceived as non-personal, non-specific, and financially insignificant*.
- Serves as a member of the EMA-ECDC funded Vaccine Monitoring Platform since December 2022. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a member of the European Centre for Disease Prevention and Control (ECDC) coordinated NITAG network Scientific committee. This interest was perceived as non-personal, non-specific and financially insignificant*.

- Serves in the Scientific Advisory Group of European Medical Agency on vaccines related matters, Board of Trustees of the International Vaccine Institute, and Board of Trustees of the icddr.b and Steering Group of the Vaccine Monitoring Platform of the European Medical Agency (EMA) and ECDC. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as principal investigator on the avian Influenza Vaccine immunogenicity and Safety study funded by Institute THL. This interest was perceived as non-personal, specific, and financially significant.
- Serves as principal investigator of COVID-19 immunogenicity study, funded by Institute THL. This interest was perceived as non-personal, specific and financially insignificant*.
- Served as a member until 2024 in the PROMISE consortium to develop protocols for phase IV studies on RSV vaccines and monoclonal antibodies . This interest was perceived as non-personal, non-specific and financially insignificant.
- Served until 2024 as member to DSMB of the VACCELERATE cologne university on COVID-19 vaccines immunogenicity and safety. This interest was assessed as non-personal, specific and financially insignificant*.
- Served until 2021 as Chair of the DSMB of an IMI funded PERISCOPE study on maternal pertussis immunization in the Gambia. This interest was perceived as non-personal, non-specific and financially insignificant. *
- Served until 2022 as investigator in an Innovative Medicines Initiative (IMI) funded project DRIVE (Development of Robust and Innovative Vaccine Effectiveness) 2018-2023 for influenza vaccine. This interest was perceived as non-personal, non-specific and financially insignificant*.

Punnee Pitisuttithum

- Serves as a committee member on the Meta DSMB, CEPI. This interest was perceived as non-personal, non-specific and financially insignificant*.
- Serves as a committee member on the Advisory Committee on Immunization Practices, National Vaccine Institute, Thailand. This interest was perceived as non-personal, non-specific and financially insignificant*.

- Serves as a member on the Safety Monitoring Committee for the U.S. Military HIV Research Program (MHRP). This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as principal investigator for Merck funded A phase 3, International, Multi-center, Randomized, Double-blind, Placebo- controlled Clinical Trial to Study the Efficacy, Immunogenicity, and Safety of the 9vHPV Vaccine, a Multivalent L1 Virus-like Particle Vaccine, in the prevention of oral persistent with HPV Types 16, 18, 31, 33, 45, 52 or 5E in adult males, 20 to 45 years of age. This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as project chair for the government-funded (national research council) “Effectiveness of single dose or two doses of HPV vaccine among adolescents and reproductive women: A test-negative control study”. This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as project chair for the government-funded (national research council) Effectiveness of the 13- Valent Pneumococcal Conjugated Vaccine Against Community- Acquired Pneumonia in Older Thai Adults: A Matched Case-Control Study. This interest was perceived as non- personal, non-specific and financially significant*.
- Serves as project chair for the government-funded (national research council) Evaluation of Interferon- gamma release assays symptom screening and chest radiograph for Detection of Subclinical Tuberculosis of End-stage Kidney Disease and Kidney Transplant Recipients in Thailand. This interest was perceived as non-personal, specific and financially significant*.
- Serves as a co-principal investigator for A Phase 3, Sub randomised, investigator-modified double-blind, active-controlled, parallel-group study to investigate the safety and immunogenicity of catch-up vaccination regimens of a 21-valent pneumococcal conjugate vaccine in healthy infants, toddlers, children, and adolescents funded by a government pharmaceutical organisation. This interest was perceived as non-personal, non-specific and financially significant*.
- Serves as Co-principal investigator for Phase 3, Randomised double-blinded placebo-controlled study to evaluate the safety, immunogenicity and efficacy of V181 dengue vaccine in healthy participants 2-17 years of age. This interest was perceived as non-personal, non-specific and financially significant*.

- Served until March 2025, as project chair/CRS leader for the DAIIDS funded phase I clinical trial to evaluate the safety and immunogenicity of CH505M5 N197D mRNA- gp160 followed by CH505 TF mRNA-gp160 in adults in overall good health without HIV. This interest was perceived as non-personal, non-specific and financially significant*
- Served until 2023, as principal investigator for IVI funded trial “Phase II/III To Evaluate Safety And Immunogenicity of 2 Dose-Regimen Of BBV87 Chikungunya Vaccine In Healthy Subjects Aged 12 to 65 years”. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2023 as principal investigator for the GPO-funded phase III to “Evaluate the Immunogenicity and Safety of Tri Fluvac influenza vaccine”. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2023 as principal investigator for the National Science and Technology Development Agency-funded phase II/III combined Diphtheria-Tetanus-recombinant acellular pertussis (DTaP) vaccine to a licensed DTaP based vaccine. This interest was perceived as non-personal, non-specific and financially significant*.
- Served until 2023 as principal investigator coordinator for the government funded study of the immunogenicity and safety of the 3rd dose of the ChAdOx-nCoV19 or BNT162b2 vaccine against COVID-19. This interest was perceived as non personal, specific and financially insignificant*.
- Served until 2023 as principal investigator for the Janssen funded phase I/II study of the immunogenicity and safety of the Ad26.CoV2.S heterologous vaccine against COVID-19. This interest was perceived as non-personal, specific and financially significant*.
- Served as principal investigator for the GPO funded phase I/II study of the NDV-HXP-S COVID-19 vaccine until 2023. This interest was perceived as non-personal, specific and financially significant*.

Anthony Scott

- Served as the DSMB member at PATH Vaccine Solutions, clinical development of Pneumosil vaccine trial in The Gambia until 2020. This interest was assessed as non-personal, non-specific and financially insignificant*.

- Served as a consultant on WHO working group on Vaccines and Antimicrobial Resistance (AMR) until 2021. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Serves as the DSMB member at Iliad Biotechnologies, Phase 2b trial of Intranasal Pertussis vaccine BPZE1. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Serves on the United Kingdom (UK) Department of Health and Social Care Joint Committee on Vaccination and Immunisation. This interest was assessed as non-personal, non-specific and financially insignificant*.
- Served on the United Kingdom (UK) commission on human medicine, expert working group on COVID-19 vaccine safety until 2020. This interest was assessed as non-personal, specific and financially insignificant*.
- Serves as principal investigator for the BMGF funded study on fractional doses of PCV in infants in Kenya. This interest was perceived as non-personal, non-specific and financially significant*.
- Served as co-investigator until 2022 for the UK Foreign Commonwealth and development office funded study on COVID-19 vaccine evaluation in Kenya . This interest was perceived as non-personal, specific and financially significant*.
- Serves co-investigator for the European Union funded study on Vacc-iNTS, Phase I/II trial of NTS vaccine in Kenyan adults. This interest was perceived as non-personal, non-specific and financially significant*.
- Served as principal investigator until 2022 for the Gavi funded study on the Pneumococcal Conjugate Vaccine Impact Study (PCVIS), a-post-licensure study of PCV10 impact in Kenya. This interest was perceived as non-personal, non-specific and financially significant*
- Serves as principal investigator for a non-trial vaccine research grant in the health protection research unit in immunization, funded by the national institute of health research, UK. This interest was perceived as non-personal, non-specific and financially significant*
- His institution receives research grants for the following studies. These interests were perceived as non-personal, non-specific and financially significant*
 - Research grant on cause of child death in Ethiopia (CHAMPS) from Emory University.
 - Research grant on surveillance of Meningococcus in Ethiopia from BMGF.

- Research grant on using pneumococcal carriage to inform PCV policy in Africa from Wellcome Trust.

Ghassan Dbaibo

- Serves as a member of the advisory board of COVID-19 vaccines in pediatric-Pfizer. This interest was perceived as non-personal, specific, and financially insignificant*.
- Serves as a member of the Pneumococcal vaccine advisory board —pediatric MSD. This interest was perceived as non-personal, non-specific, and financially insignificant*.
- Served as principal Investigator until 2024 for meningococcal conjugate vaccine in elderly, funded by Sanofi. This interest was perceived as non-personal, non-specific and financially significant*
- He received the honorarium in May 2025 for giving the lecture on the following. These interests were perceived as non-personal, specific and financially insignificant*
 - COVID vaccine in pediatrics at ESPID, funded by Pfizer
 - Pneumococcal 15 in pediatric patients funded by MSD

MPAG members

Professor Evelyn Ansah, University of Health & Allied Sciences, Ghana

- Research Support – Ghana Co-Investigator on funding from PATH for the Health Utilization Study on a qualitative assessment of the pilot implementation of RTS,S. (ongoing) This interest was assessed as non-personal, non-specific and financially significant.*

Emeritus Professor Graham Brown, Professor, University of Melbourne, Australia

- Consulting – WHO/Global Malaria Programme contract to write the interim draft of the Executive Summary of Strategic Advisory Group on malaria eradication (SAGme) report (2019). This interest is assessed as personal, non-specific and financially significant.*
- Knowledge declaration – The outcome of the meeting could benefit or adversely affect interests of declared close professional colleagues working in malaria research with interests in vaccines, diagnostic tests and anti-malaria drugs. This

interest is assessed as personal, non-specific and non-financially significant. All knowledge obtained through MPAG functions is bound by the conditions outlined in the Confidentiality of Understanding signed by all MPAG members.

Professor Umberto d'Alessandro, Director, Medical Research Council Unit the Gambia, London School of Hygiene and Tropical Medicine, UK

- Research support – All interests assessed as non-personal, non-specific and financially significant.*
 - (a) Principal investigator in phase 1b multi-stage *p. falciparum* malaria vaccine study to assess the safety and immunogenicity of the blood-stage vaccine candidate RH5.2 virus-like particle (VLP) in Matrix-MTM and the preerythrocytic stage vaccine candidate R21 in Matrix-MTM, both alone and in combination, in adults and infants in the Gambia funded by EDCTP (June 2016 - March 2025).
 - (b) Principal investigator in seasonal R21 mass vaccination for malaria elimination funded by Applied Global Health Research MRC UKRI (ongoing - August 2026).
 - (c) Principal investigator of a multi-centre randomized controlled non-inferiority trial to compare efficacy, safety and tolerability of the Triple Artemisinin-based Combination Therapies versus first-line ACTs + placebo for the treatment of uncomplicated *p. falciparum* malaria in Africa, funded by the University of Oxford (ended June 2023).
 - (d) Principal investigator in a clinical trial on the safety and efficacy of pyronaridine-artesunate (Pyramax) in asymptomatic malaria-infected individuals. The Medical Research Council Unit (MRC), The Gambia, received funding from Medicines for Malaria Venture (MMV) (2018 - December 2019).
 - (e) Co-investigator of a phase 2a trial on M5717 combined with pyronaridine in asymptomatic malaria-infected individuals, funded by Merck (ended December 2024). This interest is assessed as personal, non-specific and financially significant.*
- Consultant – Development of M5717 new antimalarial drug for Merck Health care KGaA (November 2022 – December 2023). This interest is assessed as personal, non-specific and financially significant.*

**Professor Chris Drakeley, Immunologist, Department of Infection Biology,
London School of Hygiene and Tropical Medicine, UK**

- Research support – All interests assessed as non-personal, non-specific and financially significant.*
 - (a) Support from BMGF for programme grant Vivax serology partnership (VISPA). Multicomponent grant attempting to provide umbrella for those working on vivax serology. Two components have been funded so far, management and oversight (including policy) largely delivered by WEHI and a set of biobanking studies which include Brazil, Ethiopia and Pakistan. Professor Drakeley is co-Principal Investigator with Professor Ivo Mueller with key support from Michael White and Leanne Robinson. The grant is held by WEHI. (<https://vispa.online/about-vispa/>) (ongoing).
 - (b) UK funded component (UKRI) of an EU Horizon 2020 study. Award for a study on P. vivax serology test and treatment in Madagascar. Professor Drakeley is co-Principal Investigator and LSHTM is an external recipient. The study centers around a randomised controlled trial with the intervention based on treatment of those serology-positive in the assay developed by WEHI/Pasteur for the identification of the hypnozoite carriers compared to the standard of care alone. Other aspects are social acceptability, digital health related to G6PD testing and capacity building. Partners are AHRI Ethiopia, Pasteur Madagascar, FIND, University of Galway, Medea Italy and WEHI (ongoing).
 - (c) Research support from BMGF to fund study to evaluate the effect of increasing the age range of SMC on malaria transmission (ongoing).
 - (d) Research support from BMGF to fund study on evaluation of new drug combinations on transmission reduction (2023).
 - (e) Research support from BMGF to fund study on impact of malaria infection on COVID (2023).

Professor David Fidock, Director, Centre for Malaria Therapeutics and Antimicrobial Resistance, Columbia University, USA

- Research support – All interests assessed as non-personal, non-specific and financially significant.*

- (a) Research support – from Medicines for Malaria Venture supporting studies of drug resistance risks in their portfolio of antimalarials in late discover or undergoing development. The research assesses whether compounds are prone to resistance and studies the mechanisms of resistance and modes of action (January 2024 – December 2025).
- (b) Research support –from the Bill & Melinda Gates Foundation for work on the Malaria Drug Accelerator Consortium (MalDA) which works to define the ‘drug-able genome’ of *P. falciparum* parasites to develop new target-based drug screens. Co-investigator with Dr Elizabeth Winzele from UCSD (October 2021 – March 2025).
- (c) Research support – principal investigator - from the Bill & Melinda Gates Foundation on antimalarial drug resistance using genetic crosses and studies to accelerate the throughput of laboratory-based experiments that define the resistance risks of antimalarial compounds in early discovery (July 2021 – Feb 2025).

Dr Christian Happi, Professor of molecular biology and genomics and Director of the African Centre of Excellence for genomics of infectious diseases, Redeemer’s University, Nigeria.

- Employment – Employment with Redeemer’s University, Nigeria, where he holds the position of Director of ACEGID and Professor of Molecular Biology and Genomics (ongoing). This interest is assessed as personal, non-specific, and financially significant.*
- Research Support – Research grant and project funding support to Redeemer’s University and affiliated research units received from the following organizations (all ongoing). All interests are assessed as non-personal, non-specific, and financially significant.*
 - a) NIH/NIAID – Co-Principal Investigator of the International Center of Excellence for Malaria Research (ICEMR) in West-Central Africa.
 - b) NIH – Lead recipient of funding under the DS-I Africa program for antimicrobial resistance genomics research.
 - c) Bill & Melinda Gates Foundation – Recipient of support for disease surveillance and sequencing projects.

- d) Wellcome Trust – Previous support through collaborative genomics work on Ebola and COVID-19 preparedness.
- Advisory Roles – No honorarium provided. This interest is assessed as personal, non-specific, and financially significant.*
 - a) Member, Scientific Advisory Group on Genomics and Bioinformatics for the Africa CDC (ongoing).
 - b) Member, Africa Task Force for Novel Coronavirus (AFTCOR) laboratory technical working group (closed).
 - c) Advisory contributor to TED/Wellcome sessions on public health innovation (closed).

Dr Nilima Kshirsagar, Emeritus Scientist, Indian Council of Medical Research, India

- Consulting – Zydus Lifesciences, company driven by the purpose of delivering care and nurturance for the patients, backed by power of innovation, science and cutting-edge technology. Providing scientific advice (July 2023 - ongoing). Honorarium provided. This interest is assessed as personal, non-specific and financially significant.*
- Advisory roles – Board member of Cliantha Research Limited. Honorarium provided (ongoing).

Dr Corine Ngufor, Associate professor, London School of Hygiene and Tropical Medicine, UK

- Research support – Principal investigator for research for the evaluation of Insecticide Treated Nets (ITNs) and Indoor Residual Spraying (IRS). Her research group is also part of NNP research team evaluating the efficacy of Interceptor G2 and Royal Guard. Also working on a spatial repellent product. These interests are assessed as non-personal, non-specific and financially significant.* Funders listed below:

Vestergaard (ongoing); Shobikaa Impex (ongoing); SC Johnson (ongoing); Tianjin Yorkool (ongoing); AtoZ (closed 2023); Global Fund to Fight AIDS, Tuberculosis and Malaria (closed December 2024); USAID (closed); BASF (closed); New Nets Project (closed); DCT (closed); IVCC (closed); Syngenta (closed); Mitsui (closed); UNITAID (closed); Gates Foundation (closed); DFID (closed)

- Advisory roles – Providing scientific advice. No honorarium provided. This interest is assessed as personal, non-specific and financially significant.*
- a) Presenting data and provide expert opinion for ITN and IRS products, for tests undertaken for private sector.
- b) Technical Advice to WHO/GMP meetings (noninferiority technical consultations, VCAG and MPAG Technical Advisory Groups) and WHO/RPQ (product assessment feedback) (ongoing).

Dr Francine Ntoumi, Founder, Chair and Executive Director of the Congolese Foundation for Medical Research, Congo.

- Employment with the Congolese Foundation for Medical Research and the Medical Research Unit of the Albert Schweitzer Hospital in Lambarène, Gabon and the Institute of Tropical Medicine at the University of Tübingen (ongoing). This interest is assessed as personal, non-specific and financially significant.*
- Research support – Research grant support to Harvard University received from the following organizations (all ongoing): All interests assessed as non-personal, non-specific and financially significant.*
- a) Public health research through the Central African Network on Tuberculosis, HIV/AIDS and Malaria (CANTAM) funded by EDCTP.
- b) Public health research through PANDORA-ID-Net funded by EDCTP.
- c) Public health research through the Clinical Research Hub for Central Africa funded by Alexander von Humboldt Foundation.
- Advisory roles – No honorarium provided. This interest is assessed as personal, non-specific and financially significant.*
- a) Member of the WHO AFRO Advisory Committee on Health Research and Development
- b) Member of the External Advisory Committee of the Barcelona Institute for Global Health (ISGlobal) (ongoing).
- c) Member of the Global Health Scientific Advisory Committee of the Gates Foundation (ongoing).
- d) Member of the Scientific Advisory Committee of the European Vaccine Initiative (EVI) (ongoing).
- e) Member of the Scientific Advisory Board of the Foundation Mérieux (ongoing).
- f) Member of the Board of Directors of the International AIDS Vaccine Initiative (IAVI) (ongoing)

- g) Member of the Scientific Advisory Board for the Global Health Network (TGHN) University of Oxford (ongoing)
- h) Member of the Advisory Panel of the Africa Research Excellence Fund (AREF) (2015 – closed).
- i) Member of the SAC nomination committee of the GISAID Data Science Initiative (closed).

Dr Fredros Okumu, Director of Science, Ifakara Health Institute, Tanzania

- Employment – with Ifakara Health Institute and University of Glasgow (ongoing). This interest is assessed as personal, non-specific and financially significant.*
- Consulting – for WHO Vector Control Product Prequalification as a consultant assessor (2020 Closed). This interest is assessed as personal, non-specific and financially significant.*
- Research support – All interests assessed as non-personal, non-specific and financially significant.*
 - a) Research support – grants received from the Bill & Melinda Gates Foundation; WHO-TDR programme; Wellcome Trust; Foundations of the National Institutes of Health, USA; Africa Research Excellence Fund; UKRI/EPSRC, UK; Rudolf Geigy Foundation, Switzerland; Hanako Foundation, Singapore; The Royal Society, London; The British Academy, London, UNITAID, Medical Research Council, UK; Swiss National Science Foundation, USAID, Innovative Vector Control Consortium, Grand Challenges, Canada, Scottish Funding Council and Consortium for Advanced Research Training in Africa (some closed; some ongoing). All grants were awarded to Ifakara Health Institute and are assessed as non-personal, non-specific and financially significant.*
 - b) Patent Applications held by Ifakara Health Institute and assessed as non-personal, non-specific and non-financially significant.*
 - c) World Intellectual Property Organization. Patent number WO 2010/101462-A2: *Behavior modifying odorant mixture for malaria mosquitoes* (Joint patent by Ifakara Health Institute, TZ and Wageningen University, The Netherlands): <https://patents.google.com/patent/WO2010101462A2/en>
 - d) World Intellectual Property Organization. Patent number WO 13187690.6-1656: *A complex of structures for delivering pesticidal agents to arthropods*. (Joint patent by Ifakara Health Institute, TZ & In2Care Holding B.V, The

Netherlands):

<https://patents.google.com/patent/EP2859794A1/en?q=A&q=complex&q=structures&q=delivering&q=pesticidal+agents&q=arthropods&oq=A+complex+of+structures+for+delivering+pesticidal+agents+to+arthropods>

- Expert opinions: contributed to the following assessed as personal, non-specific and non-financially significant.*
 - a) Serves as a member of the Malaria Strategic Advisory Panel for the Bill & Melinda Gates Foundation (ongoing)
 - b) Contributed in Research and Draft team for Africa Union on: African Union High Level Panel on Emerging Technologies (2018): Gene Drives for Malaria Control and Elimination in Africa. <https://www.nepad.org/publication/gene-drives-malaria-control-and-elimination-africa>
 - c) Contributed as a co-chair of malERA Refresh Consultative Panel on Tools for Malaria Elimination. (2017). malERA: An updated research agenda for diagnostics, drugs, vaccines, and vector control in malaria elimination and eradication. PLoS Med. 2017 Nov 30;14(11):e1002456.doi: 10.1371/journal.pmed.1002456. eCollection 2017 Nov. Review: <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002455>
 - d) Contributed as a member of this panel: James S, Collins FH, Welkhoff PA, Emerson C, Godfray HCJ, Gottlieb M, Greenwood B, Lindsay SW, Mbogo CM, **Okumu FO**, Quemada H, Savadogo M, Singh JA, Tountas KH, Touré YT (2018). Pathway to Deployment of Gene Drive Mosquitoes as a Potential Biocontrol Tool for Elimination of Malaria in Sub-Saharan Africa: Recommendations of a Scientific Working Group†. Am J Trop Med Hyg. 2018 Jun;98(6_Suppl):1-49. doi: 10.4269/ajtmh.18-0083. <https://pubmed.ncbi.nlm.nih.gov/29882508/>

Dr Melissa Penny, Fiona Stanley Chair in Child health Research, University of Western Australia (UWA), Australia

- Employment as research assistant professor with Swiss Tropical and Public Health Institute, and The Kids Research Institute, UWA (ongoing). This interest is assessed as personal, non-specific and financially significant.*

- Research - All interests assessed as non-personal, non-specific and financially significant.*
 - a) Research funding for malaria modelling, including, impact and cost-effectiveness of malaria interventions; development of new tools, intervention strategies and elimination efforts from Swiss National Science Foundation, PATH,MVI,Vaccine Impact Modelling Consortium, Gates Foundation and Open Philanthropy. (ongoing)
 - b) Technical discussions with Novartis, BioNTech, NIH, Merck, MMV, Gates Foundation MRI on malaria interventions. No funding linked to this work.

Dr Aranxta Roca Feltrer, Regional Malaria Director, Malaria Consortium, Mozambique

- Employment with PATH (non-for profit organization) for a grant funded by BMGF aiming to provide technical assistance to malaria endemic countries (ongoing). This interest is assessed as personal, non-specific and financially significant.*
- Employment with the Malaria Consortium (non-profit organization) (closed). This interest is assessed as personal, non-specific and financially significant.*
- Research - All interests assessed as non-personal, non-specific and financially significant.*
 - a) Grants from the Bill & Melinda Gates Foundation on surveillance strengthening in Mozambique (closed).
 - b) Grant from the Gates Foundation aiming to provide technical assistance to malaria endemic countries to strengthen surveillance systems and use of data (ongoing).
- Advisory roles – No honorarium provided. This interest is assessed as personal, non-specific and financially significant.*
 - a) Technical Advisor on RBM Surveillance Monitoring and Evaluation (SME) working group. Providing advice on surveillance strengthening activities across malaria endemic countries (ongoing).

Professor Dyann Wirth, Richard Pearson Strong Professor and Chair, Harvard T.H. Chan School of Public Health, USA

- Research support – Research grant support to Harvard University received from the following organizations (all ongoing): All interests assessed as non-personal, non-specific and financially significant.*
 - a) National Institute of Health, USA – Principal Investigator or Co-PI on four grants on new drug discovery and drug resistance (DHODH/mitochondrial targets, ProRS and targeting parasites in mosquitoes, and ACT resistance).
 - b) Bill & Melinda Gates Foundation
 - Support for Genetic epidemiology of malaria, Rethinking malaria global leaders initiative, and Malaria drug accelerator (MalDA) consortium. MalDA consortium is a global consortium of researchers and drug developers identifying and sharing compounds deemed to be effective candidates for the drug pipeline for malaria treatment and prevention (ongoing).
 - Support for the Malaria Drug Accelerator (MaIDA) Consortium, as co-principal investigator on a grant housed at the University of California San Diego (ongoing).
 - Support for Rethinking Malaria Global Leaders Initiative, as co-principal investigator. No salary or honorarium received (ongoing).
 - c) PATH – Principal Investigator for Mal095 using RTS,S to look at the issue of allele specific immunity (ongoing).
 - d) NIH – Four grants as either Principle Investigator or co-Principle Investigator on new drug discovery and drug resistance (DHODH/mitochondrial targets, ProRS and targeting parasites in mosquitoes, ACT resistance).
- Educational support to Harvard University for the Science of Defeating Malaria Leadership course . Funding provided by BMGF, JC Flowers Foundation, Sumitomo Corporation, USAID and ExxonMobil. (ongoing). These interests are assessed as non-personal, non-specific and financially significant.*
- Advisory roles – All interests assessed as personal, non-specific and financially significant.*
 - a) Board member of Medicines for Malaria Venture (MMV) Expert Scientific Advisory Committee (ESAg). No salary received. Honorarium and travel provided (ongoing).
 - b) Member of Board of Trustees of the Marine Biological Laboratories, Wood Hole, MA. No honorarium or travel expenses received (ongoing).

- c) Annual Award Committee Member of Warren Alpert Foundation Scientific Advisory Committee for the annual award. Honorarium received (ongoing).
- d) PATH/PMI Insights initiative which is a collaborative body of global experts on malaria research and policy to increase access and information to forward the goal of malaria elimination (ongoing).
- e) Reviewer for National Institutes of Health (NIH) grants. No salary or honorarium received (ongoing).
- f) Reviewer of research and development projects for Global Health Innovative Technology Fund (GHIT). No salary or honorarium received (ongoing).
- g) Committee Member of Advisory on Malaria Elimination in Nigeria (AMEN) group. No salary or honorarium received and travel expenses covered (ongoing).
- h) Member of leadership group for Malaria Drug Accelerator Consortium (MalDA). No salary or honorarium received (ongoing).
- i) Expert advice to Gates Foundation initiative for Rethinking Malaria. No salary or honorarium received (ongoing).

* According to WHO's Guidelines for Declaration of Interests (WHO expert), an interest is considered "personal" if it generates financial or non-financial gain to the expert, such as consulting income or a patent. "Specificity" states whether the declared interest is a subject matter of the meeting or work to be undertaken. An interest has "financial significance" if the honoraria, consultancy fee or other received funding, including those received by expert's organization, from any single vaccine manufacturer or other vaccine-related company exceeds 5,000 USD in a calendar year. Likewise, a shareholding in any one vaccine manufacturer or other vaccine-related company in excess of 1,000 USD would also constitute a "significant shareholding". As per the WHO assessment of conflicts of interests, "Institution" relates only to the expert's research/or work unit as a subdivision of the department. Funding going to the SAGE member's research unit needs to be declared.

The above-stated SAGE conflicts were made available for public notice and comment three weeks before the SAGE meeting to provide information on interests or biases relating to potential conflicts of SAGE members. Comments will be treated in a confidential manner and should be e-mailed to the Secretariat (sageexecsec@who.int) at least 1.5 weeks ahead of the meeting.