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International Alliance for Biological Standardization

HYBRID MEETING

E-BOOK

3rd IABS Workshop on Real World Evidence

Pragmatic Randomized Controlled Vaccine Trials: Toward Global Alignment on Regulatory Framework and Evidence Standards

November 18-19, 2026

Leiden, The Netherlands



Further information

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ABOUT THE CONFERENCE



Explanatory (i.e. conventional) randomized controlled trials (RCTs) have long been—and continue to be—the gold standard for evaluating the safety and efficacy of medicinal products, including vaccines. When well designed and rigorously conducted, they can provide the highest level of scientific evidence for regulatory decision-making. However, they are not always feasible or appropriate, for example, where timelines, ethical considerations, rare outcomes, or unpredictable epidemiology limit their applicability.

Post-authorization observational studies typically complement RCTs by providing insights into real-world use, including evidence of effectiveness and safety in more diverse populations, as well as evidence of effects that extend beyond the initial indications. However, because treatment allocation is not randomized, observational studies are more susceptible to bias and confounding.

Pragmatic RCTs offer a powerful alternative by combining the methodological rigor of randomization with study conduct embedded in routine medical practice. This approach enables efficient, large-scale and patient-centered evidence generation that is representative of real-world populations and the actual use of medicinal products. Pragmatic RCTs can generate robust real-world evidence on vaccine effectiveness, safety, population-level impact, and value, particularly when conventional RCTs are not feasible and timely evidence is needed to inform public health decisions.

Given their promise, greater clarity and alignment are needed on how pragmatic RCTs can best be used to support regulatory decision-making for vaccines. Key scientific, ethical, operational, and regulatory considerations must be addressed to ensure their appropriate use.

The International Alliance for Biological Standardization (IABS) has a strong track record of convening impactful workshops on real-world evidence (RWE) (Leuven, 2023 and Montreal, 2025). Building on previous RWE workshops and discussions, the upcoming IABS workshop will bring together key stakeholders to explore these considerations and build a shared understanding of the opportunities and challenges associated with leveraging pragmatic RCTs to advance regulatory decision-making for vaccines.

SCIENTIFIC & ORGANIZING COMMITTEES



Scientific and Organizing Committee

Kaat Bollaerts, P95 (Co-Chair)
Pieter Neels, IABS (Co-Chair)
Frank Vandendriessche, IABS (Co-Chair)
Marco Cavaleri, EMA
Danielle Craig, CEPI
Madinina Cox, Events Manager, IABS/MC'Com
Brad Gessner, Independent Consultant
Hector Izurieta, FDA
Phil Krause, Independent Consultant
Joshua Nealon, Sanofi
Christopher Nelson, Independent Consultant
Liz Miller, Independent Consultant
Camille Roux, Events Coordinator, IABS/MC'Com
Dean Smith, Health Canada
Sylvia Taylor, GSK

Regulators panelists

Marco Cavaleri, EMA
Hector Izurieta (remote), FDA
Phil Krause, Independant Consultant
Mikal Ayiro Malungu, Kenya PPB
Adriane Alves de Oliveira, Anvisa
Brenda Gomes Valente, Anvisa
Rachael Williams, MHRA

SCIENTIFIC PROGRAM

Wednesday, November 18, 2026



8:30 am Opening of the meeting – Welcome & Objectives
Kaat Bollaerts, P95, Pieter Neels, IABS

Session I: Setting the scene

Session Chair: Phil Krause, independent consultant

8:35 am Pragmatic Vaccine RCTs: Definitions, Existing Regulatory Guidance, and Framework for Discussion
Phil Krause, independent consultant

8:50 am Let's hear from you: your experience with pragmatic vaccine RCTs
All participants

Session II: Perspectives from Regulators, Sponsors and Investigators

Session Chair: Liz Miller, independent consultant

9:00 am Regulatory perspective on the value and role of pragmatic RCTs
Marco Cavaleri, EMA

9:10 am Industry perspective on the value and role of pragmatic RCTs
Sylvia Taylor, GSK

9:20 am CEPI perspective on the value and role of pragmatic RCTs
Danielle Craig, CEPI

9:30 am PHI perspective on the value and role of pragmatic RCTs
Nick Andrews, MHRA

9:40 am NITAG/Payer perspective on the value and role of pragmatic RCTs
Jaime Jesús Pérez, Regional Ministry of Health of the Region Murcia

9:50 am Panel discussion
All Speakers

10:05 am **Coffee Break**



SCIENTIFIC PROGRAM

Wednesday, November 18, 2026

Session III: Methodological Considerations

Session Chair: Joshua Nealon, Sanofi

10:25 am Session Introduction
Joshua Nealon, Sanofi

10:35 am Core design considerations
Arto Palmu, Finnish Vaccine Research

10:50 am Outcome ascertainment and validity
Sima Mohammadi, University Medical Center Utrecht

11:05 am Safety monitoring in pragmatic trials
Rachael Williams, MHRA

11:20 am Q&A Session

Session IV: Debate: Meaningful Evidence or Misleading Endpoint? The Relevance of All-Cause Outcomes in Regulatory Decision-Making

Session Chair: Phil Krause, Independent Consultant

11:55 am Session Introduction
Phil Krause, Independent Consultant

12:00 pm Is there a role for all-cause outcomes in regulatory processes?
Brad Gessner, Independent Consultant

12:10 pm All-cause outcomes:
limitations and impediments to their use as regulatory outcomes
Marco Cavaleri, EMA

12:20 pm Panel discussion / Q&A
All Speakers

12:45 pm **Lunch Break**



SCIENTIFIC PROGRAM

Wednesday, November 18, 2026

Session V: Implementing pragmatic vaccine RCTs: What Has Been Achieved, What Still Holds Us Back, and What Needs to Change

Session Chair: Kaat Bollaerts, P95

2:00 pm Session Introduction
Kaat Bollaerts, P95

2:05 pm Lessons Learned from Launching BronquiVal, the First Pragmatic Randomized Trial in the Valencian Community, Spain
Alex Orrico-Sánchez, FISABIO

2:15 pm Pragmatic Randomized Trials: the New Danish Take
Tor Biering-Sorensen, Copenhagen University Hospital

2:25 pm Leveraging Integrated Healthcare Systems to Implement Large Pragmatic Randomized Vaccine Trials
Nicky Klein, Kaiser Permanente

2:35 pm Challenges with post-licensure RCT trials in Africa: lessons from RSV-IMPACT
Shabir Madhi (remote), University of Witwatersrand

2:45 pm Panel discussion
All Speakers

3:00 pm **Coffee Break**

Session VI: Observational studies versus Pragmatic RCT in Routine and Outbreak Settings

Session Chair: Danielle Craig, CEPI

3:25 pm Session Introduction
Danielle Craig, CEPI

3:30 pm Pragmatic RCTs in Outbreaks: Design Options, Real-World Experience, and Regulatory Fit
Amol Chaudhari, CEPI

3:50 pm Real-World Evidence in Outbreaks: When and How Observational Studies Can Complement Clinical Trials in Regulatory Decisions
Gabrielle Breugelmans, CEPI

SCIENTIFIC PROGRAM

Wednesday, November 18, 2026



4:10 pm	Panel discussion: Observational Studies or Pragmatic RCTs? Principles for Choosing the Right Evidence in Outbreaks **All Speakers, Regulators panelists**
4:50 pm	Day 1 – Synthesis and Key Takeaways
5:15 pm	End of Day 1

SCIENTIFIC PROGRAM

Thursday, November 19, 2026



8:30 am Summary of Day 1 & Objectives of the day
Phil Krause

Session VII: Vaccine Pragmatic Trials: Ethical Perspectives?

Session Chair: Brad Gessner, Independent Consultant

8:40 am Session Introduction
Brad Gessner, Independent Consultant

8:45 am Ethical Considerations for Pragmatic Trials with Vaccine
Stephanie Morain, Johns Hopkins Berman Institute of Bioethics

9:10 am Ethics at both ends of pRCTs: from ethics review to the use of results
Jean-Claude Dupont, Institut Pasteur

9:30 am Panel discussion
All speakers & Regulators Panelists

Session VIII: Debate: As Traditional Vaccine Trials Reach Their Limits, Are Pragmatic RCTs Ready to Become Pivotal Evidence for Regulatory Decisions?

Session Chair: Saranya Sridhar, Sanofi

10:00 am Session Introduction: Problem statement
Florence Meunier, Sanofi

10:10 am Panel discussion
Regulators Panelists &
Florence Meunier, Sanofi
Elizabeth Begier, Pfizer
Evan Anderson, Moderna

11:00 am **Coffee Break**

SCIENTIFIC PROGRAM

Thursday, November 19, 2026



Session IX: Breakout Groups – Defining Priorities and Next Steps

Session Chair: Sylvia Taylor, GSK

11:30 am Introduction to the Breakout Session
Sylvia Taylor, GSK

11:40 am Breakout Groups

Session X: Report-back: Identifying Priority Areas

Session Chair: Sylvia Taylor, GSK

12:20 pm Groups read-out
5 groups presenting for 7 minutes each

1:00 pm **Lunch Break**

Session XI: Towards a Shared Forward Agenda

Session Chair: Sylvia Taylor, GSK

2:15 pm Moderated Plenary: Reflections and the Way Forward
Liz Miller, independant consultant, Sylvia Taylor, GSK

3:15 pm Key Takeaways and Closing Remarks
Pieter Neels, IABS

3:30 pm End of Day 2

UPCOMING IABS CONFERENCES & WORKSHOPS



ASFaVIP FINAL STAKEHOLDER MEETING - ASF: An Analysis of Current Situation of Vaccine Development; Licensing Procedures and Possible Eradication Approaches

December 3, 2026
Frankfurt, Germany



Accelerating Access to Veterinary Vaccines Developed with Novel Technologies

June 2027
Budapest, Hungary



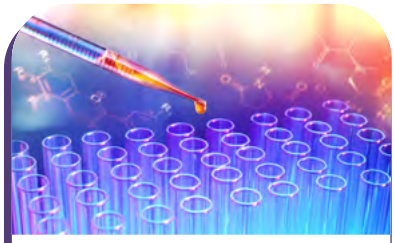
2nd Global Harmonization of Specification Workshop

June 2027
Vancouver, Canada



Analytics in Cell Therapy: Ensuring Quality in Flow Cytometry established guidelines for Flow Cytometry And QC needs in Cell Therapy

Autumn 2027
Barcelona, Spain



From Concept to Practice: Advancing the Implementation of High Throughput Sequencing for Vaccine Safety

December 2027
Indonesia



5th Controlled Human Infection Model Workshop

2027
South Asia



We chase *the miracles of science* to improve people's lives

Youxin Kong, Senior Scientist and Alexey Rak, Scientific fellow, head of department, Vitry-Sur-Seine, France

Sanofi is an R&D driven, AI-powered biopharma company committed to improving people's lives and delivering compelling growth.
We apply our deep understanding of the immune system to invent medicines and vaccines that treat and protect millions of people around the world, with an innovative pipeline that could benefit millions more.
Our team is guided by one purpose: we chase the miracles of science to improve people's lives; this inspires us to drive progress and deliver positive impact for our people and the communities we serve, by addressing the most urgent healthcare, environmental, and societal challenges of our time.

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BIOSKETCH



Adriane Alves de Oliveira

Anvisa

Adriane Alves de Oliveira is a Health Regulation Expert with over 12 years of experience in the regulatory assessment and oversight of non-clinical and clinical development of drugs and biological products. She currently serves as Deputy Head of the Clinical Trials Office at the Brazilian Health Regulatory Agency (Anvisa) and as a Good Clinical Practice (GCP) inspector. She contributed to the development of the ICH E17 guideline as Anvisa's representative and currently represents the agency in the ICH E6(R3) Annex 2 and ICH E22 Expert Working Groups. She also represents Anvisa in the PAHO Clinical Trials Forum and serves as a full member of Brazil's National Clinical Research Ethics Commission (INAEP). She holds a degree in Biological Sciences and a Master's degree in Molecular Biology from the University of Brasília.

BIOSKETCH



Prof. Evan Anderson

Moderna

Evan Anderson is a physician-scientist and biotechnology leader trained in adult and pediatric infectious diseases. Early in his career, he held faculty and clinical appointments at Northwestern University. He subsequently served as Professor of Pediatrics and Medicine at Emory University, co-director of its Vaccine Treatment and Evaluation Unit, and director of the Emory Children's Center–Vaccine Research Clinic. At Emory, he also served as lead investigator for influenza, RSV, and COVID-19 in the Georgia Emerging Infections Program and held a leadership role in vaccinology training.

His research encompasses vaccine clinical trials and infectious disease epidemiology, including studies of mRNA COVID-19 vaccines in adults and children. He has authored more than 300 publications, including first-author work in the New England Journal of Medicine. His experience includes clinical trial oversight; development of postmarketing vaccine effectiveness and safety research; authoring and senior scientific review of clinical and risk-management materials for vaccine regulatory submissions; and participation in FDA vaccine advisory committee meetings as a presenter and scientific respondent.

In 2023, Dr. Anderson joined Moderna, where he serves as a Vice President leading epidemiology teams supporting infectious diseases, global safety, and rare diseases. His responsibilities include observational research, scientific governance, safety review, and evidence generation supporting research and clinical development.

BIOSKETCH



Prof. Nick Andrews

UKHSA

Prof Nick Andrews is Head of Vaccines Analysis within the Immunisation and Vaccine Preventable Disease Division of the UK Health Security Agency. In this role he has worked extensively on post licensure vaccine safety, impact and effectiveness assessment, clinical trials, seroepidemiology, and correlates of protection. He is currently part of the Global Vaccine Datanet and is a member of the World Health Organization Global Advisory Committee on Vaccine Safety. He is also on the WHO SAGE Ebola vaccine and Malaria vaccine sub-committees. He is a project lead on a research collaboration on using electronic health records for vaccine assessment with the London School of Hygiene and Tropical Medicine. He regularly provides evidence on vaccine effectiveness and safety to the Joint Committee on Vaccination and Immunisation. He lectures at the LSHTM, New York University in London and on vaccine courses internationally. He has over 500 publications with more than half of these in the vaccine field.

ABSTRACT



PHI perspective on value and role of pragmatic RCTs - Nick Andrews, MHRA

Public health institutions (PHIs) routinely undertake post-licensure evaluation of vaccines through vaccine effectiveness, safety, impact, epidemiological, serological, and immunogenicity studies. At the UK Health Security Agency (UKHSA), these activities have supported evidence-based vaccine policy decisions, including assessments of alternative schedules, dose intervals, age groups, and heterologous vaccine regimens. However, despite extensive experience with observational studies and immunogenicity trials, pragmatic randomised controlled trials (RCTs) evaluating vaccine efficacy or safety have not yet been conducted in the UK post-licensure setting.

Several factors have limited the implementation of pragmatic vaccine trials. These include logistical challenges associated with vaccine procurement and deployment systems, ethical concerns regarding unvaccinated comparator groups, the availability of high-quality effectiveness and safety data from both UK and international studies, and the use of immunogenicity data to inform policy decisions. In addition, the costs of large-scale trials, the need for sufficiently important unanswered questions, and expectations that manufacturers should undertake pivotal studies where necessary have reduced the perceived need for PHI-led pragmatic RCTs. Furthermore, a pragmatic trial introduction may miss the opportunity to see wide scale herd immunity.

From a PHI perspective, pragmatic vaccine trials are most appropriate when substantial uncertainty remains regarding vaccine benefits or risks, particularly in populations not currently recommended for vaccination or when comparing alternative vaccines or schedules. Such trials are especially valuable when observational studies are unlikely to provide reliable estimates because of residual confounding or when expected effect sizes are small. In these circumstances, well-designed pragmatic RCTs may offer the most robust evidence for benefit-risk assessment and policy decision-making, provided they can be conducted at an acceptable cost. Looking ahead, potential applications include comparisons between licensed vaccines, randomised step-wedge introductions of new programmes, and evaluation of vaccines approved primarily on immunological correlates of protection or those with potential wider health benefits not captured in pre-licensure studies.

BIOSKETCH



Dr. Elizabeth Begier

Pfizer

Dr. Beth Begier is a physician epidemiologist with over 25 years of experience in infectious disease epidemiology, vaccine development, and public health. She completed her undergraduate degree in population biology at Princeton University (USA), her medical degree at University of Pennsylvania (USA), and her master's in public health at Johns Hopkins University (USA). She is a graduate of Brown University's Family Medicine residency (USA), Johns Hopkins' Preventive Medicine Residency, and the US Centers for Disease Control's Epidemic Intelligence Service fellowship (focus on infectious disease field epidemiology and outbreak investigation).

Past positions include Medical Epidemiologist focusing on Vaccine Safety Surveillance and Research in US FDA's Center for Biologics Evaluation and Research, and Director of HIV Epidemiology and Field Services Program and Assistant Commissioner for Vital Statistics Bureau at New York City Department of Health and Mental Hygiene. She joined Pfizer Vaccines 12 years ago, working initially in vaccine clinical development in Pearl River, NY, USA, primarily on the Staphylococcus aureus vaccine candidate program, and more recently in scientific and medical affairs in Ireland with focus on global epidemiology and evidence generation for pneumococcal, Lyme, and RSV vaccines. She has authored over 200 peer-review publications on infectious disease epidemiology, clinical trials, disease surveillance methodology, vital statistics, and vaccine safety and effectiveness assessments. She is currently Team Lead for the RSV Adult Vaccine Program at Pfizer Vaccines.

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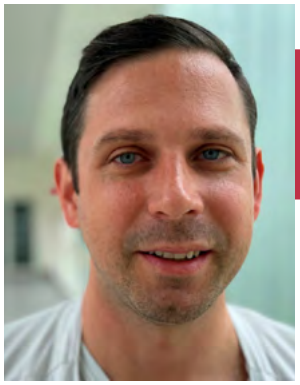

Dr. Tor Biering-Sorensen

Copenhagen University Hospital

Dr. Biering-Sørensen has an outstanding academic and research background. He earned his medical degree from the University of Copenhagen in 2011 and completed his Ph.D. at the same institution in 2015. He subsequently obtained a Master of Public Health from Harvard University in 2018 and a Master of Science in Clinical Trials from University of Oxford in 2023.

He is the Founding Head of the Center for Translational Cardiology and Pragmatic Randomized Trials (CTCPR), a collaborative initiative between Copenhagen University Hospital Herlev-Gentofte and the Department of Biomedical Sciences at the Faculty of Health and Medical Sciences, University of Copenhagen. He is also the Founding Head of the Cardiovascular Non-Invasive Imaging Research Laboratory (CIRL), an internationally recognized research center renowned for its pioneering work in cardiovascular imaging.

Together with his team at CTCPR and CIRL, comprising more than 50 affiliated researchers, Dr. Biering-Sørensen leads extensive research focused on the application of cardiovascular imaging to improve individualized risk assessment and patient care. He has also initiated and led several large-scale pragmatic randomized clinical trials leveraging Denmark's nationwide health registries, making significant contributions to the development and implementation of pragmatic trial methodologies.

As an academic leader, Dr. Biering-Sørensen has received numerous prestigious national and international research awards in recognition of his scientific contributions. He has authored more than 550 peer-reviewed publications in leading medical journals, including The New England Journal of Medicine, The Lancet, JAMA, and Nature Medicine. In addition, he mentors a large number of medical students, Ph.D. candidates, and postdoctoral researchers, providing guidance across a broad range of clinical research disciplines, with particular expertise in cardiovascular imaging, randomized clinical trials, heart failure, and the cardiovascular consequences of infectious diseases.

BIOSKETCH



Dr. Kaatje Bollaerts

P95

Kaat Bollaerts is a PhD-level biostatistician with over 15 years of experience in the field of epidemiology. After obtaining her PhD, she started working as a senior scientist at the Scientific Institute of Public Health, Belgium. Here she gained experience in diverse aspects of epidemiological research, ranging from setting up epidemiological studies to analyzing secondary databases. She holds leading positions in several European projects. She has plenty of experience in analyzing epidemiological data of all kinds and masters a wide variety of statistical techniques.

Throughout her professional career, she is involved in consulting activities for private industry, governments and (inter)national public health institutions and teaches at national and international vaccine courses. Kaat joined P95 in September 2013, and is currently Head of Data Science supporting a team of >15 statisticians and data scientists within P95. She is also the Principal Investigator of the COVIDRIVE study estimating brand-specific COVID-19 vaccine effectiveness in Europe.

Kaat co-authors the book "Vaccination Programmes: Epidemiology, Monitoring, Evaluation" (Hahné, Bollaerts, Farrington).

BIOSKETCH



Dr. Gabrielle Breugelmans

CEPI

Dr. Gabrielle Breugelmans is Director of Epidemiology and Data Science at CEPI. Her department plays a central role in supporting vaccine development and the 100 Days Mission by filling critical epidemiological and analytical gaps across the vaccine R&D value chain.

She oversees a portfolio of major projects, including the Enable program on Lassa fever in West Africa, the ACHIEVE study on chikungunya in East Africa, a vaccine effectiveness study of the LC16 vaccine against mpox in DRC, vaccine impact modeling supporting programmatic and regulatory decisions, and the network GS LEARN (Global South Leaders in Epidemic Analytics and Response Network), a CEPI-led initiative that builds leadership, technical capacity and collaboration in epidemic analytics and infectious disease modelling across institutions in the Global South.

An infectious disease epidemiologist with 20+ years of experience in global health, she has worked on access to medicines, vaccinology, and the implementation of health interventions in resource-limited settings. She holds a PhD and an MPH in epidemiology from Johns Hopkins University (USA), and an MSc degree in health sciences from Maastricht University (Netherlands).

Her expertise spans infectious disease epidemiology, vaccinology, pharmacoepidemiology, and implementation of medical interventions in resource-limited settings.

ABSTRACT



Real-World Evidence in Outbreaks: When and How Observational Studies Can Complement Clinical Trials in Regulatory Decisions.
Dr Gabrielle Breugelmans - CEPI

Randomized clinical trials remain the reference standard for regulatory approval decision for medical counter measures like vaccines. However, in outbreaks they are often slow to start, especially in resource-scarce settings in the Global South where emerging pathogens often occur. They may also be infeasible due to low incidence or ethically difficult. In certain situations, real-world evidence (RWE) obtained from observational studies can offer critical or complementary evidence to inform regulatory decisions in a timely way. Fit-for-purpose RWE can support evidence needs across the vaccine R&D pathway, including estimating disease burden and risk profile to inform trial design and prioritization, assessing risk-benefit for regulatory decisions, designing post-licensure commitments when a non-traditional pathway is used, and enabling continuous assessment of safety and effectiveness during deployment. This talk covers three scenarios where RWE may offer advantages in outbreaks: (1) off-label use of an existing vaccine in at-risk populations, which countries often adopt faster than a label update, such as a smallpox vaccine used for mpox or Ervebo used for Bundibugyo ebolavirus; (2) expansion of vaccines developed under accelerated timelines to populations trials often leave out, such as pregnant and lactating women, children and people living with HIV, where registry and cohort event monitoring data collected during initial deployment fill the gap; and (3) small or sporadic outbreaks (e.g., Nipah, MERS-CoV, Marburg) where a trial cannot reach adequate case numbers, and a pre-positioned observational cohort could serve as an external control arm. Data availability and quality remain critical barriers to generating RWE during outbreaks in LMICs. A deployable toolkit (electronic data capture, conversion of paper records to electronic datasets, validated data integration such as probabilistic linkage, and data-sharing agreements), together with minimum data standards, country readiness and early regulator alignment, will need to be established in advance as part of preparedness. Drawing on CEPI's ongoing work and the CEPI 3.0 strategy, this talk opens the conversation on what makes these studies regulator-ready, where their limits lie, and why readiness matters for the 100 Days Mission.

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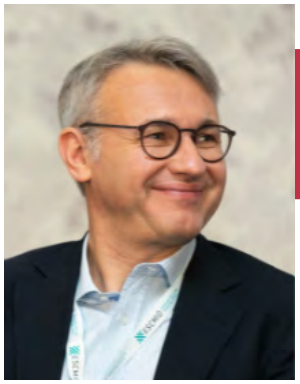

Dr. Marco Cavaleri

EMA

Marco Cavaleri is Head of Department, Public Health Threats. He is the Chair of EMA Emergency Task Force (ETF) and responsible for EMA activities for emergent pathogens, vaccines and AMR. He has been leading the EMA activities during the COVID-19 pandemic on vaccines and therapeutics.

He serves in different advisory groups at WHO, including PDVAC, R&D Blueprint TAG on prioritisation of therapeutics and clinical trials working group.
Marco Cavaleri is a Pharmacologist who spent several years in industry in R&D mainly in the area of anti-infectives covering different positions in preclinical and clinical development of new antibacterial, antitubercular and antifungal agents.

He has expertise in microbiology, animal models, vaccines, translational science and clinical trials.

He is co-author of several publications related to vaccines, infectious diseases and regulation of medicines.

BIOSKETCH



Danielle Craig

CEPI

Danielle is the Head of the Regulatory Affairs Americas team at the Coalition for Epidemic Preparedness innovations. She studied genomics and molecular genetics at Michigan State University before starting her career in quality and regulatory affairs. Prior to joining CEPI, she worked in the pharmaceutical industry leading regulatory strategies for Phase 1 to Phase 4 programs for medical products, including vaccines, monoclonal antibodies, immunoglobulins and plasma-derived products. In her current role, she partners with vaccine developers and regulators to further CEPI's mission of accelerating "the development of vaccines against emerging infectious diseases and enable equitable access to these vaccines for people during outbreaks."

ABSTRACT



Ethics at both ends of pRCTs: from ethics review to the use of results
Jean-Claude Dupont, Institut Pasteur

Pragmatic randomised controlled trials (pRCTs) aim to evaluate interventions under conditions close to routine practice. The objective to generate evidence directly relevant to clinical and public health decision-making can be especially relevant for vaccines, where effectiveness in real-world populations is often the key question for policymakers.

Beyond the care-research boundary issue, ethics committees may have difficulties ensuring the overarching task (CIOMS 2016, guideline #1) of assessing scientific and social value of, and respect of rights in, pRCTs. Discussing this hypothesis offers the opportunity to build on the ethics literature on pRCTs and on health technology assessment; it shall also allow considering the (usually distinct) perspectives of ethics committees, HTA bodies and investigators.

Rather than starting from the ethics review of trial protocols, this presentation works backwards from the end use of results. It first examines ethical issues surrounding assessments for marketing authorizations and question how results from pRCTs offer the prospect of alleviating these. The case of vaccine pRCTs in resource-limited settings will be documented as especially topical of this line of questioning.

Building on this analysis, the presentation then aims to identify where ethics committees may fall short when evaluating pRCTs and how this might impact the review process in its relevance and in its practical impact. The ability of ethics committees to assess the social value of pRCTs results prospectively will especially be discussed.

The claim is that considering both ends of the evaluation chain together, from ethics review to evidence use, can shed light on broader challenges in pRCT ethics. If so, several benefits can be expected, from enriching the toolbox for a relevant and efficient ethical review of pRCTs to a reframing of ethics committees as key actors who can help open earlier dialogue between all stakeholders down the route of vaccine development.

BIOSKETCH





Dr. Brad Gessner

EpiVac Consulting

Dr. Gessner is a pediatrician and medical epidemiologist who received his medical training at the Universities of Florida and Colorado, followed by an EIS Fellowship with the US CDC, and an MPH and Preventive Medicine Residency at the University of Washington. He started and developed the Maternal-Child Health Epidemiology Unit within the Alaska Division of Public Health focused on infectious diseases, outbreaks, infant mortality, child abuse, and birth defects. He joined Agence de Medecine Preventive, a 90 person NGO based in Paris, France and several African countries that focused on post-licensure vaccinology primarily in resource-poor settings. During his tenure as the Scientific Director and Chief Scientific Officer, AMP grew by almost 10-fold in resources and doubled its permanent staff. His work spanned most aspects of field vaccinology including large scale clinical trials, vaccine efficacy and effectiveness, surveillance, laboratory innovations, immunogenicity, carriage, economics, logistics, implementation, and training. He worked on many currently available vaccines including pneumococcal, meningococcal and Hib conjugates and plain polysaccharides; OPV and IPV; rotavirus; RTSS malaria vaccine; dengue vaccine; HPV; and pertussis whole cell and acellular.

From December 2016 through March 2025, Dr. Gessner served as Vice President and Global Medical Lead initially for Pneumococcal Vaccines to which he added vaccines for Lyme, Group B Streptococcus, SARS-CoV-2, Respiratory Syncytial Virus (RSV), Parainfluenza virus (PIV), and human Metapneumovirus (hMPV). From approximately 2023 till his departure, he served as Vice President and Global Medical Lead for Respiratory Vaccines and Antivirals, which included PCV13, PCV20, and next generation PCVs; RSV for maternal and older adult indications; respiratory combination vaccines that included PIV and hMPV; and

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RSV antivirals. In this role he was responsible for medical affairs activities related to four product launches (PCV20 pediatric and older adult; RSV maternal and older adult) including regulatory documents and interactions with regulatory agencies, vaccine technical committee interactions and dossiers, establishing Pfizer's scientific positions for internal colleagues (medical and commercial) and external communication, overseeing KOL engagements, addressing safety concerns, reviewing commercial positions, and other activities as needed. In addition, he oversaw all post-licensure studies (almost all designed as research collaborations) needed to meet regulatory commitments, expand product labels, generate recommendations, inform the value proposition for vaccines, or improve uptake. At his hire in 2016, he supervised a group of five professionals and at his departure he supervised a team of 35 PhD and MD scientists and medical experts.

Dr. Gessner is the author of approximately 480 peer-reviewed publications from over 40 countries, as well as an author for hundreds of presentations at scientific congresses, book chapters, and technical reports and maintains a faculty appointment at the University of Maryland's Center for Vaccine Development. He has served on the Gavi Board and Gavi Program and Policy Committee; WHO's IVIR-AC and IPAC committees (that directly advise SAGE); WHO SAGE working groups; and numerous advisory groups for WHO, the Bill & Melinda Gates Foundation, and industry. Currently, Dr. Gessner is the Sole Proprietor of EpiVac Consulting,

ABSTRACT



All-cause Outcomes: Rationale, Successes, Failures
Bradford D. Gessner, MD p-95 and EpiVac Consulting

Vaccine trial outcomes for regulatory purposes – such as initial licensure, indications or label updates – have focused on etiologically-confirmed outcomes such as vaccine serotype pneumococcal pneumonia, rotavirus-confirmed acute gastroenteritis, or Haemophilus influenzae type b meningitis. Such outcomes provide an accurate assessment of vaccine effectiveness (or efficacy) against the target etiology. However, they can underestimate preventable disease burden multiple-fold when considering measures such as incidence rate reductions (IRR) and numbers needed to vaccinate. Consequently, all-cause outcomes such as all pneumonia, gastroenteritis, or clinically defined meningitis can provide a better measure of the public health value of vaccine. Moreover, all-cause outcomes may be more meaningful for health care providers, the primary target audience for product labels. However, regulatory agencies seldom accept all-cause outcomes. The current presentation will discuss for all-cause outcomes basic concepts, provide examples, discuss successes and failures, and provide suggestions for their incorporation into future regulatory processes.

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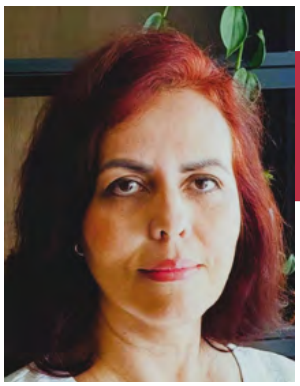

Dr. Brenda Gomes

ANVISA

Brenda Valente is a Pharmacist with a postgraduate specialization in Pharmaceutical Technology and Health Surveillance and holds a Master's Degree in Microbiology from the Federal University of Minas Gerais (UFMG). She is a Health Regulation and Surveillance Specialist at the Brazilian Health Regulatory Agency (ANVISA), where she has served since 2005 at the Biological Products Office. Her work includes the regulatory evaluation of efficacy and safety data for biological products.

In addition, she has extensive experience in monitoring and evaluating the development of biological products throughout their life cycle. She also contributes to strengthening regulatory convergence and alignment with other national regulatory authorities.

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Dr. Hector S. Izurieta

FDA

Hector S. Izurieta, MD, MPH, PhD, is an Associate Director for Novel Clinical Investigations at the Office of Vaccine Research and Review (OVRR), in CBER, FDA. He has extensive U.S. and international vaccine research and public health experience, having also worked at CDC (including in the EIS program), PAHO, WHO, Médecins Sans Frontières and other organizations. His publications include over 90 manuscripts on COVID-19, Influenza, Herpes Zoster, Measles, Tetanus, Diphtheria, Pertussis, and on vaccine and real-world evidence study methods.

BIOSKETCH



Dr. Nicky Klein

Kaiser Permanente

Nicola Klein, MD, PhD is a board-certified Pediatrician, Director of the Kaiser Permanente Vaccine Study Center, Research Scientist III at the Kaiser Permanente Northern California Division of Research, and a Professor in the Department of Health Systems Science at the Kaiser Permanente Bernard J. Tyson School of Medicine. Her research has focused on vaccine safety and effectiveness in all populations and on the epidemiology of vaccine preventable diseases. She had led pivotal studies describing waning effectiveness of acellular pertussis vaccines and the effectiveness of maternal Tdap in protecting infants against pertussis. She has also led extremely large pragmatic, randomized studies comparing the effectiveness of different influenza vaccines, as well as observational studies investigating many other vaccines, including live-attenuated zoster, influenza, human papilloma virus, pneumococcal conjugate vaccines, COVID-19, recombinant shingles vaccines. She is the principal investigator (PI) for the CDC-sponsored networks, including the Vaccine Safety Datalink (VSD) Project, the Clinical Immunization Safety Assessment Network and the Virtual SARS-CoV-2, Influenza, and Other respiratory viruses (VISION) VE Network. During the pandemic, she led the VSD COVID-19 vaccines Rapid Cycle Analysis, which monitors the safety of vaccines in near real-time and was the CDC's primary active surveillance safety monitoring system for COVID-19 vaccines. She is PI for both industry and federally sponsored Phase 2 and 3 vaccine clinical trials. She served on the Western States Scientific Safety Review Workgroup for COVID-19 vaccines, National Vaccine Advisory Committee (NVAC) Vaccine Safety Subcommittee, National Academy of Science, Engineering and Medicine (NASEM) Board on Population Health and the World Health Organization (WHO) Pertussis Technical Consultant Panel/pre-SAGE Working Group. She is currently a member of the Brighton Collaboration Science Board, the NASEM Health Care and Public Health Program Advisory Committee and the WHO Strategic Advisory Group of Experts (SAGE) Pertussis Working Group.

ABSTRACT



Outcome Leveraging Integrated Healthcare Systems to Implement Large Pragmatic Randomized Vaccine Trials - Dr. Nicola (Nicky) Klein, Kaiser Permanente

Assessing relative vaccine effectiveness (rVE) of influenza vaccine formulations using traditional randomized vaccine clinical trials can be challenging because of the extremely large numbers of vaccinees required and ethical issues related to use of placebo in populations recommended for routine vaccination. Pragmatic, randomized studies comparing influenza vaccine formulations can overcome these barriers, however, they must be designed and implemented in a way to ensure that the two groups of vaccinees are similar to each other with respect to important cofounders such as underlying medical conditions, access to vaccines, and risk of exposure to influenza virus. We conducted two large, pragmatic, randomized studies to assess the rVE of influenza vaccines against polymerase chain reaction (PCR)-confirmed influenza within Kaiser Permanente Northern California (KPNC). We cluster randomized all KPNC clinical facilities such that approximately half of facilities administered one influenza vaccine and half the other influenza vaccine on the first week of the influenza vaccination season. Thereafter, every facility crossed over and alternated formulations weekly, with the result that every facility administered both vaccines throughout the season on an alternating weekly schedule. This design resulted in individuals in both vaccine groups being well balanced on all measurable confounders. The first study, conducted during 2018-2019 and 2019-2020, compared recombinant influenza vaccine (RIV) with egg-based standard dose influenza vaccines (SD-IIV) among 1,630,328 vaccinees aged 18 to 64 years. Among the primary age group of 50 to 64 years of age, the rVE of RIV vs SD-IIV was 15.3% (95% confidence interval [CI], 5.9 to 23.8; P = 0.002), showing that RIV conferred more protection against PCR-confirmed influenza than an egg-based standard-dose vaccine. The second study, which began in 2023-2024 and is currently ongoing, compares adjuvanted influenza vaccine with high-dose influenza vaccine in individuals aged 65 years and older, both of which are preferentially recommended in the US in this age group. We conducted a pre-specified interim analysis for the 2023-2024 season among 429,595 vaccinees which reported an rVE of adjuvanted versus high dose influenza vaccine was 1.5% (95% CI, −8.4% to 10.5%), showing that, in the first season of a large, ongoing study, adjuvanted and high-dose influenza vaccines did not differ in effectiveness against PCR-confirmed influenza in adults 65 years or older.

Successful implementation of this design is facilitated by key features of some integrated healthcare systems, including access to large populations, central control of vaccine supply and routine vaccine administration without need for individual informed consent. This design also requires equipoise between vaccine formulations. Real world evidence from such pragmatic trials can contribute to global alignment of vaccine policies.

BIOSKETCH



Dr. Phil Krause

FDA

While at FDA, Phil performed vaccine-relevant research and had close involvement with all aspects of the review process, including CMC, preclinical, clinical, and post-marketing. As He left Deputy Director of the Office of Vaccines and Research and Review for about 10 years, Phil played a role in evaluation and licensure of many important vaccines, including those for Covid-19. Since that time, Phil has been a consultant on vaccine regulatory and strategic issues, including as a key advisor to the WHO R&D Blueprint for outbreak preparedness and response. Phil has also been a member of the CEPI Scientific Advisory Committee since its inception.

BIOSKETCH



Prof. Shabir Madhi

University of Witwatersrand

Shabir Madhi is the Dean of the Faculty of Health Sciences and Professor of Vaccinology at the University of the Witwatersrand, Johannesburg, South Africa. He also holds the position of Director of the South African Medical Research Council Vaccines and Infectious Diseases Analytics Research Unit (VIDA) and is co-Director of the African Leadership Initiative for Vaccinology Expertise (ALIVE).

He is an internationally recognised for his research on vaccines against life threatening disease in childhood, including against respiratory pathogens, as well as vaccines in pregnant women and people living with HIV. His research includes contributing to clinical development of vaccines against pneumococcus, respiratory syncytial virus, influenza virus, rotavirus, Group B streptococcus and Covid-19.

BIOSKETCH



Florence Meunier

Florence Meunier, PharmD, is Therapeutic Area Head in Global Regulatory Affairs for Vaccines at Sanofi. She leads a global team for regulatory strategy and implementation, including in Europe and the United States. She has worked on vaccines since the start of her career and has more than 20 years of regulatory experience spanning early development, scientific advice, registration, launch, market access and post-authorisation evidence generation. Florence began her career at the French medicines agency (ANSM), where she spent seven years assessing vaccines and other biological medicines and managing European regulatory procedures. She then spent nearly 11 years at Sanofi Pasteur MSD, taking on progressively broader responsibilities in European regulatory affairs and working extensively on HPV, hepatitis B, paediatric combination and meningococcal vaccines. At Sanofi, she has led regulatory strategy mainly for travel and endemic disease vaccines, COVID-19 vaccines and influenza–COVID-19 combination programmes. She led the regulatory strategy supporting the authorisation of a COVID-19 vaccine and has engaged with EMA and FDA on evidence requirements for vaccine development and registration. She represents Sanofi's Global Regulatory Affairs function in CEPI's Regulatory Innovation Consortium. She is passionate about improving how evidence is generated and evaluated so that safe and effective vaccines can reach the people who need them sooner. Florence holds a Doctor of Pharmacy degree from the University of Tours and master's degrees in clinical trials and statistics (CESAM, Paris VI) and pharmacovigilance (Paris V).

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Prof. Liz Miller

London School of Hygiene and Tropical Medicine

Professor Elizabeth Miller is an infectious disease epidemiologist who has worked on vaccines and immunisation programmes for over 40 years. She was the former Head of Immunisation at Public Health England and is now a professor in the department of Infectious Disease Epidemiology at the London School of Hygiene and a visiting professor at the School of Public Health a Tel Aviv University. She has considerable experience in evaluating vaccine safety and effectiveness and served as a member of the WHO Strategic Advisory Group of Experts (SAGE) on Immunisation and was a founder member of the WHO Global Advisory Committee on Vaccine Safety (GACVS). In response to the SARS-CoV-2 pandemic she lead the PHE (now UKHSA) studies of household transmission of the virus and the effect of vaccination in the household setting and is currently working with UKHSA colleagues on various studies of COVID-19 vaccine safety. She is also working for the WHO in assessing COVID-19 vaccines that are candidates for inclusion in the WHO efficacy trials (SOLIDARITY) that are being conducted in low and middle income countries, and candidate vaccines for evaluation in viral haemorrhagic outbreaks.

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Dr. Sima Mohammadi

University Medical Center Utrecht

Sima Mohammadi holds a medical degree (MD) and is currently a researcher in pharmacoepidemiology and real-world evidence at University Medical Center Utrecht and VAC4EU. She is in the final year of her PhD at the Department of Data Science and Biostatistics at UMC Utrecht. Her doctoral research focuses on the development and semantic harmonization of clinical outcomes across European healthcare databases. She contributes to methodological research on outcome ascertainment, phenotype validation, and the use of routinely collected healthcare data in vaccine safety and effectiveness studies. Her work aims to improve the consistency, transparency, and validity of clinical outcome identification in multi-database studies.

ABSTRACT



Outcome Ascertainment and Validity in Pragmatic Randomised Vaccine Trials
Dr. Sima Mohammadi, UMC Utrecht, Netherlands

Pragmatic randomised controlled trials offer opportunities to evaluate vaccine effectiveness and safety under routine healthcare conditions, with outcomes often ascertained through electronic health records (EHRs) and other routinely collected healthcare data. Although randomisation reduces confounding, it does not eliminate bias arising from incomplete or inaccurate healthcare data. The validity of EHR-derived outcomes therefore requires careful consideration, particularly regarding precision and sensitivity. Differences in healthcare-seeking behaviour, data-source coverage, and recording practices may affect the identification of clinical events and introduce differential outcome misclassification between comparison groups.

Drawing on the experience of the Vaccine Monitoring Collaboration for Europe (VAC4EU), this presentation will discuss methodological approaches to identifying and validating clinical outcomes in routinely collected healthcare data. These include the use of standardised clinical definitions, harmonised codelists, and phenotype algorithms to identify outcomes across different healthcare settings and coding systems. Particular emphasis will be placed on outcome validation, including the assessment of positive predictive value (PPV), and how differences in data-source characteristics and healthcare utilisation may influence the accuracy and completeness of outcome identification. While PPV provides information on the proportion of algorithm-identified cases that are true cases, it does not capture events missed by the algorithm. To address this limitation, the SeValid framework will be introduced as an approach to identifying false-negative cases and estimating outcome sensitivity.

The presentation will highlight the importance of fit-for-purpose outcome definitions, understanding data-source diversity, and conducting appropriate validation studies to support reliable interpretation of pragmatic randomised vaccine trials and their use in regulatory decision-making.

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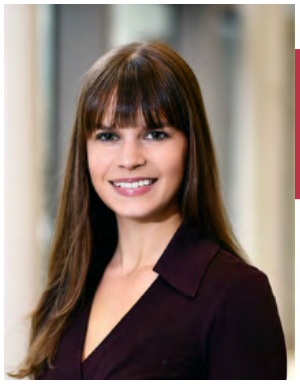

Prof. Stephanie Morain

Johns Hopkins Berman Institute of Bioethics

Stephanie Morain, PhD, MPH, is the Dracopoulos Rising Professor at the Berman Institute of Bioethics and Vice Chair of Research in the Department of Health Policy and Management at the Johns Hopkins Bloomberg School of Public Health in Baltimore, MD (USA). A key focus of her research is ethical issues when research is embedding into ongoing clinical care, including pragmatic clinical trials and comparative effectiveness research. She holds several national leadership roles related to her work in research ethics, including Co-Chair of the Ethics & Regulatory Core of the NIH Pragmatic Collaboratory, Executive Committee Member of the Ethics & Regulation Core of the NIA IMPACT Collaboratory, and a member of the Clinical Trials Advisory Panel for the Patient Centered Outcomes Research Institute. Her scholarship is informed by her research ethics service work, including as Co-Director of the Research Ethics Consulting Service and IRB member for the Johns Hopkins School of Medicine, and as a member of several DSMBs.

ABSTRACT



Ethical Considerations for Pragmatic Trials with Vaccines – Stéphanie Morain, Johns Hopkins Berman Institute of Bioethics

Pragmatic randomized controlled trials offer the opportunity to generate evidence that is more applicable to the real-world needs of patients, clinicians, policymakers, and other health decision-makers. However, the deliberate integration of research into clinical care challenges traditional ethical and regulatory paradigms, which have traditionally viewed research and clinical care as distinct activities, meriting distinct oversight approaches. This presentation will present an overview of some ethical issues presented by the use of pragmatic designs for vaccine trials, including when cluster randomization is (not) appropriate, the ethics of placebo controls when a licensed vaccine exists, informed consent, and early stopping decisions.

BIOSKETCH



Dr. Joshua Nealon

Sanofi

Joshua Nealon is responsible for public health and medical aspects of COVID-19 and pre-licensure influenza vaccines for Sanofi Vaccines. He has spent a total of 10 years at the company having previously led Medical Evidence Generation activities for influenza vaccines, working as an epidemiologist to support dengue vaccine launch in 2015, and on other vaccine-preventable diseases. He has recently re-joined the company from an epidemiology/biostatistics research and teaching position at the University of Hong Kong where he was focused on vaccine effectiveness and the epidemiology of COVID-19 during the pandemic.

Joshua joined Sanofi from the World Health Organization where he worked as a Technical Officer in vector-borne disease control in Cambodia, Philippines and across the Western Pacific Region, and he has experience in a Hong Kong-based biotech start-up focusing on PCR-based diagnostics and RNA-based therapies. Joshua holds a B.Sc. in Medical Microbiology, an M.Sc. from the London School of Hygiene and Tropical Medicine and his Ph.D. from the University of Edinburgh.

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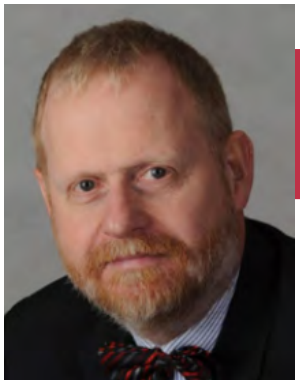

Dr. Pieter Neels

IABS

Dr. Pieter Neels is a native of Belgium where he trained as an MD (University of Antwerp, 1985) and was boarded as a general practitioner. In 1994, his interest for medical research led him to work for a pharmaceutical company. In 1997, he joined the Belgian Ministry of Public Health as a senior evaluator of the clinical part of registration files in the field of cardiology, nephrology, endocrinology (diabetes), ...

In 2001 he was appointed CPMP member. In 2002 he was asked to take over all Belgian central vaccine rapporteurships. During this year he became infected by the world of vaccines and until June 2013 he was the rapporteur of more than 15 vaccines.

After being an observer for more than 5 years at the Vaccine Working Party, he was elected vice-chair of this CHMP Working Party for discussion on development and evaluation of registration files for vaccines until June 2013.

The Belgian agency started a spearhead policy in 2007 and Dr Neels was appointed co-ordinator for the spearhead domain vaccines.

EMA/CHMP has asked Dr Neels has be an observer at the SAGE/WHO meetings and to attend several scientific meetings on vaccines until June 2013. WHO has asked Dr Neels to attend many meetings on vaccine development all over the world in order to share the EU regulatory requirements/competence in vaccinology.

Dr. Neels is also a member of the worldwide network on vaccine promotion ashe is asked to attend the ADVAC course (Foundation Mérieux) and the IABS conferences.

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Mr. Christopher Nelson

Real World Strategy Partners LLC

Christopher B Nelson PhD MPH is an epidemiologist with experience in vaccine preventable disease and leading evidence generation and medical/ governmental affairs teams. Mr Nelson has been successful in both the public and private sectors at national and international levels around the world in support of new vaccine introduction and evaluation. Projects range from RSV to COVID, influenza, typhoid conjugate, HPV, rotavirus and pentavalent vaccines.

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Dr. Alex Orrico-Sánchez

FISABIO

Dr. Alex Orrico-Sánchez holds a PhD in Biomedicine and Pharmacy and a Master's degree in Pharmacoepidemiology. He leads the Vaccine Research Unit at Fisabio-Salud Pública, the largest research foundation in the Valencian Community, Spain. His department comprises more than 40 researchers dedicated to vaccine research and infectious diseases.

He has authored over 60 indexed publications on vaccines and infectious diseases. He has extensive experience conducting observational studies using healthcare databases from the Valencian Community and has served as the responsible pharmacist in more than 25 clinical trials. This expertise has enabled him to lead the first pragmatic clinical trial in the Valencian Community.

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Dr. Arto Palmu

Finnish Vaccine Research

Arto Palmu, MD, PhD, university lecturer in clinical epidemiology, specialist in public health medicine
Chief Sientific Officer, FVR - Finnish Vaccine Research

Dr Palmu's key research interests are in respiratory infections and their prevention by vaccines. He has published over 100 papers in peer-reviewed journals.

His primary expertise is on clinical trials and register-based research, and he has been pivotal in the development of pragmatic vaccine field trials. Currently, he is the PI of the FinDementia trial, a pragmatic trial of herpes zoster vaccine to prevent dementia.

He graduated from the Medical University of Tampere in 1993 and has worked at the Finnish Institute for Health and Welfare (THL) since 1995. Since April 2022, he joined FVR.

ABSTRACT



Core design considerations - Arto A. Palmu, FVR – Finnish Vaccine Research, Tampere, Finland

Pragmatic trials are, by definition, randomized trials. This is the most important feature differentiating pragmatic trials from observational studies. Randomization is the most powerful tool to ensure balanced distribution of all baseline risk factors, whether known or unknown, between the treatment groups and will control the healthy vaccinee bias. Randomization can be conducted either by individual participants or by clusters, e.g. by geographical area. Randomization requires minimum two treatment groups, i.e. active vaccination and control. Selection of the control is crucial. Another active vaccination needs to be chosen, if it is available and used for the target group. Placebo or inactive vaccine for the study outcome is very powerful tool, as the comparison would equal "no treatment". This enables evaluation of absolute benefits and use of the vaccine probe design.

Blinding is needed to ensure that the treatment groups remain comparable during the trial followup. Also, in case of misclassification in the outcomes, blinding will guarantee that any misclassification would more likely be non-differential (symmetric), and therefore, the direction of the misclassification bias would be dilution of the effects.

The power of the trial needs to be adequate. Healthy enrollee effect means thatthe participants in any clinical trial are on average healthier than the general population in the target group. This will usually decrease the outcome incidence in the enrolled trial population and needs to be taken into account. Pragmatic trials are also especially suitable for long-term follow-up, as collection of routine RWD is much less costly compared to active follow-up studies.

High generalizability is also an important feature of pragmatic trials. Permissive eligibility criteria mimicking routine vaccination processes enable straight-forward interpretation of the results.

Pragmatic trials can be conducted in late-phase clinical development, i.e. phase 3 and 4. Starting in phase 3 is highly relevant, if the licensure is to be applied using safety and immunogenicity criteria without efficacy data against clinical outcomes. Low-intervention trials in phase 4 are specifically defined in the EU clinical trial regulation and some exemptions to GCP are allowed.

Safety data collection can also be enhanced by RWD, usually in a hybrid fashion with active data collection for related adverse reactions.

In conclusion, pragmatic trials provide a strong study design for post-licensure phase evidence generation, especially in the context of a post-licensure commitment requested by the regulatory authorities.

BIOSKETCH



Dr. Jaime Jesús Pérez

Regional Ministry of Health of the Region Murcia

Jaime Jesús Pérez Martín is a specialist in Preventive Medicine and Public Health and currently serves as Head of the Health Prevention Service of the Regional Ministry of Health of Murcia, Spain. He is President of the Spanish Association of Vaccinology and has extensive experience in immunization programmes, communicable disease prevention and public health policy. He coordinated the COVID-19 vaccination campaign in the Region of Murcia and has contributed to numerous national vaccination recommendations and scientific publications in the field of vaccinology and public health.

BIOSKETCH





Dr. Dean Smith

HealthCanada

Advisor to the Director and Sr. Evaluator in the Center for Vaccines, Clinical Trials and Biostatistics at Health Canada. He has over 25-years of experience in research and regulatory science in support of innovation for vaccine development, manufacturing and quality control. He is active in the development / implementation of related guidance, and has a wide range of biologics-based scientific and regulatory experience from his Sr. Scientific Evaluator and management roles in Centre Divisions including Viral and Bacterial Vaccines, Hemostatic Agents & Blood Substitutes, as well as the Clinical Evaluation Division-COVID.

Representing Health Canada, he has contributed to WHO's smallpox and rabies vaccine guidance, the Extended Controlled Temperature Conditions (ECTC) guidance in support of innovative vaccine stability assessment for vaccination campaigns over the "last mile" with limited cold chain. Additionally, he contributed to WHO's R&D Blueprint International COVID-19 vaccine consultations during the pandemic, and since 2018 has been engaged in the regulatory / industry patient-centric harmonized specification exchanges in line with an assumed intent of ICH Q6B.

Smith is Health Canada's representative to the European Directorate of Quality of Medicines (EDQM) Group 15 (Vaccines and Sera) of the European Pharmacopeia. He has served on the Science and Ethics Advisory Committee for VAC2VAC under the European Vaccines Initiative to substitute more appropriate in vitro QC methods for existing in vivo vaccine QC methods, on the Regulatory Advisory Group to WHO and CEPI (Coalition for Epidemic Preparedness Innovations) during the COVID-19 pandemic, and most recently on the current EDQM mRNAVAC-Working Party.

BIOSKETCH



Smith's Ph.D. in Immunology is from the University of Alberta, Canada, where his research dealt with vaccine antigen discovery, autoimmunity and viral vector-based gene therapy. He was a Research Associate at the National Research Council's Institute of Biological Science, Vaccine Design Group in Ottawa, prior to joining Health Canada.

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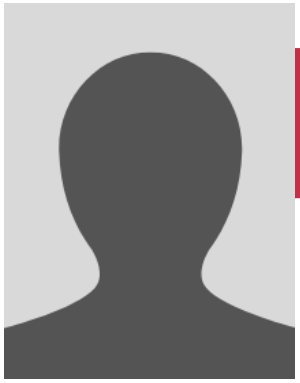

Dr. Saranya Sridhar

Sanofi

Dr. Saranya Sridhar serves as Head of Global Clinical Development for Vaccines at Sanofi, leading end-to-end clinical research from translational medicine through life cycle management.

With over 20 years in vaccine R&D, Dr. Sridhar has held pivotal leadership roles including Global Head of Translational Medicine for Vaccines, Head of the Translational Science Hub in Australia (a AU$280M public-private partnership), and Global Head of Clinical Franchise for COVID-19 and mRNA vaccines. His accomplishments include leading the clinical development and approval of Sanofi's COVID-19 vaccine, contributing to the first dengue vaccine approval, and advancing next-generation respiratory vaccines.

Dr. Sridhar earned his medical degree in India before receiving a Rhodes Scholarship to pursue his D.Phil at Oxford University, where he developed adenoviral vectored vaccines for malaria and tuberculosis. He completed a Masters in Epidemiology and Biostatistics as a Fogarty International HIV Training Fellow at UC Berkeley.

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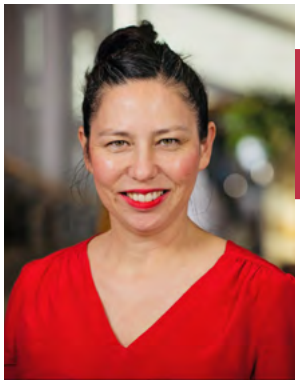

Dr. Sylvia Taylor
GSK

Sylvia Taylor, PhD, MPH, MBA, is an epidemiologist who was recently appointed Head of Real-World Evidence & Health Outcomes (gRWE & HO) for Specialty Care at GlaxoSmithKline (GSK), where she leads RWE and health outcomes strategy across GSK's growing respiratory, hepatology and immunology portfolios. She previously served as Head of Global RWE & HO for Vaccines and Infectious Diseases at GSK, where she helped spearhead large randomized pragmatic vaccine trials in Denmark, Finland, Spain and the United States.

Prior to rejoining GSK, Sylvia was Head of Medical and Payer Evidence Strategy for Vaccines & Immune Therapies at AstraZeneca, where she was recruited in 2020 to lead the Phase 3b/4 program for the Oxford-AstraZeneca COVID-19 vaccine. Sylvia has more than 20 years of experience in epidemiology, real-world evidence and global health across the pharmaceutical, academic and public sectors. Earlier in her career, she spent eight years with GSK Vaccines, leading epidemiology strategy across vaccine programs including HPV, RSV, HIV, Ebola, tuberculosis and pneumococcal disease, and held roles with the UN International Organization for Migration and the Institut Pasteur in France. Originally from the United States, she has spent most of her career working and residing internationally across Europe, Africa, Asia and Latin America.

ABSTRACT



The Evolving Role of Pragmatic Trials in Vaccine Evidence Generation and Decision-Making: A Vaccine Company Perspective
Sylvia Taylor, PhD, MPH, MBA

Vaccine companies have a responsibility to generate robust evidence supporting regulatory and public health decision-making throughout the product lifecycle. Decision-making considers the totality of evidence, with different study designs providing complementary insights. Well-designed randomized controlled trials (RCTs) remain the foundation for establishing vaccine efficacy and safety, while rigorous observational studies provide important evidence on effectiveness, safety and population-level impact. Yet conventional RCTs may not always be feasible or suited to certain evidence needs, while observational studies may remain vulnerable to residual confounding and bias.

Pragmatic randomized controlled trials (pRCTs) offer an important opportunity within this evidence landscape. Combining randomization with broad recruitment and streamlined follow-up embedded within routine healthcare, pRCTs can address questions conventional trials may not feasibly answer, such as less common or longer-term outcomes (including potential new indications related to vaccine benefits beyond prevention of the disease initially targeted) and vaccine safety and/or effectiveness across broader populations. Electronic health records and population-based registries can enable longitudinal follow-up at scale, while randomization strengthens causal inference.

The challenge for pRCT design is not simply to maximize methodological rigor, but also to determine what level of rigor is necessary for the decision at hand. This challenge requires thoughtful trade-offs, with considerations that may include whether the vaccine is already authorized and the broader available evidence base for the vaccine, comparator choice, feasibility and ethics of randomization, fitness of routinely collected data and outcome ascertainment, and proportionate approaches to safety monitoring and adjudication.

Early dialogue with regulators and other public health stakeholders, together with the adoption of relevant guidance, is critical to the design of pRCTs intended to inform regulatory decision-making, to ensure appropriate rigor while avoiding requirements that inadvertently make pRCTs impractical and risk leaving important questions about vaccine safety and effectiveness unanswered. Continued collaboration among companies, regulators, public health agencies, researchers and other stakeholders, enabling a better understanding each other's perspectives and constraints, is essential to advancing the acceptance and appropriate use of pRCTs for decision-making, ultimately helping to protect the populations most likely to benefit from vaccination.

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Dr. Frank M. Vandendriessche

IABS

Frank Vandendriessche graduated as pharmacist at the KULeuven (B) where he also obtained a PhD degree in pharmaceutical sciences based on medicinal chemistry research work on antiviral nucleosides and oligonucleotides. Between 1994 and 2014, he worked in the pharmaceutical industry for three vaccine companies i.e. Pfizer Animal Health, GSK Biologicals and Merck/MSD where he was continuously involved in quality and regulatory aspects of vaccines. Since 2014 he works as consultant in regulatory affairs, with continued activities in the same area of both prophylactic and therapeutic human vaccines, for large pharmaceutical companies, small biotech start-ups as well as NGO's. He has been regularly assigned as regulatory project lead and contact person to the European Regulatory Authorities. In addition to projects related to vaccines, he provided support for other biologicals and biosimilars as well as human medicines in the oncology and anti-infectious disease areas. He followed additional courses on EBM as well as HTA.

His primary role since 2022 has been to act as Chief Regulatory Officer of Vicebio, a start-up working on vaccines for prevention of respiratory viral infections and diseases.

Since mid 2024 he supports the IABS Human Vaccine Committee as a volunteer.

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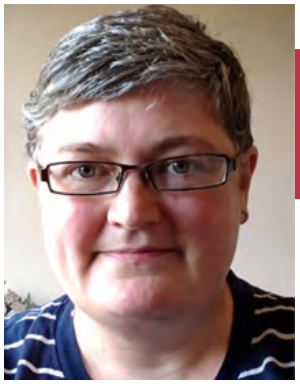

Dr. Rachael Williams

MHRA

Dr Rachael Williams is Head of Epidemiology at the MHRA and an epidemiologist with extensive experience in safety, effectiveness, and real-world evidence generation. She leads epidemiology programs supporting the evaluation of vaccine benefit-risk profiles through post-authorisation research and safety surveillance. Her expertise includes observational studies, large healthcare database research, pragmatic study designs, and regulatory evidence generation. Rachael works closely with public health, academic, and regulatory stakeholders to advance methodological standards. Her interests include the use of real-world data and innovative study designs to support evidence-based decision-making throughout the product lifecycle.

ABSTRACT



Safety Monitoring in Pragmatic Trials – Rachael Williams, Medicines and Healthcare products Regulatory Agency

Pragmatic randomized controlled trials are increasingly being used to generate real-world evidence on vaccine performance in routine clinical practice. By combining the methodological strengths of randomization with the external validity of real-world healthcare settings, pragmatic randomized controlled trials offer an important opportunity to address evidence gaps relevant to regulators, public health decision-makers, and healthcare providers. However, ensuring robust safety monitoring within these trial designs remains a critical challenge.

This presentation will explore key considerations for safety surveillance in pragmatic vaccine trials, drawing on emerging regulatory perspectives and real-world evidence frameworks. Particular attention will be given to the use of routinely collected healthcare data, electronic health records, registries, and digital data capture methods to identify, validate and evaluate adverse events while minimizing participant and site burden. Recent regulatory guidance highlights the importance of risk-proportionate safety oversight, data quality, endpoint validation, and the use of regulatory-grade real-world data when evidence is intended to support regulatory decisionmaking.

The presentation will discuss practical approaches to balancing operational efficiency with rigorous participant protection, signal detection, and benefit-risk assessment. It will also consider the implications of decentralized and hybrid trial models, where remote participant engagement and digital technologies may expand opportunities for large-scale safety monitoring while introducing new methodological and governance challenges.

As pragmatic vaccine trials become increasingly important in evidence generation across the product lifecycle, achieving international alignment on safety monitoring standards will ensure confidence in the evidence they produce and its use in regulatory and public health decisionmaking.