

THE ICAVT ALUMNI REFRESHER VACCINOLOGY COURSE 2026

COURSE OBJECTIVES

General objectives

The course aims at providing a refresher course and latest updates on immunization and vaccines to the alumni of the various existing advanced vaccinology training courses worldwide and their partners, already trained in vaccinology/immunology.

The International Collaboration of Advanced Vaccinology Training is a partnership of more than 30 vaccinology courses worldwide (www.icavt.org). Those trainings have different history, background, content and audiences but they all have trained, over the years, altogether, thousands of experts in the area of vaccinology.

However, alumni from those various trainings have constantly requested to attend again the trainings they attended initially or other ones to update their knowledge as the vaccinology area is in constant evolution and changes thanks to a strong research pipeline and a rich and diverse implementation community.

Instead of allowing alumni to attend the trainings they already completed again or attend another course and therefore reduce the number of new experts trained, ICAVT members have agreed to jointly develop a single common refresher course. This course will provide annually to people from various backgrounds, with lectures on the last updates on immunization and on new topics key for their daily activities.

The alumni refresher vaccinology course will provide updates in the following key areas of vaccinology: immunology, vaccine development, clinical trials, regulatory processes, vaccine-specific issues including new vaccines, vaccination strategies and policies, programme implementation, humanitarian emergencies, social, economic, political and ethical issues, financing, and communication. It will also provide lectures on new areas of the discipline uncovered by previous courses.

The course is limited in duration but focuses on relevant updates for alumni of all courses around the world and their partners already trained in vaccinology/immunology.

By the end of the course, participants should be able to get an updated knowledge on:

- (1) the last development in immunology,
- (2) the existing vaccines (combination, antigens included...),
- (3) the innovations and new platforms used to deliver traditional and new vaccines,
- (4) the immunization programs policies and strategies at global, regional, national, and local levels,
- (5) the regulatory processes for vaccines,
- (6) the vaccines production and quality control,
- (7) the role of communities and individuals for vaccines demands.

The ICAVT Alumni Refresher Vaccinology Course will help the audience to translate the updated scientific and epidemiological evidence into effective policy development and program implementation related to vaccines and immunization.

ICAVT Refresher Vaccinology Course also aims to update the scientific foundation of the alumni and their partners and their knowledge in vaccinology areas outside of their current expertise, showing the multifaceted constantly evolving aspects of vaccinology, allowing them to explore novel technologies and think more globally and holistically, and providing them with a unique skill set to develop their leadership in vaccinology.

Finally, this Refresher Vaccinology Course represents a unique networking opportunity where participants can form valuable and sustainable professional relationships beyond those developed during their initial vaccinology course and serves as a platform where problems to professional challenges can be shared, and solutions identified.

Specific objectives for each training activity (lectures, panels)

DAY 1

Lecture 1: Making sense of GAVI 6.0 and what it means for immunization programs

- Describe the key priorities and strategic goals of Gavi 6.0, highlighting the changes with previous strategy.
- Explain how Gavi 6.0 aims to improve immunization coverage and sustainability.
- Identify implications for countries and immunization programs, including opportunities for funding, partnership, and alignment with national immunization strategies.

Panel 1: Updates on support to countries for prioritization and optimization of national immunization programmes (VPOP)

- Discuss the impact of shifts in donor funding, changes in WHO/UNICEF coordination mechanisms on the delivery of immunization technical assistance.
- Summarize the key lessons learned from the Vaccine Preventable Outbreaks (VPOP) exercises and their implications for strengthening immunization programmes.
- Discuss WHO and UNICEF strategies and priorities to support countries in strengthening immunization programmes, improving resilience, and responding to current challenges.

Lecture 2: Update on SAGE recommendations

- Summarize key SAGE recommendations from recent meetings
- Present the SAGE workplan and working groups work, with indicative timeline for recommendations to come

Lecture 3: case study of use of modelling to inform national decision-making

- Explain the role of mathematical modelling in informing immunization policy decisions, including how models are used to estimate disease burden, health impact, and cost-effectiveness.
- Describe how modelling has informed recent policy decisions on varicella vaccination, highlighting the evidence generated and its contribution to decision-making.
- Critically discuss the strengths, limitations, and appropriate use of modelling in immunization policy-making

DAY 2

Lecture 4: Human Challenge Trials or other ways of assessing vaccine efficacy

- Describe the concept of Human Challenge Trials.
- Explain the increased interest in using Human Challenge Trials (HCT) to shorten the time required to identify the best vaccine candidate and thus shorten the time/expense associated with licensure of vaccines.
- Describe the other ways to assess efficacy when clinical vaccine efficacy trials are not feasible (outbreak pathogens, or incidence is too low). Including Immuno-bridging (requiring a licensed vaccine), Animal studies post passive transfer of human antibodies, Animal studies following active immunization, Additional evidence (natural history studies etc.).

Lecture 5: Secondary effects of vaccines

- Differentiate between types of vaccine effects.
- Explain how vaccination can lead to secondary effects .
- Recognize potential unintended secondary effects, including shifts in age of infection, serotype/pathogen replacement, and implications for vaccination strategies and surveillance.

Lecture 6: Pipeline vaccines for Nipah and Rift Valley

- Describe the current status of vaccine development for Nipah virus infection and Rift Valley fever, including key platforms and stages (preclinical, clinical trials).
- Explain the main scientific and operational challenges in developing vaccines for emerging zoonotic diseases (e.g., sporadic outbreaks, limited trial opportunities, regulatory pathways).

Lecture 7: Updates on PCV

- Illustrate program optimization with Pneumococcal conjugate vaccines, discussing schedule options (e.g., 3+0 vs 2+1), product choice, herd effects, and epidemiological context.
- Apply a structured approach to decision-making, using PCV examples to assess trade-offs (coverage, cost-effectiveness, programmatic feasibility) and inform policy or program adjustments.

DAY 3

Lecture 8: Optimization of immunization campaigns

- Define integrated campaigns and their rationale, including how combining vaccination with other health interventions can improve efficiency, coverage, and access.
- Identify key components for planning and implementing integrated campaigns, using recent examples.
- Discuss the benefits and challenges of integration.

Lecture 9: Vaccination in humanitarian settings

- Describe the key challenges and risks affecting immunization in humanitarian settings (e.g., conflict, displacement, weak health systems, population movement).
- Explain strategies to adapt vaccination delivery in these contexts, including outreach approaches, prioritization of vaccines, and integration with other health services.

Lecture 10: Artificial Intelligence literacy and use for vaccinology

- Describe how AI tools can support the preparation of evidence for immunization policy-making, including literature searching, screening, evidence synthesis, and drafting briefing materials.
- Apply AI tools to selected steps of a systematic review using a real-world example developed for a National Immunization Technical Advisory Group (NITAG) meeting.
- Critically evaluate AI-generated outputs

Lecture 11: A vaccine against information disorder

- Describe the information disorder ecosystem and explain the psychological factors that influence how people perceive, share, and respond to immunization-related information and misinformation.
- Explain and apply evidence-based strategies to address vaccine misinformation, including prebunking (building resilience before exposure to false claims) and debunking (responding to misinformation with clear, empathetic, and evidence-based communication).
- Demonstrate effective communication techniques for correcting misinformation while promoting trust, minimizing unintended reinforcement of false claims, and supporting informed vaccination decisions.