

Improving Health Worldwide

# Epidemiological evaluation of vaccines: efficacy, safety, policy



LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



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**Short Course**  
**23 Jun - 4 July 2025**

# Background

Epidemiological research has become an important tool in assessing vaccine protection. Although there are several courses specialising in vaccinology, there remains a gap in teaching about advanced epidemiological tools for vaccine evaluation. This course fills that gap, providing an in-depth training on current methods used in the evaluation of vaccine efficiency, safety and policy. It aims to address immunisation issues in high-, middle- and low-income countries.

## The course

The overall aim of this short course is to provide an understanding of the methods used in the evaluation of vaccines; from early human trials through to assessment of population impact and policy.

It is relevant to public health professionals and field researchers with a strong interest in vaccine efficacy, safety and policy impact. Although the course focuses on human diseases the same concepts apply to animal diseases.

Participants will be expected to have completed a basic postgraduate epidemiology module or equivalent. They should have an understanding of epidemiological measures of disease frequency (incidence, prevalence), measures of effect (odds ratios, risk ratios), the merits of different study designs (cross-sectional, cohort, case-control, intervention studies) and key concepts and implications of sampling error, bias and confounding.

Teaching consists of a combination of formal lectures and more informal seminars and group practicals. Discounted fees are available for participants from low- and middle-income countries.

# Course content

The course will cover topics including:

- Epidemiological principles of vaccine evaluation
- Immunological basis for vaccination
- Pre-licensure epidemiological issues:
  - Phase I, II and III trials
  - Practical and ethical considerations
  - Clinical trials: sample size and analysis issues
  - Good clinical practice and adverse event monitoring during vaccine trials
- Post-licensure epidemiological issues:
  - Vaccine efficacy and effectiveness
  - Impact studies
  - Burden of disease assessment
  - Surveillance of disease and infection
  - Adverse events monitoring
- Using immunology in vaccine evaluation
- Infectious disease modelling in assessing vaccine impact
- Economic evaluation of vaccination programmes
- Key issues in vaccination schedules and policy

## Key information



### Course organisers:

Professor Anthony Scott,  
Professor Stefan Flasche  
Dr Katherine Gallagher



### Fees for 2025:

£3,450 (discounted fee: £1,725)



### Contact email:

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