

# Clinical Statistics for Nonstatisticians

7-8 October 2019

DIA, Europe, Middle East, and Africa office, Basel, Switzerland

## OVERVIEW

This course is designed to be an introduction of basic statistical concepts fundamental to clinical research, for professionals who have regular exposure to statistics either through studies or professional experience.

The materials cover many key statistical topics, such as the interpretation of odds ratios and hazard ratios, meta-analysis and non-inferiority studies. While the course includes a few formulae for individuals who are interested in computational details, the course emphasises the application of statistical concepts to clinical investigation.

## LEARNING OBJECTIVES

At the conclusion of this course, participants will be able to:

- Discuss basic statistical concepts such as variability, confidence intervals, hypotheses testing and P-values
- Use basic statistical terminology with ease
- Distinguish between various study designs and identify techniques to avoid bias
- Recognise critical statistical issues in design and analysis
- Differentiate between a superiority and a non-inferiority design and know how each design should be reported

Participants will complete a knowledge check at the end of the course to ensure learning objectives are attained.

## KEY TOPICS

Basic statistical principles pertinent to clinical research.

## WHO WILL ATTEND

This course will particularly benefit professionals who must understand and work with statistical concepts related to clinical research, and who must present results of clinical trials. The course is aimed for non-statisticians and those who need to refresh their statistical knowledge.

Participants should have a basic understanding of statistics (either through professional experience or studies) roughly equivalent to an introductory statistics course.

## FACULTY

**Julie Anderson**  
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Glaxosmithkline  
United Kingdom

**Kerry Gordon**  
Senior Director, Biostatistics  
IQVIA  
United Kingdom

## DAY 1

### 08:00 REGISTRATION

### 08:30 WELCOME AND COURSE OBJECTIVES

The objective of this session is to provide an overview of the course objectives and the action plan for the next two days. In addition, the participants have a chance to get acquainted with their course colleagues.

### 09:00 SESSION 1

#### BASIC STATISTICAL CONCEPTS

The objective of this session is to introduce fundamental statistical concepts such as sampling and variability. In addition, we will introduce clinical trial phases and the Intent to Treat Principle.

- A Sampling
- B Influence of sample size
- C Variability
- D Clinical Trial phases
- E Intent to Treat principle

### 10:00 COFFEE BREAK

### 10:30 SESSION 2

#### TRIAL OBJECTIVES

The objective of this session is to detail different types of primary objectives for trials and review how the results of these trials are assessed.

- A Superiority Trials
- B Non-Inferiority trials
- C Equivalence trials
- D Observational trials
- E Confidence intervals
- F Interpretation of results

### 11:30 SESSION 3

#### STUDY DESIGN

The objective of this session is to review different types of study design, the use of interim analyses and the importance of minimising bias.

- A Parallel group designs
- B Cross-over designs
- C Other common phase 2 designs
- D Choice of the control
- E Treatment allocation
- F Interim analyses
- G Minimising bias

### 12:30 LUNCH BREAK

### 13:30 SESSION 3 CONTINUED

### 15:00 COFFEE BREAK

### 15:30 SESSION 4

#### MAKING DECISIONS

The objective of this session will be to illustrate how one can set up hypotheses and test them. In addition, we will discuss the characteristics of decisions rules and how to interpret the testing results.

- A Making decisions in the face of uncertainty
- B Hypothesis tests
- C Type I and type II errors
- D Sample size determination
- E P-values
- F Power
- G Dealing with multiplicity

### 17:00 WRAP-UP OF DAY ONE

### 17:15 END OF DAY ONE

## DAY 2

### 08:30 SESSION 5

#### RECAP

The objective of this session is to review what we have learned so far.

- A Statistics as an art and science
- B Sampling and variability
- C Confidence interval
- D Types of trial objectives
- E Statistical sense
- F Caution when using statistical terms

### 09:00 SESSION 6

#### INTERPRETING STATISTICS

How to interpret commonly used statistics for continuous, binary and survival data.

- A Means and medians
- B Standard deviation and standard errors
- C Relative risk and odds ratio
- D Kaplan Meier curves
- E Hazard ratios

### 10:00 COFFEE BREAK

### 10:30 SESSION 6 CONTINUED

#### | Plan Your Team's Professional Development

Why not take advantage and train your whole department (or even across different departments!) and benefit from increased:

- Focus
- Flexibility
- Convenience
- Cost Effectiveness

For more information please contact [Basel@diaglobal.org](mailto:Basel@diaglobal.org).

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## 11:30 SESSION 7

### META ANALYSIS

The objective of this session is to describe how to combine results from different trials. In addition, we will review the limitations of a meta-analysis and how to interpret the results of such an analysis.

- A Literature searches
- B Methods for combining results
- C Study-level vs patient-level analyses
- D Interpretation
- E Use in indirect comparisons

## 12:30 LUNCH BREAK

## 13:30 SESSION 8

### CRITICAL LITERATURE REVIEW

The objective of this workshop-based session is to provide participants with a systematic approach to assessing the statistical aspects of published articles, including the reporting of results, and to be able to identify potential statistical failings.

- A Study objectives
- B Study design and sample size
- C Statistical methodology
- D Statistical interpretation of results
- E Study conclusions
- F Workshop

## 15:45 WRAP-UP AND FEEDBACK

## 16:15 END OF TRAINING COURSE

## Training Course Venue

DIA, EUROPE, MIDDLE EAST,  
AND AFRICA OFFICE

Küchengasse 16

4051 Basel, Switzerland

Tel: +41 61 225 51 51

Email: [basel@diaglobal.org](mailto:basel@diaglobal.org)

The office is located within 1 min  
walking distance from the Basel SBB  
train station.



### HOW TO GET THERE

Route from the EuroAirport Basel Mulhouse Freiburg  
Please exit the Airport through the Exit to Switzerland.  
Take Bus Nr 50 towards Basel SBB.

#### Arrival by Train

From Germany: exit at station Badischer Bahnhof and take Bus Nr 30  
towards Basel SBB.

From Switzerland: exit at station Basel SBB.

#### Arrival from Zurich Airport

There is a direct train service every hour from Zurich Airport to Basel  
SBB (travel time approx 1 h 30 min).

## Hotel Accommodation

Participants are kindly requested to make their own hotel bookings at  
any of the nearby hotels.

[www.basel.com](http://www.basel.com)

## Group Discounts

Register 3 individuals from the same company and receive a 50% discount for a 4th! All 4 individuals must register and prepay at the same time without exception. DIA will apply the value of the lowest applicable fee to this discounted registration; it does NOT include fees for optional events or DIA membership. You may substitute group participants of the same membership status at any time; however, administrative fees may be incurred.

Group registration is not available online and only available for the industry rate.

To take advantage of this offer, please print the registration form for each of the four registrants from your company. Include the names of all four group registrants on each of the forms and return them together to DIA.

For groups of 5 or more individuals, please contact  
[Basel@diaglobal.org](mailto:Basel@diaglobal.org) for a custom group rate.

## Continuing Education

The Swiss Association of Pharmaceutical Professionals (SwAPP) and the Swiss Society for Pharmaceutical Medicine (SGPM) have accredited this training course with 11 credits.



SwAPP | Swiss Association of  
Pharmaceutical Professionals

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# REGISTRATION FORM

Clinical Statistics for Nonstatisticians # 19532

7-8 October 2019 | DIA, Europe, Middle East, and Africa office | Basel, Switzerland

**DIA** Learning

## REGISTRATION FEES

Registration fee includes refreshment breaks, lunches and electronic access to training course material.

Please note that the full amount must be received by DIA by commencement of the course to get the electronic access to the material.

Please check:

FEES	MEMBER	NON-MEMBER
INDUSTRY	€ 1'450.00 <input type="checkbox"/>	€ 1'605.00 <input type="checkbox"/>
ACADEMIA/CHARITABLE/GOVERNMENT/NON-PROFIT (FULL-TIME)	€ 725.00 <input type="checkbox"/>	€ 880.00 <input type="checkbox"/>
A special discount for SMEs on the standard fee is available for a limited number of places. To prove your status as an SME, a confirmation of the European Medicines Agency is necessary. Please contact DIA for more information.		

All registration fees are subject to applicable Swiss VAT

Please enter your company's Swiss VAT number: \_\_\_\_\_

If DIA cannot verify your membership upon receipt of registration form, you will be charged the non-member fee.

Payment is due 30 days after registration and must be paid in full by commencement of the course.

## DIA MEMBERSHIP

All non-member fees include a one year membership option. If you registered at one of the non-member rates, you have the opportunity to become a DIA member at no additional cost.

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The DIA Contact Centre Team will be pleased to assist you with your registration from Monday to Friday between 08:00 and 17:00 CET. Tel. :+41 61 225 51 51 Fax: +41 61 225 51 52

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## TERMS AND CONDITIONS

### Cancellation Policy

All cancellations must be made in writing and be received at the DIA office four weeks prior to the event start date. Cancellations are subject to an administrative fee:

- Industry (Member/Non-member) € 200.00
- Academia/Charitable/Government/Non-profit (Full-time) (Member/Non-member) € 100.00

If you do not cancel four weeks prior to the event start date and do not attend, you will be responsible for the full registration fee.

DIA reserves the right to alter the venue and dates if necessary. If an event is cancelled or postponed, DIA is not responsible for airfare, hotel or other costs incurred by registered attendees. Registered attendees are responsible for cancelling their own hotel and travel reservations.

### Transfer Policy

You may transfer your registration to a colleague prior to the start of the event but membership is not transferable. Substitute attendees will be responsible for the non-member fee, if applicable. Please notify the DIA office of any such substitutions as soon as possible.

### Event Stream and Recording

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## ATTENDEE DETAILS

Please complete in block capital letters or attach the attendee's business card here.

☐ Prof ☐ Dr ☐ Ms ☐ Mr

Last Name

First Name

Job Title

Company

Address

Postal Code

City

Country

Telephone Number

Fax Number

Attendee email required for course material access

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☐ Bank transfers: When DIA completes your registration, an email will be sent to the address on the registration form with instructions on how to complete the bank transfer. Payments in EURO should be addressed to "Account Holder: DIA." Please include your name, company, Course ID #19532 as well as the invoice number to ensure correct allocation of your payment.

Payments must be net of all charges and bank charges must be borne by the payer. If you have not received your confirmation within five working days, please contact DIA.

By signing below, I confirm that I agree with DIA's Terms and Conditions of booking. These are available from the office or on <http://www.diaglobal.org/EUTerms>

Date

Signature