Statistics teaching within UK degree programmes in Medicine and allied health professions, including through undergraduate and postgraduate entry schemes and intercalation: Academic year 2022 – 2023

Consent
In completing this form you are consenting to you and your recommended contacts being contacted subsequently for permission to use the data for research purposes.

How to use this form
1. To select one or more options from a list of options, double-click on the corresponding boxes to the right of these items, then, using the dialogue box provided, select 'Checked' under **Default value**.
2. All text boxes are expandable. The initial size of any textbox is not necessarily a reflection of the length of answer expected.
3. To keep content clear, please complete a separate form for each health profession represented (e.g., please use separate forms for Medicine and Dentistry)
4. Unless stated otherwise, items relating to course content do not pertain to MSc, PhD or PPD degree programmes. There is an item in the form specifically designed to cover these types of programmes.
5. Please be prepared to adapt the answer fields to provide an accurate record of medical statistics teaching at your institution. It is expected that you will want to differentiate between different categories, such as groups of students, year groups or courses. For example, where the estimated total number of students is requested, please consider providing separate totals to refer to different year groups and specifying which group you are referring to in each case.

Institution: University of Bristol

Degree programme(s) represented: Undergraduate Dentistry (BDS)

In the overview section please provide a list of the statistics topics covered and specify in each case whether this includes a) theory, b) performing calculations or statistics analysis or c) both a) and b).

Overview of Medical Statistics teaching (with years specified) :

Statistics teaching is embedded within the helical theme of evidence-based practice which runs through the first 4 years of the 5 year degree. The purpose of the teaching is to equip students with the skills needed to read and understand published papers so is based on

concepts rather than theory or calculations. The students do not understand any statistical analysis of their own.

Year 1: 8 e-lectures with associated small group tutorials:
Introduction to study design (types of study design, hierarchy of evidence, causal associations)
Introduction to summarizing data (types of variables, graphical presentation, prevalence/incidence, measures of location and variability)
Randomised controlled trials (definition, steps including analysing, strengths/weaknesses)
Understanding statistical inference (sampling/inference, accuracy/precision, confidence intervals, p-values)
Cohort studies (definition, risk ratios, strengths and weaknesses)
Investigating hypotheses (assessing association using hypothesis tests, assessing agreement)
Case-control studies (definition, odds ratios. strengths/weaknesses)
Assessing associations (correlation, regression, confounder adjustment, interaction).

Year 2 and 3: 6 critical appraisal workshops across both years, the content consolidates the year 1 learning and is extended to include systematic reviews and meta analysis (mainly based around application of CASP tools).

Year 4: Evidence summary project which is a comprehensive review of 7-10 published papers on a clinical topic of choice.

Type of students:

Medical ☐ Dental ☒ Biology ☐

Mathematics ☐ Other ☐ (please state:)

Estimated total number of students: 70-80 per year (100 in year 2 for 2022-2023)

Academic years where medical statistics is taught: 1, 2, 3, 4

No. of estimated hours per academic year: 26 hours in year 1, 15 hours in year 2 (plus group tasks), 15 hours in year 3 (plus group tasks), 2 hours contact time in year 4 (plus extensive written work)

Assessment details (whether in-course assessment, summative or formative; format of assessment, questions styles, time allocated to assessment):

Programme-based summative assessment in year 1 (questions in single best answer and multiple short answer papers)

Six group based formative tasks in year 2/3

Written report which is pass to progress in year 4

Computer package used:

Minitab ☐ SPSS ☐ Stata ☐ StatsDirect ☐ R ☐

MATLAB ☐ NCSS ☐ Other ☐, please specify here:

Literature and resources used in teaching and learning:

All the students are required to know is included in asynchronous material, although suggested additional reading is provided including:

Essential Medical Statistics, Kirkwood and Sterne
Essential Epidemiology, Webb, Bain and Piroizzo
Dental Statistics Made Easy, Nigel Smeeton
Bad Science, Ben Goldacre

Master's courses, PhD training courses and CPD courses in which Medical Statistics is taught (in each case, please include precise details of name and type of course and a summary of the content delivered):

All postgraduate courses in Bristol Dental School are based on the 8 e-lectures listed above, with varying amounts of face to face consolidation depending on the student group:

MSc Implantology (approximately 25 students per year)

DDS Orthodontics (approximately 12 students every three years)

MSc Oral Medicine (approximately 2 students per year)

MSc Periodontology (approximately 2 students per year, new course)

Additional comments:

M MacDougall (9 July 2022)

Information last up to date:

12/07/2022

Key contact for this overview at your institution-

Name	Department	Email	Address	Telephone Number
Dr Sam Leary	Bristol Dental School	s.d.leary@bristol.ac.uk		

Please save this form, with your institution name included in the filename, and return it to Margaret MacDougall at Margaret.MacDougall@ed.ac.uk

The form will then be checked before it is uploaded at https://www.ed.ac.uk/usher/annual-meeting-teachers-of-medical-statistics-2018/overview-of-teaching-of-statistics-within-medicine .

Many thanks!