PUBLIC HEALTH PROGRAM
2005

An Introduction to Epidemiology
(PUBH7600)

School of Population Health
The University of Queensland

Course Outline

(Internal Students)

Subject coordinator: Chris Bain
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Lecturing team:
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Wilson

Timetable:
Lectures: Monday 5.00-6.30 pm
Mayne Lecture Theatre, 2nd Floor, Medical School

Tutorials: Monday 3.30-5.00 pm
or Monday 6.30-8.00 pm
Rooms 2, 3 & 4, Annexe, Medical School
I. Introduction

Welcome to ‘An Introduction to Epidemiology’. We hope that during the course of the semester you will come to see that the discipline of epidemiology underpins the practice of health care at all levels, from the consideration of the health of national populations to patient care at community or ward level. Epidemiology involves a cycle of describing the health and disease status of populations, proposing methods to investigate any problems identified, making suggestions as to their cause/s and then evaluating the solutions designed to address the situation. The emphasis in this subject will be on the application of epidemiology to the health of populations or communities.

II. The Aim of the Subject

We aim to demonstrate to you the fundamental importance of epidemiology to both public health research and the practice of public health. We will introduce you to its basic principles and methods and show you how to use these in practice. The skills you gain will also enable you to read and evaluate the public health literature more effectively.

Specific Objectives:

By the end of semester students will:

1. understand the fundamental role of epidemiology in public health;
2. be able to calculate and correctly interpret measures of the occurrence of disease and measures of association between exposure and disease;
3. know the structure and applications for “community diagnosis” of modern summary health measures;
4. be aware of major sources of health data and their limitations;
5. know the principles underlying the major types of epidemiologic study;
6. be able to identify the ‘correctness’ of a given study result (i.e. to be able to assess practically the play of chance, bias and confounding as alternative explanations for a study result);
7. be able to identify whether a given association is likely to be causal;
8. have developed a practical, systematic and reasonably critical approach to reading the health literature;
9. understand the general approaches to disease surveillance and outbreak investigation;
10. know the principles underlying strategies for disease prevention and screening to detect early disease;
11. have an appreciation of the importance of fundamental ethical principles in epidemiology and public health research generally.
III. Subject Texts

There is no *required* text for this subject however we strongly recommend that you do read at least one of the following:


  Both Gordis and Beaglehole generally present their material at a sound introductory level, and have good public health perspectives. Beaglehole has a more international flavour, while Gordis offers more depth and a somewhat more modern outlook.

- **Webb P, Bain C, Pirozzo S. (2005) Essential Epidemiology.** Cambridge: CUP. (predicted cost ~$60) **Not available in the Medical Bookshop until April**

  This is an expanded, updated and enhanced version of our Subject Notes (see below). It aims to combine the best features of the above books, ie maintain a public health perspective while giving an accessible modern view of the more challenging elements of the discipline.

- **Course Notes**

  We have developed an extensive set of notes for distance students taking this subject. These cover the lecture material quite closely and so are not essential for internal students. They are available from the limited access collection in the Medical School library or at the Medical School bookshop for about $30-35.

- **Hennekens CH and Buring JE. (1987) Epidemiology in Medicine.** Boston: Little Brown (current cost is approximately $98.00).

  Although now slightly dated, this remains one of the best texts on classical epidemiology with a focus on developed countries. It has evolved from the post-graduate teaching of epidemiology at the Harvard School of Public Health.


  This is more advanced in a number of areas than the texts above, and is of interest for students who intend to study epidemiology further.
IV. Assessment

The formal assessment for this subject will consist of three parts — two compulsory assignments and a workbook.

- **Completion of a Workbook**

  You are required to write your answers to the tutorial questions in a ‘workbook’. *These exercises will not be marked individually* but we do consider their completion to be an important element of the subject. As such, **10% of the total marks** for the subject will be awarded for the completion of a minimum of 80% of the *tutorial questions* in this workbook. Your workbook should be submitted to the Student Services office at UQ (Public Health Building, 2nd floor) by **Monday 6th June** at the latest.

- **Assignments**

  There will be two compulsory assignments for this subject.

  **Assignment 1**
  The first assignment, worth **30%** of the total marks for the subject, will cover material from Weeks 1-4. It will be handed out in week 4 (21st March) and is due on **Monday 18th April** (week 7). We will aim to mark your work and return it to you in two weeks so that you can see how you have done and discuss any problems with your tutors.

  **Assignment 2**
  This assignment, worth **60%** of the total marks for the subject, will primarily cover material from Weeks 5-13. It will be handed out in week 11 (16th May) and is due on **Monday 6th June**.

  In order to pass this subject you **must** submit both assignments and the **workbook**. The final grade you are awarded will be derived from the total of your marks in the two assignments and for the workbook. Marking will be according to specified criteria (provided with the assignments) and grades will be awarded on the standard seven-point University scale.

**Extensions to assignment deadlines**

We remind you that we cannot accept assignments or a workbook that are submitted after the due date unless they are accompanied by a medical certificate or a convincing explanation to justify a delay. Given that most students take on this subject while working simply claiming ‘pressure of work’ is unlikely to be acceptable.

If, for any reason, you are unable to submit your work on the due date you should contact your tutor immediately. He or she may then be able to arrange an extension for you. You must, however, talk to us before failing to submit your assignment on the due date.
Unless the course coordinator approves an extension, assessment activities submitted after the due date will lose 10% of the given mark for each day late. Activities that are submitted over one week past the due date will not be accepted.

Referencing and citing

Assignments must be your own work. If you wish to report another author's point of view you should do so in your own words, and properly reference the material in accordance with the Master of Public Health preferred style. We recommend that a form of the Harvard (author-date) system should be used. With the Harvard system of referencing you do not use footnotes or endnotes, but instead refer to your sources in abbreviated form in the body of your writing. You give full details only in the Reference list at the end. [For more information go to Cybrary Advice & Training, www.library.uq.edu.au] In general it will rarely be necessary to quote someone else— it is your opinions and calculations that are required.

Plagiarism

The School of Population Health requires that all students are aware of and adhere to the University of Queensland Policy on Plagiarism in all assessment/assignment work. The policy defines plagiarism as:

"Plagiarism is the action or practice of taking and using as one’s own the thoughts or writings of another, without acknowledgment. The following practices constitute acts of plagiarism and are a major infringement of the University’s academic values:

- Where paragraphs, sentences, a single sentence or significant parts of a sentence are copied directly, and are not enclosed in quotation marks and appropriately referenced;
- Where direct quotations are not used, but are paraphrased or summarised, and the source of the material is not acknowledged by reference within the text of the paper; and
- Where an idea which appears elsewhere in printed, electronic or audio-visual material is used or developed without reference being made to the author or the source of that material."

Your lecturer or tutor is required to notify the Head of School if they have reasonable evidence that a student or students have plagiarised. **Plagiarism is a serious academic offence and will be severely penalised.** Where the Head of School is reasonably convinced that student(s) have deliberately plagiarised then action under the University procedures for student discipline and misconduct will be initiated.

Please also refer to the details available on the university website, in particular the relevant UQ Policy 3.40.12 [www.library.uq.edu.au/training/plagiarism.html].
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<th>Wk</th>
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| 1  | 28 Feb     | Introduction
     Everything you’ve ever wanted to know about epidemiology
     (but were afraid to ask)
     *Tutorial 1: Introduction to Epidemiology*                      | CB, DW         |
| 2  | 7 March    | Measures of mortality                                                | SB, CR          |
|     |            | *Tutorial 2: John Snow*                                              |                 |
| 3  | 14 March   | Measures of morbidity
     Sources of data                                                  | TV             |
|     |            | *Tutorial 3: Measuring health & disease in the community*             |                 |
| 4  | 21 March   | Looking for associations between exposure and disease                | CB             |
|     | 28 March   | NO LECTURES- EASTER BREAK                                            |                 |
| 5  | 4 April    | Summary measures of population health                                | AL             |
|     |            | *Tutorial 5: Linking exposure and disease*                            |                 |
| 6  | 11 April   | Study design                                                         | CN             |
|     |            | *Tutorial 6: Life tables, life expectancy and health-
     adjusted life expectancy*                                         |                 |
| 7  | 18 April   | Error: chance and bias                                               | CB             |
|     |            | *Tutorial 7: Study design*                                           |                 |
| 8  | 25 April   | NO LECTURES OR TUTORIALS-ANZAC DAY HOLIDAY                            |                 |
| 9  | 2 May      | NO LECTURES OR TUTORIALS-LABOUR DAY HOLIDAY                           |                 |
| 10 | 9 May      | Error: confounding                                                   | CB             |
|     |            | *Tutorial 7: Error: Chance & bias*                                   |                 |
| 11 | 16 May     | Causality
     Judging the evidence: reading papers and reviews                  | CB             |
|     |            | *Tutorial 8: Confounding*                                            |                 |
| 12 | 23 May     | Infectious diseases
     Screening                                                           | BMcC, CB       |
|     |            | *Tutorial 10: Judging the evidence*                                  |                 |
| 13 | 30 May     | Prevention
     Epidemiology & Public Health Practice                             | TV, AW         |
|     |            | *Tutorial 11: Screening*                                             |                 |

**Lecturer:** CB Chris Bain, DW David Whiteman, SB Stephen Begg, CR Chalapati Rao, TV Theo Vos, AL Alan Lopez, CN Chris Nagle, BMcC Brad McCall, AW Andrew Wilson