HSYP802

Introduction to Epidemiology and Biostatistics

S1 Evening 2019

Medicine and Health Sciences Faculty level units

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Disclaimer

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General Information

Unit convenor and teaching staff Unit Convenor Janaki Amin janaki.amin@mq.edu.au Contact via janaki.amin@mq.edu.au 75 Talavera Rd By appointment only
Credit points 4
Prerequisites Admission to MPH
Corequisites
Co-badged status
Unit description This unit introduces students to the skills of scientific inquiry and appraising evidence which are fundamental to public health research and practice. You will engage in integrated modules to learn about epidemiology, biostatistics, qualitative and mixed research methods, with a focus on study design, data analysis and interpretation, and critical appraisal. By completing this unit, you will gain knowledge and skills to locate, produce and appraise evidence in the field of public health.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.

Critically appraise epidemiology study designs and assess causality.

Explain basic statistical concepts commonly used in public health.

Organise, summarise, analyse and interpret data relevant to public health.

Discuss research findings relevant to a population's health including those generated

through qualitative methods.

General Assessment Information

Information concerning Macquarie University's assessment policy is available at https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/assessment. Grade descriptors and other information concerning grading requirements are contained in Schedule 1 of the Macquarie University Assessment Policy.

To pass this unit, students must demonstrate sufficient evidence of achievement of the learning outcomes and attempt all assessment tasks.

Further details for each assessment task will be available on iLearn, including marking rubrics.

All final grades in the department of Health Systems and Populations are determined by a grading committee and are not the sole responsibility of the Unit Convenor.

Students will be awarded one of these grades plus a Standardised Numerical Grade (SNG). The SNG is not necessarily a summation of the individual assessment components. The final grade and SNG that are awarded reflect the corresponding grade descriptor in Schedule 1 of the Assessment Policy.

Extensions for Assessment tasks

Applications for assessment task extensions must be submitted via www.ask.mq.edu.au. For further details please refer to the Disruption to Studies Policy available at https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/disruption-to-studies.

Late Submission of Work

All assignments which are officially received after the due date, and where no extension has been granted by the course convenor or tutor, will incur a deduction of 5% for the first day including the actual day on which the work is received, and 5% for each subsequent day. Weekends and public holidays are included. For example:

Due date	Received	Days late	Deduction	Raw mark	Final mark
Friday 14th	Saturday 15th	1	5%	75%	70%
Friday 14th	Monday 17th	3	15%	75%	60%

Assessment Tasks

Name	Weighting	Hurdle	Due
Online Quiz (Epidemiology)	10%	No	Week 4
Critical appraisal	40%	No	Week 11
Final Exam	50%	No	Week 15
Student Portfolio Reflection	0%	No	Continuous

Online Quiz (Epidemiology)

Due: **Week 4**
Weighting: **10%**

Online test to examine understanding of epidemiological terms and concepts.

On successful completion you will be able to:

- Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.
- Explain basic statistical concepts commonly used in public health.

Critical appraisal

Due: **Week 11**
Weighting: **40%**

Critical appraisal of an epidemiological paper. You will be given an epidemiological article or summary of paper to review for critical appraisal. You will use the knowledge of study designs and their potential limitations to critique the studies and their conclusions.

On successful completion you will be able to:

- Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.
- Critically appraise epidemiology study designs and assess causality.
- Organise, summarise, analyse and interpret data relevant to public health.

Final Exam

Due: **Week 15**
Weighting: **50%**

A 1.5 hour open book exam which will cover epidemiological and statistical concepts covered in

the course.

On successful completion you will be able to:

- Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.
- Critically appraise epidemiology study designs and assess causality.
- Explain basic statistical concepts commonly used in public health.
- Organise, summarise, analyse and interpret data relevant to public health.

Student Portfolio Reflection

Due: **Continuous**
Weighting: **0%**

Provide discussion of how qualitative and mixed methods research may contribute to epidemiologic studies and vice a versa. Also, student ability to meet LOs & PLOs / Collection of supporting materials Programmatic assessment not marked for this unit (marked at end of program).

On successful completion you will be able to:

- Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.
- Critically appraise epidemiology study designs and assess causality.
- Explain basic statistical concepts commonly used in public health.
- Organise, summarise, analyse and interpret data relevant to public health.
- Discuss research findings relevant to a population's health including those generated through qualitative methods.

Delivery and Resources

Unit Organisation

This is a four credit point unit run over a 13 week session. There are lectures, tutorials and full day workshops. Further information is available via the HSYP802 online Learning Management System (LMS) iLearn http://ilearn.mq.edu.au

Attendance

All lectures and tutorials are scheduled in your individual timetable. In most cases lectures are recorded however, attendance is expected at both lectures and tutorials, as this is where the majority of learning occurs. Failure to attend may impact your final results. It is the responsibility of the student to contact their tutor by email to inform tutors if they are going to be absent. The timetable for classes can be found on the University web site at: http://www.timetables.mq.edu.a

u/.

Prescribed Textbooks

Essential Epidemiology: An Introduction for Students and Health Professionals

3rd Edition textbook

Authors:

Penny Webb, Queensland Institute of Medical Research

Chris Bain, University of Queensland

ISBN: 9781107529151

Copies will be held in library reserve.

The following book is **recommended** and available online through Library Leganto system:

Essential Medical Statistics

SECOND EDITION

Betty R. Kirkwood MA MSc DIC, Hon MFPHM, FMedSci

Jonathan A.C. Sterne MA MSc PhD

Blackwell Publishing Ltd, 9600 Garsington Road, Oxford, OX4 2DQ, UK

First published 1988

Second edition 2003, 2 2006

ISBN 0–86542–871–9

Readings

The readings for each week will be listed in ilearn using the Leganto system. Leganto is a new reading list management system, which you can access through your iLearn unit. For further information to understand and navigate your unit reading lists in Leganto, check this guide: http://libguides.mq.edu.au/leganto

Readings marked as 'required' are those that are essential to be completed for that week. Some readings may be included within a weeks readings that are marked as 'recommended' or 'secondary sources'. These are there for your recommended reading or for where we have sourced additional material that may be of interest to you. Please use these at your discretion.

Technology and equipment

On-campus

Teaching rooms are equipped with state of art audio-visual and ICT equipment including iPads, internet connection, high quality video cameras and multiple LCD screens.

Off-campus

To study optimally when off campus you will need to have access to a reliable internet connection to retrieve unit information & at times to submit assessment tasks via iLearn.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Undergraduate students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit http://stu

dents.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcome

- Discuss research findings relevant to a population's health including those generated through qualitative methods.

Assessment task

- Student Portfolio Reflection

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.
- Critically appraise epidemiology study designs and assess causality.
- Explain basic statistical concepts commonly used in public health.
- Organise, summarise, analyse and interpret data relevant to public health.
- Discuss research findings relevant to a population's health including those generated through qualitative methods.

Assessment tasks

- Online Quiz (Epidemiology)
- Critical appraisal
- Final Exam

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.
- Critically appraise epidemiology study designs and assess causality.
- Explain basic statistical concepts commonly used in public health.
- Organise, summarise, analyse and interpret data relevant to public health.
- Discuss research findings relevant to a population's health including those generated through qualitative methods.

Assessment tasks

- Critical appraisal
- Final Exam

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Calculate and interpret the epidemiologic measures of occurrence; and the association between exposure and health states and measures of public health impact.
- Critically appraise epidemiology study designs and assess causality.
- Explain basic statistical concepts commonly used in public health.
- Organise, summarise, analyse and interpret data relevant to public health.
- Discuss research findings relevant to a population's health including those generated through qualitative methods.

Assessment tasks

- Critical appraisal
- Final Exam

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Explain basic statistical concepts commonly used in public health.
- Organise, summarise, analyse and interpret data relevant to public health.
- Discuss research findings relevant to a population's health including those generated through qualitative methods.

Assessment tasks

- Critical appraisal

- Student Portfolio Reflection

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcome

- Discuss research findings relevant to a population's health including those generated through qualitative methods.

Assessment task

- Student Portfolio Reflection

Changes from Previous Offering

Changes to unit description and assessments that maps to content to be delivered following review of initial unit offering.