PBHL20003 *Social Epidemiology and Statistics*
Term 1 - 2022

All details in this unit profile for PBHL20003 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This subject covers essential knowledge that clinicians, community health workers, health service administrators and public health practitioners require. Understanding the patterns and distribution of health outcomes across populations demands public health professionals to be able to examine the influence of the social determinants of health. Social epidemiology is a branch of epidemiology that focuses on the influence of social factors on individual and population level health, and grew out of the public health tradition of examining health inequalities relating to social class. This unit examines the complexities of social patterns of health and health data needed within and between populations to explore health inequities and inequalities. This unit will develop your skills in critiquing interpreting and translating public health findings from social epidemiology. You will build foundational skills in epidemiology and statistics which can then be applied in a social epidemiological context. Data and statistics related to the social determinants of health will be examined, with a focus on ethical principles related to Indigenous Data Sovereignty. You will be introduced to knowledge translation and implementation science frameworks, and consider their utility in guiding the effective dissemination of social epidemiological findings to guide policy and improve health outcomes.

Details

Career Level: *Postgraduate*
Unit Level: *Level 8*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

There are no requisites for this unit.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 1 - 2022

- Melbourne
- Online
- Sydney

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Online Quiz(zes)**
Weighting: 10%
2. **Written Assessment**
Weighting: 25%
3. **Presentation**
Weighting: 25%
4. **Literature Review or Systematic Review**
Weighting: 40%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from 'Have your say'

Feedback

(T22020) In class breakout rooms, better support engagement in meaningful discussions through grouping with students who have prepared before class.

Recommendation

Allocate students to class breakout rooms according to level of pre-tute preparation.

Feedback from 'Have your say'

Feedback

(T12020) Strengthen and link biostatistics Unit content.

Recommendation

Addressed in Unit review which was implemented from T1 2021.

Feedback from 'Have your say'

Feedback

(T12020) First assessment (Literature review) was too early in term: change order of assessments to allow build-up of skills and a better understanding of content.

Recommendation

Addressed in Unit review which was implemented from T1 2021: Literature review now final assessment.

Unit Learning Outcomes

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

1. Distinguish social epidemiology from traditional epidemiology to understand and explain its contribution to public health practice by focusing on social determinants of health
2. Critique and interpret routinely used data in social epidemiology and explain the strengths and limitations according to complex adaptive systems thinking in public health
3. Explain the range of statistics essential to social epidemiological data to understand individual, community and population influences on health
4. Justify ethical principles related to Indigenous Data Sovereignty and respecting the rights and different ways of knowing of First Nations Peoples when using, collecting, analysing and interpreting social epidemiological data
5. Utilise a range of statistics in social epidemiological data to advocate for health promotion, protective and disease prevention approaches to public health practice
6. Reflect on and evaluate uses of social epidemiological data and statistical understanding from Knowledge Translation and Implementation Science frameworks.

Not applicable

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level　　◦ Introductory Level　　◦ Intermediate Level　　● Graduate Level　　◦ Professional Level　　◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Online Quiz(zes) - 10%		●	●			
2 - Written Assessment - 25%		●	●	●		
3 - Presentation - 25%	●	●	●	●	●	●
4 - Literature Review or Systematic Review - 40%	●	●			●	●

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Knowledge	○	○	○	○	○	○
2 - Communication	○	○	○	○	○	○
3 - Cognitive, technical and creative skills	○	○	○		○	○
4 - Research		○	○	○		
5 - Self-management				○	○	○
6 - Ethical and Professional Responsibility		○	○	○	○	○
7 - Leadership					○	○
8 - Aboriginal and Torres Strait Islander Cultures						

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Online Quiz(zes) - 10%	○		○					
2 - Written Assessment - 25%	○		○					
3 - Presentation - 25%	○	○		○	○	○	○	
4 - Literature Review or Systematic Review - 40%	○			○	○	○		

Textbooks and Resources

Textbooks
PBHL20003

Prescribed

The New Public Health 4th
Edition: 4th (2016)
Authors: Fran Baun
Melbourne , Victoria , Australia
ISBN: 9780195588088
Binding: eBook

Additional Textbook Information
no

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Wordprocessing, spreadsheeting and powerpoint software

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Geraldine Vaughan Unit Coordinator
g.a.vaughan@cqu.edu.au

Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Introduction. Why social epidemiology and statistics? • Teaching, learning and assessment structure • Epidemiology and stats intro and concepts • Differentiating social epi from traditional epidemiology • Using epidemiological data to tell your story	Various readings and learning materials.	

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic

Social determinants of health (SDH) in epidemiology
• SDH: concepts, why it matters in epidemiology
• How SDH impact on states of health
• SDH and inequities
• The complex associations between disease and social factors: multilevel analysis

Various readings and learning materials.

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Epidemiology basics • Basics of measurement in epidemiology and its application in public health • Measures of disease. Prevalence and incidence • Measures of association. Risk • Other key epidemiological concepts and terms	Various readings and learning materials.	

Week 4 - 28 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Statistics • Key statistical concepts and terms • Types of statistical methods and their application • Calculations related to measures of frequency and spread • Probability distributions and sampling • Visual data - bar charts, histograms and boxplots	Various readings and learning materials.	Quiz 1

Week 5 - 04 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Surveillance in public health • Types and use of surveillance • Sensitivity and positive predictive value • Why social determinants matter in surveillance	Various readings and learning materials.	Quiz 2 **Online quizzes 1 and 2 (Individual)** Due: Week 5 Friday (8 Apr 2022) 11:59 pm AEST

Vacation Week - 11 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 18 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Epidemiology: introduction to study types • Study types: descriptive vs analytic, observational vs intervention • Research questions • Error, bias and confounding in epidemiological research – intro	Various readings and learning materials.	

Week 7 - 25 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic

Epidemiology: error and bias, validity
• Error, bias and confounding in epidemiological research - more
• Internal and external validity
• Applying this knowledge to the literature review

Various readings and learning materials.

Week 8 - 02 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Statistics and epidemiology review. Screening • Review • Screening [Presentations during class]	Various readings and learning materials.	Assessment 2 Presentations **Presentation (Group/Individual)** Due: Week 8 Friday (6 May 2022) 11:59 pm AEST

Week 9 - 09 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Critical appraisal • Purpose of a critical appraisal • Applications in public health settings • Using critical appraisal tools	Various readings and learning materials.	

Week 10 - 16 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Critical appraisal 2 • Workshop – critical appraisal case studies	Various readings and learning materials.	Assessment 3 short answer questions **Epidemiology and statistics – short answer questions (Individual)** Due: Week 10 Friday (20 May 2022) 11:59 pm AEST

Week 11 - 23 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Collecting and interpreting data in social epidemiology. **Data sovereignty in Indigenous health** • Applying statistical skills and knowledge to social epidemiology • Challenges of measurement and analysis particular to social epidemiology • Importance of data sovereignty in relation to First Nation peoples	Various readings and learning materials.	

Week 12 - 30 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Epidemiology in practice: informing policy • Factors and frameworks that support healthy public policy formulation • Examples of healthy public policy • Significance of the Health in All Policies approach • System barriers to the reduction of health inequities	Various readings and learning materials.	Assessment 4 Literature review **Literature Review (Individual)** Due: Week 12 Friday (3 June 2022) 11:59 pm AEST

Review/Exam Week - 06 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 13 Jun 2022

Assessment Tasks

1 Online quizzes 1 and 2 (Individual)

Assessment Type
Online Quiz(zes)

Task Description
The quizzes determine how well you understand fundamental epidemiological and statistical concepts and calculations, and their application in public health. Quiz 1 is due by 11:59pm AEST Friday week 4; Quiz 2 is due in week 5.

Number of Quizzes
2

Frequency of Quizzes
Other

Assessment Due Date
Week 5 Friday (8 Apr 2022) 11:59 pm AEST

Return Date to Students
Week 6 Friday (22 Apr 2022)

Weighting
10%

Assessment Criteria

- Given the relevant data, interpret measures of disease frequency and association and other population health data, and their relevance in social epidemiological contexts: (40%)
- Given relevant data, interpret types of statistical methods and their application: (40%)
- Describe appropriate study designs to investigate causal factors for acute diseases and chronic diseases: (10%)
- All work submitted is the student's: (10%)

Referencing Style

- [Harvard (author-date)](#)

Submission
Online

Learning Outcomes Assessed

- Critique and interpret routinely used data in social epidemiology and explain the strengths and limitations according to complex adaptive systems thinking in public health
- Explain the range of statistics essential to social epidemiological data to understand individual, community and population influences on health

Graduate Attributes

- Knowledge
- Cognitive, technical and creative skills

2 Presentation (Group/Individual)

Assessment Type
Written Assessment

Task Description
The presentation presents the epidemiological background of your allocated topic (see details above), including data (and a critique of those data) that will inform your literature review (assessment #4). The 10-minute presentation will:

- Give an overview of the topic
- Providing relevant epidemiological data to give context
- Explain how social factors influence your chosen topic and identify and critique the epidemiological data, including strengths and weaknesses
- Identify high-risk groups and show the way in which social factors may impact on risk. This may include

Aboriginal and Torres Strait Islander peoples, populations on a low income, older adults, or other specific populations that would be impacted by strategies to address the chosen topic in the community of interest.

Your presentation slides must include the following:

- Title slide – include the topic and the full name and ID number of each contributing student;
- A final slide containing the references cited (Harvard style);
- Each slide (excepting the Title and Reference slides) should include background research information in the Notes area and citations for that slide
- Allow for ~ one minute per slide ie typically, in a 10 minute presentation you would have 10-12 slides of content.

Each group will prepare a single presentation (Distance students may have the option to submit individually). Each student prepares the material for at least one slide in the presentation identified with the student's name, and prepares the text (background information) for presentation for his or her slide. Your slides should be easy to read, uncluttered, and facilitate understanding of your audience. Plan carefully and time your 10 minute presentation: you will be penalised after this time. The group may choose one or two students to present or each member may present his or her own slide. There are many guides to effective design and presentation available on the internet and through the Library. You are strongly recommended to access these!

Your topic for the Group presentation and Individual Literature Review is chosen early in term. The topics below are broad: for instance, in topic 3 you could focus on a particular disease (eg malaria or dengue fever) or population. Talk to your unit coordinator/tutor about the focus you wish to take, or if you have a particular alternate topic you are interested in.* Assessment topics in Term 1 2022 include:

1. Meeting Sustainable Development Goal (SDG) 5 of Gender Equality: challenges and achievements
2. Health consequences of a changing climate through an equity lens
3. Vector-borne diseases in the 21st century
* Alternate topics cannot include any of those from the previous three years of this Unit.

Assessment Due Date
Week 8 Friday (6 May 2022) 11:59 pm AEST

Return Date to Students
Week 9 Friday (13 May 2022)

Weighting
25%

Minimum mark or grade
50%

Assessment Criteria

- Epidemiological data relevant to the topic are presented and summarized: 20%
- Critique of data is presented: 20%
- Needs of vulnerable groups relevant to implementing a strategy to address the assigned condition are outlined and discussed: 20%
- Student's individual contribution is significant and shows understanding of the topic as well as of the element presented: 20%
- Language of the presentation (oral and written) is clear and easily understood: 10%
- All work reflects the students' own thinking and words, referencing is correctly and accurately done, and any direct quotations are properly identified according to academic convention: 10%

Referencing Style

- Harvard (author-date)

Submission
Online Group

Learning Outcomes Assessed

- Critique and interpret routinely used data in social epidemiology and explain the strengths and limitations according to complex adaptive systems thinking in public health
- Explain the range of statistics essential to social epidemiological data to understand individual, community and population influences on health
- Justify ethical principles related to Indigenous Data Sovereignty and respecting the rights and different ways of knowing of First Nations Peoples when using, collecting, analysing and interpreting social epidemiological data

Graduate Attributes

- Knowledge
- Cognitive, technical and creative skills

3 Epidemiology and statistics – short answer questions (Individual)

Assessment Type
Presentation

Task Description
Determines how well you understand fundamental epidemiological and statistical concepts and their application in public health.

Assessment Due Date
Week 10 Friday (20 May 2022) 11:59 pm AEST

Return Date to Students
Week 12 Friday (3 June 2022)

Weighting
25%

Minimum mark or grade
50%

Assessment Criteria

- Use of Microsoft Excel to summarise features of data graphically and numerically and interpret summaries: (30%)
- Given the relevant data, interpret measures of disease frequency and association and other population health data, and their relevance in epidemiological contexts: (30%)
- Describe appropriate study designs to investigate causal factors for acute diseases and chronic diseases: (20%)
- Use of clear, concise language and presentation of responses: (10%)
- All work submitted is the student's original words and ideas and all information from sources is properly cited: (10%)

Referencing Style

- [Harvard (author-date)](#)

Submission
Online

Learning Outcomes Assessed

- Distinguish social epidemiology from traditional epidemiology to understand and explain its contribution to public health practice by focusing on social determinants of health
- Critique and interpret routinely used data in social epidemiology and explain the strengths and limitations according to complex adaptive systems thinking in public health
- Explain the range of statistics essential to social epidemiological data to understand individual, community and population influences on health
- Justify ethical principles related to Indigenous Data Sovereignty and respecting the rights and different ways of knowing of First Nations Peoples when using, collecting, analysing and interpreting social epidemiological data
- Utilise a range of statistics in social epidemiological data to advocate for health promotion, protective and disease prevention approaches to public health practice
- Reflect on and evaluate uses of social epidemiological data and statistical understanding from Knowledge Translation and Implementation Science frameworks.

Graduate Attributes

- Knowledge
- Communication
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

4 Literature Review (Individual)

Assessment Type
Literature Review or Systematic Review

Task Description
The literature review provides an overview of the social epidemiological aspects of your topic which was chosen for your Assessment 2 Presentation. It summarises broad trends in the literature on your topic and highlights important points in selected articles. The review task includes:

- Outlining the relevant social, environmental and economic contexts that relate to your condition and discuss the factors that influence those contexts.
- Critiquing previous national and international epidemiological data and research with a particular emphasis on the gaps that may exist in our understanding of the impact of social factors on your condition.
- Considering the relevance of the reported statistics and findings to advocating for health promotion and disease prevention in public health practice.

This is an INDIVIDUAL assignment: you may not work together with your classmates to write the review.
The Literature Review is due in the last week of Term. *However, your preparation should commence at Week 1 to choose your topic, familiarize yourself with the Library and its academic databases, how to conduct literature searches (and reviews), select material and structure your Review.* The University library and CQU Student Learning Support provide online guides and individual sessions; and workshops on academic writing, academic integrity and referencing. You also have access to resources such as Studiosity.
Choosing the literature to include in your assignment is important. Only peer-reviewed scholarly material should be used. You need to note various views and approaches contained in the literature and to choose works to include without bias or preconceived ideas. Journal articles are often more relevant than books due to the long lead time between the writing and publication of books and because journals are often the forum where the latest thinking on a topic appears.

Assessment Due Date
Week 12 Friday (3 June 2022) 11:59 pm AEST

Return Date to Students
Exam Week Friday (17 June 2022)

Weighting
40%

Minimum mark or grade
50%

Assessment Criteria

- Selection of relevant, current and appropriate items from the scholarly literature: 20%
- Thorough and accurate summary and critique of the selected literature: 20%
- Discussion of social, economic, and environmental context and the factors that influence them: 20%
- Presentation of various views represented in the literature and discussion of their strengths and weaknesses: 20%
- Use of clear, concise language and linear presentation of argument: 10%
- All work submitted is the student's original words and ideas and all information from sources is properly cited, including direct quotations: 10%

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Distinguish social epidemiology from traditional epidemiology to understand and explain its contribution to public health practice by focusing on social determinants of health
- Critique and interpret routinely used data in social epidemiology and explain the strengths and limitations according to complex adaptive systems thinking in public health
- Utilise a range of statistics in social epidemiological data to advocate for health promotion, protective and disease prevention approaches to public health practice
- Reflect on and evaluate uses of social epidemiological data and statistical understanding from Knowledge Translation and Implementation Science frameworks.

Graduate Attributes

- Knowledge
- Research
- Self-management

- Ethical and Professional Responsibility

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem