



MMPH6157 Intermediate epidemiology

Coordinator: Dr M Schooling

Course Description:

This course builds on the introductory course in epidemiology (CMED6200). Causal inference is undoubtedly one of the most important epidemiological concepts in current epidemiological and population health research. Epidemiological research which focuses on 'risk factor' analysis though important does not always lead public health practitioners and scientists to identify modifiable factors relevant for changing health outcomes. The application of causal inference thinking in epidemiological study design and the use of more advanced data analysis helps ameliorate this problem.

Prerequisite: CMED 6200 Introduction to epidemiology

Winter Term (Concentrated: 3-10 Jan 2025)

TA(s)/ Tutor(s): Ms Liang Ying/ Ms Julie Zhuliduzi

Date	Time	Lecture Topic	Lecturer	Venue
03 Jan 2025 (Fri)	2:00 – 5:00 pm	1. Study designs in epidemiology and their purpose	Dr M Schooling	TBC
	6:00 –8:00 pm	2. Review of measures of occurrence and associations used in epidemiology		
06 Jan 2025 (Mon)	2:00 – 5:00 pm	3. Confounding in epidemiologic studies	Dr M Schooling	TBC
	6:00 –8:00 pm	4. Bias in epidemiologic studies		
07 Jan 2025 (Tue)	2:00 – 5:00 pm	5. The role of Bradford Hill viewpoints in causal inference	Dr M Schooling	TBC
	6:00 –8:00 pm	6. Systematic reviews and meta analysis		
08 Jan 2025 (Wed)	2:00 – 5:00 pm	7. Natural experiments and Mendelian randomization analysis	Dr M Schooling	TBC
	6:00 –8:00 pm	8. Effect modification and mediation analysis		
09 Jan 2025 (Thur)	2:00 – 5:00 pm	9. The role of observational studies in causal inference	Dr M Schooling	TBC
	6:00 –8:00 pm	10. Methodological issues to consider when designing an epidemiologic study		
10 Jan 2025 (Fri)	2:00 – 5:00 pm	11. Ethical issues to consider when designing an epidemiologic study	Dr M Schooling	TBC
	6:00 –8:00 pm	12. Presentation and interpretation of results from epidemiologic research		
25 Jan 2025 (Sat)	2:00 – 4:00 pm	Examination	-	TBC

Course Assessment:

1. Practical: 20%
2. Written assignment: 30%
3. Final test: 50%

Recommended Textbooks:

1. Szklo M, Nieto FJ. Epidemiology: Beyond the Basics. 2nd ed. Sudbury, MA: Jones and Bartlett Publishers, LLC; 2007.
2. Rothman KJ et al. Modern Epidemiology. 3rd Ed. Philadelphia: Lippincott Williams & Wilkins, 2008, ISBN 0781755646.
3. Pearl J, Glymour M, Jewell N, Causal Inference in Statistics – A Primer” Wiley, 2016

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