

Applied nutritional epidemiology

Menzies School of Health Research and Charles Darwin University, NT

Texts on nutritional epidemiology focus on describing the applications of epidemiological techniques to the conduct of research investigating nutrition as a cause of disease. Generally, there is little comment in these texts on applications of epidemiological techniques to public health nutrition practice.

The focus of this unit is on “what health departments do”. It examines how the overlap between nutrition and epidemiology can be applied to public health practice rather than to the conduct of original research. What are the special features of food, nutrition and physical activity that need to be considered when describing prevalence in a population? When summarising the literature to make policy decisions? When evaluating a program or intervention? When deciding whether or not to implement a screening program? The focus is primarily around so-called ‘descriptive epidemiology’ and cross-sectional data although aspects of systematic reviews and health economics are also considered. It is assumed that unit participants are/will be working in management or policy positions and will be more likely to contract a specialist to do the work (the literature overview or state-wide survey) than to do the work themselves. I.e. that the goal of the participant is to be an intelligent consumer of other work.

Learning outcomes:

At the end of this unit, participants will be able to:

- describe new concepts for defining nutrient inadequacy and excess in populations, how these are used correctly with data from national surveys & how common misuses affect prevalence estimates
- list the sampling strategies that may be used in a national survey and describe the likely errors that may arise if sampling strategy is not taken into account at the analysis stage
- describe how within-person error in the measurement of diet or other characteristics can be corrected for in surveys and the consequences of failing to do this
- describe the basic features of national or state/territory nutrition and physical activity-related surveys conducted in the last 10-15 years (and those planned for the near future) and outline general strengths & short-comings
- describe approaches to assess the validity, repeatability and usefulness of questionnaire or other survey items regarding food, nutrition, body habitus and physical activity for surveys, surveillance, screening and detection of change in a health behaviour at the group level and the individual level

- apply the proposed National Public Health Partnership schema for evaluating evidence for public health interventions
- identify the characteristics of a good systematic overview or meta-analysis and the problems in the underlying nutritional analyses that limit the interpretation of these
- describe the assumptions and calculations underlying burden and cost of disease studies, the limitations of these studies and how they relate to a full health economic analysis
- have an increased awareness of the range of resources available on the Web

Offered next in: Semester 1, 2007 then biennially

Pre-requisites: Introductory epidemiology unit
Introductory biostatistics unit

Assumed knowledge: Awareness of current health & nutrition issues in Australia
Some familiarity with dietary collection methods – 24-hour recalls, diet records, food frequency questionnaires – and anthropometric measurements

Method: Distance learning, web-based; option tutorial in Darwin

Taught by: Dr Dorothy Mackerras, Senior Research Fellow, MSHR
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Other notes: This unit is 10 CP (1/4 full time load for 1 semester).
It is accredited at Charles Darwin University but delivered by the Menzies School of Health Research, Darwin as part of the Public Health degree program (Grad Cert PH, Grad Dip PH, MPH, DrPH).

For further details: Information regarding administrative and cross-enrolment procedures:
Contact the Academic Administrator,
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About the MPH at CDU:
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