

**BSc GLOBAL HEALTH**

**YEAR 4**

**2012–2013**

**HANDBOOK–MODULE 2**

**PLEASE NOTE: THIS IS A DOCUMENT IN PROGRESS AND ANY UPDATES WILL BE ADDED WHEN THEY COME IN**

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**OVERVIEW**

**THE BURDEN OF CHRONIC DISEASES**

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**Intranet**

<http://www1.imperial.ac.uk/medicine/teaching/intranet/>

**Contents**

Global burden of non–infectious diseases, including methods for describing and comparing; descriptive epidemiology by geographic area, ethnicity; health of indigenous populations; rates in migrants; trends; the epidemics of obesity and diabetes; nutritional epidemiology and the metabolic syndrome; malnutrition and child health; cardiovascular disease epidemiology; tobacco–related diseases and tobacco control; the role of environmental exposures in developed and developing countries; global maternal health; conflict and global mental health; migrant health and care of the victims of torture; climate change and its effects on health; adaptation to climate change; the interplay between genes and the environment; preventive strategies and policies; trade and health.

**Learning outcomes**

By the end of the module, you should be able to:

* Discuss key issues in public health on a global scale, concerning non-infectious diseases
* Describe and interpret key study design and epidemiological methodologies in relation to non-infectious diseases
* Be able to conduct systematic reviews on chronic diseases
* Appreciate the need for a multidisciplinary approach, spanning biology, socio-cultural approaches, economics and politics, for understanding and researching global health, particularly for non-infectious diseases
* Understand and appreciate the role of novel genetic and molecular methodologies in research
* Discuss the main causes of ill health in the developing world

**General structure of the module**

Most topics will be treated according to the following scheme:

* Introductory lecture
* Reading of one paper and discussion in a seminar
* Methodological practical session on study design and statistical approach

Core course content is introduced in lectures. Slides will be available on the Imperial College Intranet, but they only outline the lecture topic and must be supplemented by notes taken in class. It is your responsibility to print off lecture slides if required. No handouts will be supplied in lectures. Lecture attendance is vital if you are to gain the skills and insights necessary for completion of assignments. Please note that you may be tested on lecture material if called to an end of year viva.

* Key articles from journals and books will be discussed in **seminars**, which involve some group work.
  + Your active preparation for and participation in seminars and practicals is crucial! Seminar readings expand on the lecture topics and provide additional information and understanding that is needed for the two assessments of this module and for the mini–project.
  + Reading material for seminars will be distributed at intervals in class. If you do not turn up to class then you will have to download all the readings yourself from the Imperial College Intranet.
  + You are encouraged to express your personal opinions on the readings, so please arrive in class with notes, and ready to talk.
* Lectures and seminars are followed by discussions and **practicals** in which you will allow you to explore issues in more depth, find and assess evidence, and practice data handling and analysis, with emphasis on methodology (study design and statistics).

**In course assessments**

There will be two in course assessments within module 2 as outlined below.

**Short essay on country health profile**

Students should individually submit on-line an independent written essay on the country profile of their choice. Country profiles refer to the main health indicators for a country, or a more specific topic such as recent changes in disease rates, or peculiarities in disease occurrence (e.g. obesity in Tonga). Essays should be no more than 2500 words; penalties will be applied for longer texts. References count 5% of the total mark. Please find further instructions on this ICA, just before the biography section.

**Data interpretation exercise**

Each student will receive a simple set of data and (s)he will be required to describe and interpret them in a written form (5%).

**Student-led seminars**

One or two student-led seminars per week are scheduled for module 2. These are to be led by students and may be moderated by a member of the course team. Papers for seminars are as below. Allocated groups will be expected to present one paper between them (presentations will last approximately 20 minutes with 10 minutes for discussion) and probably best presented on power point. To maximize educational benefit, all participants should read the suggested papers in advance. The presentations will not be assessed but these will provide students with the opportunity to develop their skills in critical appraisal that will be part of in-course assessment 2.

**Essential Readings by week**

**Week 1**

Farhad Islami et al, Oesophageal cancer in Golestan Province, a high-incidence area in northern Iran – A review. EUROPEAN JOURNAL OF CANCER 45 (2009) 3156 –3165

Sacerdote C et al (2012). Lower educational level is a predictor of incident type 2 diabetes in European countries: The EPIC-InterAct study. International Journal of Epidemiology 2012;1–12

Thabet AA et al (2008) Exposure to war trauma and PTSD among parents and children in the Gaza strip. *European Child & Adolescent Psychiatry*. **17**(4):191-9.

Fazel M, Wheeler J, Danesh J. (2005) Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. *The Lancet*, 365, 1309-1314.

Tousignant, M., Habimana, E., Biron, C., Malo, C., Sidoli-LeBlanc, E., & Bendris, N. (1999) The Quebec adolescent refugee project: Psychopathology and family variables in a sample from 35 nations. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1426-1432. [2-5 refugee mental health]

Fearon P & Morgan C (2006) Environmental factors in schizophrenia: the role of migrant studies. *Schizophrenia Bulletin*, 32, 405-408.[psychosis in migrants]

**Week 2**

[Jia H](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Jia%20H%22%5BAuthor%5D), [Lubetkin EI](http://www.ncbi.nlm.nih.gov/pubmed?term=%22Lubetkin%20EI%22%5BAuthor%5D). Obesity-related quality-adjusted life years lost in the U.S. from 1993 to 2008. [Am J Prev Med.](http://www.ncbi.nlm.nih.gov/pubmed/20709253) 2010 Sep;39(3):220-7.

Malnutrition in Illustrated Textbook of Paediatrics, Lissauer T & Clayden G (Editors), 4th Edn 2011. Elsevier

Jägerskog, A., Jønch Clausen, T. (eds.) 2012. ‘Feeding a Thirsty World – Challenges and Opportunities for a Water and Food Secure Future’. Report Nr. 31. SIWI, Stockholm.  
<http://www.siwi.org/documents/Resources/Reports/Feeding_a_thirsty_world_2012worldwaterweek_report_31.pdf>

Read: Pages 5-12 (Introduction)

Esmaillzadeh A and Azadbakht L (2008). Major Dietary Patterns in Relation to General Obesity and Central Adiposity among Iranian Women. J. Nutr. 138:358-363.

Delisle H, Ntandou-Bouzitou G, Agueh V, Sodjinou R, Fayomi B (2012). Urbanisation, nutrition transition and cardiometabolic risk: the Benin study. British Journal of Nutrition (2012), 107, 1534–1544

Feng J He, Graham A MacGregor. Reducing population salt intake worldwide: From evidence to implementation. Progress in Cardiovascular Diseases 52 (2010): 363-382.

Crowe et al Diet and risk of diverticular disease in Oxford cohort of European Prospective Investigation into Cancer and Nutrition (EPIC): prospective study of British vegetarians and non-vegetarians. *British Medical Journal* 2011:Jul 19;343:d4131

**Week 3**

Ebrahim S. Epigenetics: the next big thing. International Journal of epidemiology 2012; 41:1-3

Heijmans B. Persistent epigenetic differences associated with prenatal exposure to famine in humans. Proc Natl Acad Sci USA 2008. 405 (44) 17046-9

Daar, A., et al., *Grand challenges in chronic non-communicable diseases.* Nature, 2007. **450**(7169): p. 494-6.

Neil, H.A., et al., *Estimated 10-year cardiovascular risk in a British population: results of a national screening project.* Int J Clin Pract, 2008. **62**(9): p. 1322-31.

Deckert, A., et al., *Time trends in cardiovascular disease mortality in Russia and Germany from 1980 to 2007 – are there migration effects?* BMC Public Health, 2010. **10**: p. 488

Starrs AM (2006). Safe motherhood initiative: 20 years and counting. Lancet 368,(9542,30):1130-1132

**Week 4**

Furlow B (2012). Industry group “threatens” journals to delay publications. Lancet Oncol. 2012 Apr;13(4):337. Epub 2012. <http://download.thelancet.com/flatcontentassets/pdfs/S1470204512700943.pdf>

Hartung and Rovida. 2009. Chemical regulators have overreached. *Nature*. 460 1081-1082.

Turley. 2010. Reach deadline passes, registrations fall short of predictions.

*Online:* http://www.rsc.org/chemistryworld/News/2010/December/01121003.asp

Editorial. 2011. REACH further. *Nature.* 475, 139–140

Magnani C, Agudo A, González CA, Andrion A, Calleja A, Chellini E, Dalmasso P, Escolar A, Hernandez S, Ivaldi C, Mirabelli D, Ramirez J, Turuguet D, Usel M, Terracini B. Multicentric study on malignant pleural mesothelioma and non-occupational exposure to asbestos. Br J Cancer. 2000 Jul;83(1):104-11.

**Week 5**

Delpla I, Jung AV, Baures E, Clement M, Thomas O.Impacts of climate change on surface water quality in relation to drinking water production. Environment International Volume 35, Issue 8, November 2009, Pages 1225–1233

WHO/DFID Vision 2030: The resilience of water supply and sanitation in the face of climate change. Summary and Policy Implications 2009

<http://www.who.int/water_sanitation_health/publications/9789241598422/en/>

**IPCC, 2007: Climate Change 2007: Synthesis Report.** Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.

**TIMETABLE**

**Week 1: Describing the geography and history of non-infectious diseases: how they change by space and time**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 9.30–10.20am | | | 10.40–11.30am | | 11.50am–12.40pm | 2pm- 5.00pm |
| Mon 12 November  **AM: Roger Bannister** | INTRODUCTION TO THE WEEK: Introduction to Global Non-Communicable diseases  (includes Studying variation in disease geography) P Vineis | | | Film: Mother Caring for 7 Billion  P Vineis | | Practical and key points  PVineis | Global Mental Health by Martin Price  2-5 pm at Gowland Hopkins Lecture Theatre (Hodgkin), Guy's Campus. KCL |
|  | 9.30-10.20am | | | 10.40-11.20am | | 11.50-12.40pm |  |
| Tue 13 November  **AM: Clinical LT** | Terrence Simmons: Health care to indigenous populations in remote regions | | | Terrence Simmons cont’d | |  | Read for Thursday |
|  |  | | | | |  |  |
| Wed 14 November | |  | | --- | | Self Directed Study: Preparation for Thursday practical | | | | | |  |  |
|  | 9.30-11.45am |  | | | 12-1 | 2pm – 3pm | 3.30pm - 4.30pm |
| Thu 15 November  **Rothschild LT – all day** | Lecture and seminar  Migration and the mental health of young people  Matthew Hodes  **SESSION WITH MSC STUDENTS** | |  | | Care of survivors of torture Robin Ewart-Briggs (FFT)  **SESSION WITH MSC STUDENTS** | Practical: analysis of confounding and interactions  Marta Blangiardo  (includes mid session break)  Rothschild LT | Discussion on Diabetes and social class (Sacerdote et al 2012)  MB  Rothschild LT |
|  |  | | | |  |  |  |
| Fri 16 November |  | | | |  |  |  |

**Week 2: Food and the new epidemic of obesity and diabetes**

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|  | 9.30–10.20am | 10.40–11.30am | | 11.50am–12.40pm | Afternoon |
| Mon 19 November  **AM: Roger Bannister** | INTRODUCTION TO THE WEEK: The conundrum of obesity and diabetes - the built environment P Vineis | Discussion and reading of a paper  P Vineis | | Practical: Data Interpretation Exercise  Paolo Vineis |  |
|  | 9.30am-10.20am | 10.40am-11.30am | | 11.50-12.40pm | 2.00-4.00pm |
| Tue 20 November  **AM: Cockburn LT**  **PM: Clinical LT** | Lecture: Child malnutrition  Tom Lissauer | Student–led seminar:  Tom Lissauer | | Practical: **Data Interpretation Practice** (Past ICA)  Marc Chadeau-Hyam | Humanities in GH  Bodies, abilities and disabilities  Kelley Swain |
|  | 9.30-10.20am | 10.40am-11.30 | | 11.50-12.40pm |  |
| Wed 21 November  **AM: Peart room** | Lecture: Burden of disease - hypertension  Majid Ezzati | Discussion on disease burden and key points  Majid Ezzati | |  | Readings for seminar |
|  | 9.20am-10.10am | 10.30am-11.20am | | 11.40-12.30pm | 2.00-3.00pm |
| Thu 22 November  **Rothschild LT** | Lecture: Global Food Production  Helena Wright  **MPH joint session** | | Lecture: The Salt Industry Queenie Chan and Linda Oude Griepe  **MPH joint session** | Seminar: The Salt Industry  Queenie Chan and Linda Oude Griepe  Rothschild LT  **MPH joint session** | The design of a cohort study, and key points  Rachel Kelly |
|  | 9.30-10.20 | | 10.40-11.40 | 11.50-12.40pm |  |
| Fri 23 November  **AM: Roger Bannister LT** | Lecture: Nutritional epidemiology  Anne–Claire Vergnaud | Discussion and reading of a paper, and key points  Anne–Claire Vergnaud | | Practical - Statistical analysis of  a cohort study  Anne–Claire Vergnaud |  |

**Week 3: Life-course epidemiology, foetal programming and epigenetics**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 9.30–10.20am | | 10.40–11.30am | | 11.50am–12.40pm | |  |
| Mon 26 November  **AM: MSc room** | CANCELLED | CANCELLED | | |  | | Read for Tuesday seminar |
|  | 9.30-10.20am | 10.40-11.30am | | |  | | 2.00-4.00pm |
| Tue 27 November  **AM: MSc room**  **PM: Clinical LT** |  | Student–led seminar: The long–term consequences of famine in the Netherlands in the 2nd WW ?  Rachel Kelly | |  | | Humanities in GH  Metaphor (cardiovascular disease and epigenetics)  Kelley Swain | |
|  |  |  | |  | |  | |
| Wed 28 November  **AM: Roger Bannister** | Understanding Epigenetics and Diabetes through Migration  John Chambers |  | |  | | Read for Thursday seminar/practical | |
|  | 9.30am-10.20am | | 10.40-11.30am | | 11.50am-12.40pm | | 2.00-4.30pm |
| Thu 29 November  **Rothschild LT** | Lecture: Cardiovascular disease epidemiology and biomarkers for CVD  Marjo–Riitta Jarvelin | | Student-led seminar – presentation of a paper | | Practical: A case–control study on cardiovascular disease–bias, and key points  Queenie Chan | | INTRODUCTION TO THE WEEK Gene-Environment Interaction: The Role of Epigenetics- Marc Gunter / Discussion  Global Inequalities: is Epigenetics the strongest link?  Rachel Kelly |
|  | 9.30am-11 am | | 11.30am-12.30am | |  | |  |
| Fri 30 November  **AM: Cockburn LT 9.00-12.30 only** | Lecture: Global Maternal Health and Mortality  Lesley Regan | | Seminar: Global Maternal Health  Lesley Regan | |  | |  |

**Week 4: Global trade, chemical exposure and behaviour**

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| --- | --- | --- | --- | --- |
|  | 9.30am–10.20am | 10.40–11.30am | 11.40am–1.00pm | Afternoon |
| Mon 3 December  **AM: MSc room** | The era of chemical hazards  T Athersuch | Discussion and reading of Lancet paper on Diesel industry  P Vineis | Disaster Risk Management: When, How, Why?  Ashton Barnett-Vanes | Read for Discussion on Tuesday |
|  | 9.30-11.00am |  | 11.20am-12.20pm |  |
| Tue 4 December  **AM: Cockburn LT** | Film screening: The Corporation (Optional) | |  | Read for Wednesday seminar |
|  | 9.30-10.20am 10.40am-11.30am | |  |  |
| Wed 5 December  **AM: Cockburn LT** | Multiple pathways from the built environment to health  Audrey De Nazelle | Seminar  Audrey De Nazelle |  | **In-Course Assessment 1 – Essay country profile**  Submission before 1pm |
|  | 9.30am-11.00 | 11.20am-12.20pm |  |  |
| Thu 6 December  **Clinical LT** | Lecture: Tobacco as a major global health issue (9.30-11.00)  Ben Hawkins (LSHTM)  **WITH MPH STUDENTS** | Student–led seminar: asbestos as a world–wide occupational and environmental carcinogenic exposure (11.30-12.30)  Karin van Veldhoven  **WITH MPH STUDENTS** |  | Read for Friday lecture |
|  | 9.30am-10.20 | 10.40am-11.30am | 12.00-12.30pm | 1.30pm-4.00pm |
| Fri 7 December  **AM: Rothschild LT** | **Lefkos Middleton**  The global burden of Alzheimer’s disease and other late-onset dementias |  |  | Read for Monday lecture |

**Week 5: From epidemiology to governance: prevention and intervention studies**

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| --- | --- | --- | --- | --- | --- |
|  | 9.30am–10.20am | 10.40–11.30am | | 12.00am-1.00pm | 2-5pm |
| Mon 10 December  **AM: MSc room**  **12-1.00pm:**  **Roger Bannister** | **In-course assessment 2: Data Interpretation**  **MSc room** |  | | Lecture–Asthma in the world  Neil Pearce  **Roger Bannister LT** | Read for seminar on Tuesday |
|  | 9.30am-11.00am | 11.30am-1.00pm | |  |  |
| Tues 11 December  **AM: Roger Bannister LT**  **PM: Cockburn LT** | Lecture: Trade and Health – Corporate actors and global health governance  Ben Hawkins | Seminar: Trade and Health  Ben Hawkins | |  | Water quality and quantity and climate change  Pauline Scheelbeek/ Water salinity in Bangladesh – Film Aneire Khan/  Randomized trials  Aneire Khan and Pauline Scheelbeek |
| Wed 12 December | Reading for Thursday lectures and seminar | | |  |  |
|  | 9.00am–10.00am | | 10.00–10.50am | 11.00-12.00 |  |
| Thu 13 December  **Rothschild LT** | Energy policies and their impact on human health  Andy Haines  **INTERBSC?**  **With MPH students**  Rothschild LT | | Student–led seminar on climate change  Pauline Scheelbeek  Rothschild LT | The strategies to reduce CO2 and their impact on health - policy issues  Simon Buckle, Grantham Institute  Rothschild LT |  |
|  | **9.30-10.20** | | 10.40-11.30am | |  |
| Fri 14 December  **Clinical LT (9-2pm)** | Overall evaluation of the module and some conclusions about the interventions to implement to tackle the main global health problems today - All | |  | |  |

**LECTURE OUTLINES**

**Week 1: Describing the geography and history of non-infectious diseases: how they change by space and time**

**Monday 12 November**

**Studying variation in disease geography**

**Paolo Vineis**

**Outline**

The content of this topic will cover:

* How non-infectious disease occurrence varies by space and time, and how hypotheses about the causes of such variation are formulated
* Key examples of geographic variation for the most common non-infectious diseases (diabetes, cancer, cardiovascular diseases, neurological diseases)
* Key examples of time trends for the most common non-infectious diseases (diabetes, cancer, cardiovascular diseases, neurological diseases)
* Remote regions, indigenous populations and their needs
* Concept of burden of disease

**Learning Outcomes**

By the end of the learning activities in this session you will:

* Be able to describe how geography affects the distribution of chronic dieases and what the hypotheses on geographic variation could be
* Be able to interpret small-area studies
* Be able to describe time trends and understand their determinants

**Articles to be read before the session (to be discussed as a group in the seminar):**

Farhad Islami et al, Oesophageal cancer in Golestan Province, a high-incidence area in northern Iran – A review. EUROPEAN JOURNAL OF CANCER 45 (2009) 3156 –3165

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | | Neutral | | Disagree | | Strongly Disagree | |
|  |  |  |  |  |  |  |  |  |  |  | |  | |  | |  | |  |

**One useful learning point I would like to remember from this session:**

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**Tuesday 13 November**

**Access to health care: Challenges of delivering services to rural and remote**

**populations in developing countries – Guyana, a case study**

**Terrence Simmons**

Access to health care focuses on the delivery of care to populations in rural, remote

and isolated communities in developing countries. Its primary aim is to examine those

factors which challenge the delivery of health services to these populations. It outlines

the characteristics of a good health system, the main features of access, definitions of

rural and remote communities, types of care facilities and the specific delivery

challenges. After reflecting on the nature of these challenges, participants are given

an opportunity to discuss them and suggest potential solutions on how to overcome

these barriers in the second part of the lecture.

**Lecture Content**

The content of this topic will cover:

1. Characteristics of a good health system.

2. Key features of health care access.

3. Geographical concepts in care delivery - definitions of rural and remote

communities.

4. General approaches to delivering care to indigenous populations.

5. Types of health care facilities – district hospitals, health centres, health huts,

Medex system, Community Health Workers, etc.

6. Challenges of delivering care to rural and remote communities using Guyana

as a case study.

**Learning objectives**

By the end of the learning activities in this session, participants will:

1. Be able to describe some of the key features of health care access.

2. Be able to describe some of the challenges of health care delivery in rural and

remote areas.

3. Be able to understand the geographical concepts in care delivery.

4. Be able to describe some of the general approaches to delivering care to

indigenous populations.

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**Further reading**

1. European Rural and Isolated Practitioners Association, EURIPA. *A*

*collaborative analysis of public health and health service issues in rural areas*.

(Online) 1999. Available: http://www.euripa.org/research.php

2. Ryan-Nicholls KD, Racher FE. Investigating the health of rural communities:

toward a framework development. *Rural and Remote Health* **4:** 244. (Online)

2004. Available: www.rrh.org.au

3. Rygh EM, Hjortdahl P. Continuous and integrated health care services in rural

areas. A literature study. *Rural and Remote Health* **7: 766**. (Online) 2007.

Available: http://www.rrh.org.au

4. Rural Policy Research Institute. *Defining rural: Definitions of rural areas in the*

*U.S.* On-line. 2001. Available from:

http://www.rupri.org/dataresearchviewer.php?id=38

5. Halton J. Improving the health of rural Australians. *Rural and Remote Health* **5:**

**487**. (Online) 2005. Available: http://www.rrh.org.au

6. Bushy, A. A Landscape View of Life and Health Care in Rural Settings.

**Chapter 2,** The *Handbook for Rural Health Care Ethics:* **a Practical Guide for**

**Professionals.** Dartmouth College Press 2009.

<http://dms.dartmouth.edu/cfm/resources/ethics/chapter-02.pdf>

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | | Neutral | | Disagree | | Strongly Disagree | |
|  |  |  |  |  |  |  |  |  |  |  | |  | |  | |  | |  |

**One useful learning point I would like to remember from this session:**

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**Thursday 15 November**

**Migration and the mental health of young people – Lecture and seminar**

**Matthew Hodes**

Students will know

* the main stress and resilience factors that impact on psychological adjustment associated with migration
* the way these factors affect risk for psychiatric disorder
* the main disorders that have been shown to be more prevalent in young migrants and refugees
* key mental health service implications

Overview

Migration occurs for diverse reasons, but these can be divided into two large groups: economic factors eg to improve quality of life, economic prospects, and political factors eg to escape war, persecution and organised violence.

1. Economic migrants may plan their migration and experience challenges of settling in a new country and culture. While this may be stressful for adults and parents, for many children and young people settlement is rapid and often relatively easy (compared with parents). Economic migrants who live in new host cultures may experience strains e.g. at societal level discrimination/exclusion, at family level different rates of assimilation and inter-generational conflict. Overall young economic migrants/children of such migrants do not have elevated prevalence of psychiatric disorder compared with host peers. The exception is the elevated prevalence of psychosis that is found in many immigrant populations including adolescents.

2. Political migrants [asylum seekers and refugees] who have fled organised violence have often experienced high levels of losses/deaths of family members and war events, and experience high levels of psychological distress [especially PTSD and depression] . Their psychological distress tends to improve over time, although PTSD may be persistent. The rate of improvement is related to past exposure to traumatic events and ongoing resettlement stressors.

3. Mental health service needs: Asylum seekers and refugees, who may come to an area at short notice and in relatively large numbers have special mental health service needs. Meeting the needs requires tiering of the services, with support at universal level: community integration and cohesion; targeted: provide outreach treatment services for psychologically distressed children [e.g. in schools]; indicated : only the most psychiatrically impaired asylum seekers /refugees need referral to specialist mental health services.

Essential reading

Hodes M (2008) Psychopathology in refugee and asylum seeking children. In M. Rutter, , D. Bishop, D. Pines, S.. Scott, J. Stevenson, E.Taylor, & A. Thapar (eds), *Rutter’s Child and Adolescent Psychiatry*, 5th edition. Oxford: Blackwell. Pp 476-488.

Recommended reading

1. Bhugra D et al (2011) WPA guidance on mental health and mental health care in migrants. *World Psychiatry*, 10, 2-10.

[overview]

1. Thabet AA et al (2008) Exposure to war trauma and PTSD among parents and children in the Gaza strip. *European Child & Adolescent Psychiatry*. **17**(4):191-9.
2. Fazel M, Wheeler J, Danesh J. (2005) Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. *The Lancet*, 365, 1309-1314.
3. Sack, W.H., Him, C., & Dickason, D. (1999) Twelve-year follow-up study of Khmer youths who suffered massive war trauma as children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1173-1179.
4. Tousignant, M., Habimana, E., Biron, C., Malo, C., Sidoli-LeBlanc, E., & Bendris, N. (1999) The Quebec adolescent refugee project: Psychopathology and family variables in a sample from 35 nations. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1426-1432.

[2-5 refugee mental health]

1. Fearon P & Morgan C (2006) Environmental factors in schizophrenia: the role of migrant studies. *Schizophrenia Bulletin*, 32, 405-408.

[psychosis in migrants]

N.B - papers for presentation in the seminar: 2, 3 ,5 6 – please make sure you have read these

Optional reading

* Inter-Agency Standing Committee (IASC) (2007). IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings. Geneva: IASC.

Groups for the seminar below.

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|  | Forshaw | Jennifer Anne | jennifer.forshaw12@imperial.ac.uk |
| Emanuwa | Emudiaga Jonathan Ewan | emudiaga.emanuwa12@imperial.ac.uk |
| Low | Jen Mae | jen.low09@imperial.ac.uk |
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| Ologunde | Rele Matthew Adedeji | rele.ologunde09@imperial.ac.uk |
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| Lewis | Marissa | marissa.lewis09@imperial.ac.uk |
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| Arnold | Thomas | thomas.arnold09@imperial.ac.uk |
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| Stewart | Eleanor Margaret | eleanor.stewart09@imperial.ac.uk |
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| Yeats | James | james.yeats12@imperial.ac.uk |

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**One useful learning point I would like to remember from this session:**

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**Robin Ewart-Biggs: Refugee health – care of survivors of torture**

**Outline**

* To consider the contexts from which refugee families may arrive and approaching health care services.
* To raise awareness about the “host society” discourses concerning refugee families.
* To raise awareness about early identification of survivors of torture
* To consider ‘good practice’ in relation to interviewing survivors of torture.
* To consider ‘impact on self’ when working with survivors of torture.

**Learning outcomes for the session**

* To gain an understanding of relevant issues, e.g. dislocation (stories of leaving and arriving), loss, asylum, language, acculturation (across generations), resilience, the impact of torture/organised violence, the impact of family reunion.
* To gain an understanding of assessment, identification and interviewing skills when working with survivors of torture.
* To gain self-reflexive understanding of impacts of working with survivors of torture.

**Indicative content of the session**

* PowerPoint Slides as backdrop for ideas introduced throughout session.
* Case example to generate awareness of a range of issues relevant to working with refugee families.
* Reflecting conversation to develop students thinking and self-reflexivity in relation to working with survivors of torture.

**Learning and teaching strategies for the session**

* Didactic presentation.
* Practice example.
* Reflecting conversation exercise.

**Essential reading**

Medical best practices for the treatment of torture survivors

Richard F. Mollica, M.D.

Refugees and psychological trauma: psychosocial perspectives

Prof. Renos K Papadopoulos

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**Marta Blangiardo: Practical – analysis of confounding and interactions**

**Outline**

In this practical we will

* Introduce the concepts of confounding and effect modification in epidemiology
* Explore how they impact on the measures of association between risk factors and health outcomes.
* We will then look at strategies to deal with these two issues.

The first part of the practical will consist of a presentation by the lecturer and some small group discussion. Then there will be time for some exercises, which will allow the students to carry out some simple analyses on the topics presented in the first part. The solution of the exercises will be provided at the end of the practical.

**Learning objectives**

* To understand the issue of confounding and effect modification in cohort studies and the techniques to deal with these.
* To be able to assess the potential confounders in a cohort study and to correct for these in the analysis
* To be able to evaluate the presence of effect modifications and to carry on appropriate analyses to overcome this issue.

Suggested reading

OS MIETTINEN, EF COOK - American Journalof Epidemiology, 1981 - Oxford Univ Press

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**One useful learning point I would like to remember from this session:**

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**Discussion on Diabetes and social class**

**Marta Blangiardo**

Essential reading

Sacerdote C et al (2012). Lower educational level is a predictor of incident type 2 diabetes in European countries: The EPIC-InterAct study. International Journal of Epidemiology 2012;1–12.

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**One useful learning point I would like to remember from this session:**

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**Week 2: Malnutrition and the new epidemic of obesity and diabetes**

Monday 19 November

**Paolo Vineis: “The conundrum of obesity and diabetes”**

**Outline**

The content of this topic will discuss:

* How and why is obesity spreading all over the world? Is it genetic or environmental? What are the main hypotheses?
* What are the relationships between diabetes and obesity? Do the two diseases completely overlap epidemiologically or not? Is the epidemiology of diabetes different in Asia vs. other countries?
* What are the diseases associated with obesity and diabetes?
* What is the total burden of diabetes and obesity-related disease in the world

**Intended Learning Outcomes**

By the end of the learning activities in this session you will:

* Be able to describe the epidemic of obesity and diabetes and the main scientific hypotheses
* Be able to describe the total burden of disease attributable to obesity and diabetes
* Be able to discuss potential policies to tackle the epidemic

**Articles to be read before the session (to be discussed as a group in the seminar):**

Jia H, Lubetkin EI. Obesity-related quality-adjusted life years lost in the U.S. from 1993 to 2008. Am J Prev Med 2010 Sep;39(3):220-7.

**Further Reading**

Azétsop J and Rennie S. Principlism, medical individualism, and health promotion in resource-poor countries: can autonomy-based bioethics promote social justice and population health? Philosophy, Ethics, and Humanities in Medicine 2010, 5:1

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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**One useful learning point I would like to remember from this session:**

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**Tuesday 20 November**

**Malnutrition in Children**

**Tom Lissauer**

Undernutrition contributes to over half of all deaths in children < 5 years old worldwide.

The World Health Organization recommends that nutritional status is expressed as:

* Weight for height–a measure of wasting and an index of acute malnutrition. Severe malnutrition is defined as a weight for height below −3 standard deviations below the median plotted on the WHO standard growth chart. This corresponds to a weight for height <70% below the median.
* Mid upper-arm circumference (MUAC) – <115 mm is severe malnutrition
* Height for age–a measure of stunting and an index of chronic malnutrition.

Clinically, malnutrition is classified as marasmus or, if oedema is present, as kwashiorkor.

Management of acute malnutrition is not simply to give food, but consists of treating the complications and gradually reintroducing food.

Dr Tom Lissauer will outline the main clinical features of childhood malnutrition:

* What is meant by malnutrition and how to identify it
* Different types of malnutrition
* The principles of management of acute malnutrition

Learning outcomes

To know:

* how child malnutrition is defined
* about the different types of malnutrition
* the most important clinical features and principles of management

To understand:

* Where and why it occurs
* What strategies are adopted for its prevention

Essential Reading

Malnutrition in Illustrated Textbook of Paediatrics, Lissauer T & Clayden G (Editors), 4th Edn 2011. Elsevier

(At St Mary’s we have 6 standard loan copies, one short loan and one reference copy. There are another 21 borrowable copies across the other Imperial libraries)

Student-led seminar (students divide into groups and give presentation, max 10 mins for each topic:

The following topics for each group:

1. Epidemiology of child malnutrition globally
2. What are its long term effects on children
3. Why is there malnutrition when the world can produce sufficient food to feed everyone?
4. What strategies are adopted by countries and aid agencies to prevent childhood malnutrition and how effective are they?
5. How serious a problem is childhood malnutrition in the UK?

Groups

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| Zahid | Shereen Sanaa | shereen.zahid09@imperial.ac.uk |
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| Patel | Purvi Nimishkumar | purvi.patel09@imperial.ac.uk |
| Low | Jen1 | jen.low09@imperial.ac.uk |
| Keech | Maximillian Morgan Kinder | maximillian.keech09@imperial.ac.uk |
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|  | Lee | Yin Yin | samuel.lee09@imperial.ac.uk |

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* **One useful learning point I would like to remember from this session:**

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**Wednesday 21 November**

**Lecture: Burden of disease – hypertension**

**Majid Ezzati**

The effects of elevated blood pressure on human health have been established for decades and effective and efficacious interventions exist and are used in clinical settings.  Much less has been done on blood pressure patterns and their effects on the health of populations worldwide, across regions or over time.  This session will use a range of epidemiological and population health studies to understand the role of high blood pressure and in interventions in global health, both across and within countries.

Key learning points

* High blood pressure is one of leading risk factors for global and burden of disease, even compared to risk factors for child and maternal mortality
* Blood pressure levels have declined substantially and significantly in high-income countries over the past few decades.
* Currently, the highest blood pressure levels are in some low and middle income regions including sub-Saharan African and Central and Eastern Europe
* There are known, efficacious and effective population-based and individual interventions to prevent and reduce high blood pressure
* At least in high-income societies, marginalized and low-SES groups have higher blood pressure, leading to considerable inequalities in health

Essential readings

* MacMahon S, Neal B, Rodgers A. Hypertension--time to move on. *Lancet*. 2005; 365(9464):1108-1109
* Danaei G, Finucane MM, Lin JK, Singh GM, Paciorek CJ, Cowan MJ, Farzadfar F, Stevens GA, Lim SS, Riley LM, Ezzati M on behalf of the Global Burden of Metabolic Risk Factor of Chronic Diseases Collaborating Group (Blood Pressure). National, regional, and global trends in systolic blood pressure since 1980: Systematic analysis of health examination surveys and epidemiological studies with 786 country-years and 5.4 million participants. *Lancet* 2011; **377**(9765):568-577
* Elliott P, Stamler J, Nichols R, Dyer AR, Stamler R, Kesteloot H, Marmot M. Intersalt revisited: further analyses of 24 hour sodium excretion and blood pressure within and across populations. Intersalt Cooperative Research Group. *Bmj.* 1996;312(7041):1249-1253

Suggested Readings

* Carvalho JJ, Baruzzi RG, Howard PF, Poulter N, Alpers MP, Franco LJ, Marcopito LF, Spooner VJ, Dyer AR, Elliott P, et al. Blood pressure in four remote populations in the INTERSALT Study. *Hypertension.* 1989;14(3):238-246
* Danaei G, Rimm EB, Oza S, Kulkarni SC, Murray CJL, Ezzati M. The promise of prevention: the effects of four preventable risk factors on national life expectancy and life expectancy disparities by race and county in the United States. *PLoS Medicine* 2010; **7**(3):e1000248
* Wald NJ, Law MR. A strategy to reduce cardiovascular disease by more than 80%. *Bmj.* 2003;326(7404):1419
* Asaria P, Chisholm D, Mathers C, Ezzati M, Beaglehole R. Chronic disease prevention: health effects and financial costs of strategies to reduce salt intake and control tobacco use. *Lancet* 2007; **370**(9604):2044-2053

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**One useful learning point I would like to remember from this session:**

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**Thursday 22 November**

**Global Food Security, Climate Change and Development**

**Helena Wright**

Intended Learning outcomes

* Understanding global food security and the implications for global health
* An overview of the multiple challenges facing global food production
* Adaptation to climate change and development
* Case Study: A focus on Bangladesh

**Understanding global food security and the implications for global health**-Conceptual overview of food security; including the differences between food production and access to food.  
-The importance of malnutrition and hunger as the world’s greatest human health risk, including for infant mortality.  
-Understanding of the concept of ecological public health **An overview of the multiple challenges facing global food production**-Multiple stressors facing global food security in coming decades include scarcity of water, land, energy, phosphate, and the effects of climate change.  
-Understanding the concept of global planetary boundaries.

**Adaptation to climate change and development**-Emerging solutions and finance mechanisms are being created to address these problems  
-Considering the effectiveness of finance and emerging issues, including transparency and adequacy

**Case Study: A focus on Bangladesh**-Considering the real-life example of Bangladesh, where people are already facing food security challenges and vulnerability to climate change-Some initial results from original research are presented

Essential reading

Jägerskog, A., Jønch Clausen, T. (eds.) 2012. ‘Feeding a Thirsty World – Challenges and Opportunities for a Water and Food Secure Future’. Report Nr. 31. SIWI, Stockholm.  
<http://www.siwi.org/documents/Resources/Reports/Feeding_a_thirsty_world_2012worldwaterweek_report_31.pdf>

Read: Pages 5-12 (Introduction)

Recommended reading

Godfray et al, 2010. ‘Food Security: The Challenge of Feeding 9 Billion People’ Science Vol 327, no. 5967, pp812-818  
<http://www.sciencemag.org/content/327/5967/812.full>

Beddington, J., et al. ‘Achieving food security in the face of climate change’. Summary for Policymakers, November 2011. [Online]<http://cgspace.cgiar.org/bitstream/handle/10568/10701/Climate_food_commission-SPM-Nov2011.pdf>

Optional reading

Rockstrom et al, 2009. ‘A safe operating space for humanity’ Nature 461, 472-475 September 2009  
<http://www.nature.com/nature/journal/v461/n7263/full/461472a.html>

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**The Salt Industry**

**Paul Elliott**

**Learning objectives**

* To understand major risk factors for mortality worldwide and recent trends in cardiovascular mortality in populations;
* To review key epidemiological evidence available on the relationship between sodium (salt) intake and blood pressure;
* To have an overview of design and main results of examples of major international studies on diet and blood pressure eg, INTERSALT study (non-interventional) and DASH trials (interventional);
* To examine sources of salt in diets of different populations worldwide and variation in intakes;
* To debate the role of food manufacturers and the salt industry and the effectiveness of public health interventions.

**Overview**

High salt intake is associated with raised blood pressure and increased risk of cardiovascular and other diseases. Population efforts to reduce salt intake have been identified as highly cost-effective means of reducing the burden of chronic diseases. Most salt in the diet in western countries is consumed as a food additive in manufactured foods, therefore efforts to reduce salt intake need the cooperation of the food industry. Some food products directed at children have extremely high salt content, and there is evidence that similarly branded products vary in salt content depending on country. Previous efforts to reduce salt content of manufactured foods, and national and international recommendations for lowered population-wide salt intakes, have been resisted by the food industry. Recent progress has been made in some countries (notably, the UK) to reduce salt intakes through cooperation with industry, though salt intakes remain too high in the UK as in most countries of the world.

**Essential reading**

Feng J He, Graham A MacGregor. Reducing population salt intake worldwide: From evidence to implementation. Progress in Cardiovascular Diseases 52 (2010): 363-382.

**Recommended reading**

Elizabeth Dunford, Jacqueline Webster, Mark Woodward, Sebastien Czernichow, Wen Lun Yuan, Katharine Jenner, Cliona Ni Mhurchu, Michael Jacobson, Norm Campbell, Bruce Neal. The variability of reported salt levels in fast foods across six countries: opportunities for salt reduction. Canadian Medical Association Journal (2012) April 26. Doi:10.1503/cmaj.111895

Ian J Brown, Ioanna Tzoulaki, Vanessa Candeias, Paul Elliott. Salt intakes around the world: Implications for public health. International Journal of Epidemiology 38 (2009): 791-813.

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Friday 23 November

**Anne-Claire Vergnaud: Lecture – Nutritional epidemiology as a Public Health Science**

**Learning objectives**

By the end of this session, participants must

* Understand the goals of nutritional epidemiology
* Know the most usual exposure assessment methods
* Understand their strengths and weaknesses
* Understand the main methodology issues related to nutritional epidemiology
* Have a first idea about what is nutrition transition

**Summary**

In this session we will address nutritional epidemiology with a special interest for nutrition transition.The goal of nutritional epidemiology is to study the relation between nutrition and the occurrence of diseases. We will try to understand how these very complex and multidimensional associations can be assessed. Nutritional epidemiology includes diet of course of also adiposity and physical activity exposure. We will see the different methods to estimate those exposures, their strengths and weaknesses. This will be done by using as an example a real research study on nutritional transition in Argentina. Research question and challenges will be discussed step by step with the solutions chosen in this particular study. Finally, we will address several challenges in epidemiology which are particularly relevant in nutritional epidemiology. Those will be very valuable to the students in their future critical reading of nutritional epidemiology papers.

**Optional reading**:

Nutritional Epidemiology by Walter Willett - Oxford University Press, USA; 2 edition (June 15, 1998)

**Learning objectives**

By the end of this session, participants must be able to critically read a nutritional epidemiology paper, discuss their strengths and weaknesses and interpret their findings.

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* **One useful learning point I would like to remember from this session:**

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**Discussion and interpretation of nutritional epidemiology paper**

**Anne-Claire Vergnaud**

**Summary**

Following the methodological issues addressed in the lecture, two nutritional epidemiology papers will be discussed. The first one investigate the links between major dietary patterns in Iranian Women and prevalence of general obesity and central adiposity. The second one, conducted in Benin, examine the mediating role of nutrition transition in the relationship of urbanisation level and socio-economic status to cardiometabolic risk markers. Learning from the lecture will be put into practice by discussing the strengths and weaknesses of both papers and interpreting their findings. Participants are expected to engage actively in the discussion.

**Essential readings**

Esmaillzadeh A and Azadbakht L (2008). Major Dietary Patterns in Relation to General Obesity and Central Adiposity among Iranian Women. J. Nutr. 138:358-363.

Delisle H, Ntandou-Bouzitou G, Agueh V, Sodjinou R, Fayomi B (2012). Urbanisation, nutrition transition and cardiometabolic risk: the Benin study. British Journal of Nutrition (2012), 107, 1534–1544

**Practical – Statistical analysis of a cohort study**

**Anne-Claire Vergnaud**

**Learning objectives**

By the end of this session, participants must

* Calculate person-years
* Estimate a relative risk associated with an exposure
* Interpret a Cox proportional hazard model

**Summary**

Using a research paper on vegetarianism and risk of diverticular disease, this practical will address several major concepts in cohort studies. We will calculate number of person-year, number of cases and derive relative risk estimates such as cumulative incidence ratio and incidence rate ratio. Accent will be given on interpretation of those estimates as well as their weaknesses. We will talk about Cox proportional hazards regression, interpretion of the Hazard ratio and interpretation of the interaction term. At the end of the session, participants should be able to interpret the meaning of various coefficients from a Cox model. Participant will need a calculator to complete this practical.

**Essential readings:**

Crowe et al Diet and risk of diverticular disease in Oxford cohort of European Prospective Investigation into Cancer and Nutrition (EPIC): prospective study of British vegetarians and non-vegetarians. *British Medical Journal* 2011:Jul 19;343:d4131

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* **One useful learning point I would like to remember from this session:**

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**Week 3: Reproduction: foetal programming and epigenetics (methods: the role of the laboratory)**

Monday 26 November

**Gene-Environment Interaction: The Role of Epigenetics**

**Marc Gunter**

By the end of this session you should be able to:

* Define the terms ‘epigenetics’ and ‘epigenome’ and have an understanding of the different types of epigenetic regulation
* Understand how environmental exposures and lifestyle factors such as diet can influence epigenetic regulation
* Understand what is known about epigenetic dysregulation in health and disease and how epigenetics may provide a link between lifestyle and disease occurrence

This session will provide an overview of epigenetics and its potential role in public health research. Students will be taught what the main types of epigenetic regulation are and how epigenetic events can be influenced by lifestyle factors such as diet and other environmental exposures. The potential role of epigenetic events in the aetiology of chronic diseases such as cancer will also be discussed. This session will adopt an ‘epigenetics for beginners’ approach and will emphasize the public health implications of this rapidly expanding field.

**Essential Reading**

Randy L. Jirtle & Michael K. Skinner ; Environmental Epigenomics and Disease Susceptibility; Nature Reviews Genetics 8, 253–262 (1 April 2007)

**Recommended reading**

McCabe MT, Brandes JC, Vertino PM. Cancer DNA methylation: molecular mechanisms and clinical implications. Clin Cancer Res. 2009 Jun 15;15(12):3927-37.

Gerda Egger, Gangning Liang, Ana Aparicio & Peter A. Jones; Epigenetics in Human Disease and Prospects for Epigenetic Therapy. *Nature* **429**, 457-463 (27 May 2004)

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Discussion- Global Inequalities: Is epigenetics the strongest link?**

**Rachel Kelly**

By the end of this session you should be able to:

* Understand the concept of epigenetics
* Appreciate the role of epigenetics in the future of epidemiology, including the potential advantages and disadvantages
* Discuss the heritability of epigenetic changes
* Argue for and against the importance of epigenetics in understanding global inequalities

Overview

Epigenetics is a rapidly expanding field which promises to vastly improve our understanding of the disease process by considering the interplay between genetic and environmental factors. In particular it has been suggested it may help us to explain the biological mechanisms underpinning the health disparities between social classes. Although the concept of epigenetics has been around for many years it is still a developing field, and while there are high expectations for potential breakthroughs there is still much to be learnt. In this session we will be discussing the development of the field of epigenetics and how this impacts on the field of epidemiology. We will consider the advantages and disadvantages of epigenetic studies with a focus on the potential of epigenetics to explain global health inequalities.

Essential reading

Ebrahim S. Epigenetics: the next big thing. International Journal of epidemiology 2012; 41:1-3

Recommended reading

Heijmans B. The seven plagues of epigenetic epidemiology. International Journal of epidemiology 2012; 41: 74-78

McGuiness D. Socioeconomic status is associated with epigenetic differences in the pSoBid cohort. International Journal of Epidemiology 2012;41:151-160

Borghol N. Associations of early life socio-economic position in adult DNA methylation. International Journal of Epidemiology 2012;41:62-74

Thayer Z. Biological memories of past environments- epigenetic pathways to health disparities. Epigenetics 2011 6:7 798-803

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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Tuesday 27 November

**Student led seminar – The long term consequences of famine in the Netherlands in WWII**

**Rachel Kelly**

By the end of this session you should be able to:

* Understand how prenatal factors can influence the epigenome of adults
* Lead/participate in a discussion about the long term effects of the Dutch famine
* Explain how the findings from studies of the Dutch famine and other famines can serve as a model to study other prenatal conditions
* Consider the global implications of the findings of studies of historical famines

Adverse environmental conditions during development can have lasting effects on metabolic pathways and physiology, thereby influencing future susceptibility to chronic diseases. Recently prenatal environmental conditions have been proven to be associated with long term changes in the human genome. This has been studied most effectively using historical famines which provide a quasi-environmental setting in which the long term consequences of adverse prenatal conditions can be studied in humans. In particular studies of the Dutch famine from 1944-45 have found an increased risk of schizophrenia and cardiovascular disease among those who were exposed to the famine in utero. Epigenetic changes induced by such environmental factors provide a plausible molecular mechanism for this relationship. In this student led session we will be discussing the findings of the studies into the Dutch famine, and considering the long term global consequences of these finding given the current food shortages in many regions through the world.

Essential reading

Heijmans B. Persistent epigenetic differences associated with prenatal exposure to famine in humans. Proc Natl Acad Sci USA 2008. 405 (44) 17046-9

Recommended reading

Lumey L. Cohort Profile: The Dutch Hunger Winter Families study. International Journal of Epidemiology 2007; 36 (6) 1196-1204

Lumey L. Prenatal famine and adult health. Annu Rev Public Health 2011. 32; 237-62

Ahmed F. Epigenetics-Tales of adversity. Nature 2010. 468; s20

Heijmans B. The epigenome- Archive of the prenatal environment. Epigenetics 2009 4:8; 526-531

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Wednesday 28 November**

**Understanding Epigenetics and Diabetes through Migration**

**John Chambers**

Details of this session to follow

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Thursday 29 November**

Marjo-Riitta Jarvelin: Cardiovascular disease epidemiology and biomarkers for CVD

**Session outline / leaning outcomes:**

1. Cardiovascular diseases (CVD) and their intermediate endophenotypes – some definitions and diagnostic points
2. Main causes of death from CVD perspective – globally and in selected regions
3. Trends in CVD deaths and disease
4. Global burden of CVD
5. Determinants, causes and intermediate endophenotypes of CVD
6. Life-course perspective in CVD mortality and morbidity

Introduction:

CVD is the leading cause of death globally as the estimated 17.5 million CVD deaths e.g. in 2005 represented 30% of all deaths worldwide. In Europe, CVD cause about 4.4 million deaths and more than 1.9 million deaths in the European Union (EU) every year accounting for 49% of all deaths in Europe and 42% of all deaths in the EU, respectively. CVD are the main cause of death in women in all European countries and in men in all except France and San Marino. Comparing Western vs. Eastern Europe, over the past 30 years mortality from CVD has been declining steadily in the developed economies of Western Europe. However. in some Eastern European newly independent states there has been an increasing trend. According to the WHO report of 2004, non-communicable diseases are expected to account for just above 75% of all deaths in 2030 worldwide and global CVD deaths will rise from 17.1 million in 2004 to 23.4 million in 2030.

Essential reading:

Daar, A., et al., *Grand challenges in chronic non-communicable diseases.* Nature, 2007. **450**(7169): p. 494-6.

Neil, H.A., et al., *Estimated 10-year cardiovascular risk in a British population: results of a national screening project.* Int J Clin Pract, 2008. **62**(9): p. 1322-31.

Deckert, A., et al., *Time trends in cardiovascular disease mortality in Russia and Germany from 1980 to 2007 – are there migration effects?* BMC Public Health, 2010. **10**: p. 488

**Student led seminar**

Students will be split into 2 groups as below, one of which is expected to present the following paper:

Neil, H.A., et al., *Estimated 10-year cardiovascular risk in a British population: results of a national screening project.* Int J Clin Pract, 2008. **62**(9): p. 1322-31.

The presentation will last approximately 20 minutes followed by a discussion and probably best presented on power point. To maximize educational benefit, all participants should read the suggested paper in advance.

Group Allocations for ICA

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|  | **Surname** | **First name** | **Email** |
| **Group 1** | Boussabaine | Emaan | emaan.boussabaine09@imperial.ac.uk |
| Chong | Amelia | amelia.chong10@imperial.ac.uk |
| de Rosa | Eleanor Jane | eleanor.de-rosa11@imperial.ac.uk |
| Emanuwa | Emudiaga Jonathan Ewan | emudiaga.emanuwa12@imperial.ac.uk |
| Wynberg | Elke | elke.wynberg09@imperial.ac.uk |
|  | Forshaw | Jennifer Anne | jennifer.forshaw12@imperial.ac.uk |
| Grahame | Emma | emma.grahame12@imperial.ac.uk |
| Johari | Nur | nur.johari10@imperial.ac.uk |
| Karnani | Nisha | nisha.karnani08@imperial.ac.uk |
| Arnold | Thomas | thomas.arnold09@imperial.ac.uk |
|  | Keech | Maximillian Morgan Kinder | maximillian.keech09@imperial.ac.uk |
| Kim | Sung-Hee | sung-hee.kim08@imperial.ac.uk |
| Lee | Samuel | samuel.lee09@imperial.ac.uk |
| Lee | Yin Yin | yin.lee09@imperial.ac.uk |
| Lewis | Marissa | marissa.lewis09@imperial.ac.uk |
| **Group 2** | Low | Jen Mae | jen.low09@imperial.ac.uk |
| McGown | Patrick James | patrick.mcgown09@imperial.ac.uk |
| Ologunde | Rele Matthew Adedeji | rele.ologunde09@imperial.ac.uk |
| Patel | Purvi Nimishkumar | purvi.patel09@imperial.ac.uk |
| Prager | Latreille Gabrielle Mary | latreille.prager09@imperial.ac.uk |
| Zahid | Shereen Sanaa | shereen.zahid09@imperial.ac.uk |
| Ramjan | Rubeena | rubeena.ramjan09@imperial.ac.uk |
| Sadasivan | Luvarnia | luvarnia.sadasivan09@imperial.ac.uk |
| Stewart | Eleanor Margaret | eleanor.stewart09@imperial.ac.uk |
| Yasin | Maryiam | maryiam.yasin09@imperial.ac.uk |
| Yeats | James | james.yeats12@imperial.ac.uk |

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Queenie Chan - Practical session - Case-Control Study on Cardiovascular Disease**

The lecture will provide the skills necessary to interpret and critically appraise findings on a case-control study on risk factors and myocardial infarction (MI).

Essential Reading - Teo, Qunpuu, et al Lancet 2006; 368:647-658

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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Friday 30 November

Lesley Regan: Lecture and seminar - Global Maternal Health and Mortality

**Learning outcomes**

Develop an in-depth knowledge and appreciation of issues relating to the practice of maternal and child health in developing countries. This lecture addresses global maternal health problems and their underlying social, cultural and political causes. You will also explore a range of primary health care approaches, including new interventions and strategies.

At the end of this lecture you should be able to :

1. Demonstrate an understanding of global, national and local factors impacting on the reproductive health of women in developing countries
2. have outlined the magnitude, patterns and causes of maternal morbidity and mortality in developing countries
3. have developed an understanding of antenatal and obstetric causes of public health importance, and of current intervention strategies
4. have critically appraised principles of programme development within the context of specific maternal and child health care issues.

**Essential Reading**

Starrs AM (2006). Safe motherhood initiative: 20 years and counting. Lancet 368,(9542,30):1130-1132

**Recommended reading**

<http://www.thelancet.com/series/maternal-survival>

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Week 4: Tobacco, occupation and other exposures (methods: case-control studies)**

Monday 3rd December

Toby Athersuch: “The Era of Chemical Hazards”

**Outline**

The content of this topic will:

- Discuss how industrial development has influenced the type of chemical hazards that are present in the natural, built and working environment.

- Highlight key examples of environmental and occupational chemical exposures and describe their relationship with disease.

- Consider the efforts that have been made worldwide to understand and control chemical hazards to reduce the burden of disease.

**Learning Outcomes**

By then end of the learning activities in this session you will:

- Be able to describe how the industrial revolution and continued industrialisation around the world has influenced chemical hazards and exposures.

- Have knowledge of several examples of chemical hazards that exist in the natural, built, and occupational environment that have an impact on health, and describe efforts that have been made to limit this impact.

- Be able to describe recent EU legislation that is aimed at characterising chemical hazards, and comment on the limitations that exist in the implementation of this legislation.

**Articles to be read before the session (to be discussed as a group in the seminar):**

Hartung and Rovida. 2009. Chemical regulators have overreached. *Nature*. 460 1081-1082.

Turley. 2010. Reach deadline passes, registrations fall short of predictions.

*Online:* http://www.rsc.org/chemistryworld/News/2010/December/01121003.asp

Editorial. 2011. REACH further. *Nature.* 475, 139–140

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Discussion and reading of Lancet paper on Diesel industry**

**P Vineis**

**Essential reading**

Furlow B (2012). Industry group “threatens” journals to delay publications. Lancet Oncol. 2012 Apr;13(4):337. Epub 2012. <http://download.thelancet.com/flatcontentassets/pdfs/S1470204512700943.pdf>

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Disaster Risk Management: When, How, Why?**

**Ashton Barnett-Vanes**

By the end of this session you should be able to:

1. To outline and describe the disaster cycle

2. To appreciate the importance of disaster risk reduction and management

3. To recall some of the important documents in this area

4. To appreciate the importance of Emergency Risk Management in the context of disasters with examples.

5. To recognise the on-going developments in DRR as we move towards 2015

In 2011, 332 disasters from natural hazards were recorded in 101 countries, causing more than 30 770 deaths, and affecting over 244 million people. Recorded damages amounted to more than US$ 366.1 billion. Reports of extreme weather events and disasters have more than tripled since the 1960s and scientists expect such events to become more frequent and severe in the future due to climate change in many parts of the world.

The Yokohama Strategy adopted in 1994 provided landmark guidance on reducing disaster risk and the impacts of disasters. This was built upon by the Hyogo-framework for action (HFA) 2005-2015, the strategic goals of which were to;

1) Foster the integration of disaster risk reduction into sustainable development policies and planning.

2) Facilitate the development and strengthening of institutions, mechanisms and capacities to build resilience to hazards.

3) Promote the systematic incorporation of risk reduction approaches into the implementation of emergency preparedness.

The HFA is soon to expire and on-going dialogues are helping to shape the next 10 years of global DRR. As this goes to print, the threat of extreme weather events to societies across the globe is as evident now as ever, with Hurricane ‘Sandy’ causing damage to one of the world’s most populous cities – New York.

This lecture will outline the concept of the ‘Disaster Cycle’, and clarify some key terminologies in the area. The concepts of ‘disaster risk reduction’ and ‘emergency risk management’ will be introduced along with the guiding documents in the field. Examples of these concepts in the context of disasters will be explored and finally the future developments in this field will be discussed.

Essential reading

Risk reduction and Emergency Preparedness WHO six-year strategy for the health sector and community capacity development. WHO 2007.

<http://www.who.int/hac/techguidance/preparedness/emergency_preparedness_eng.pdf>

Recommended reading

Emergencies Section - Health & Climate Atlas WHO/WMO

<http://www.who.int/globalchange/publications/atlas/report/en/index.html>

Wednesday 5 December

**Multiple pathways from the built environment to health**

**Audrey De Nazelle**

By the end of this session you should be able to:

- Identify some of the greatest global public health concerns potentially affected by city planning policies and practices

- Understand the multiple and interrelated ways in which the urban environment affects health

- Recognize risk trade-offs in developing health-promoting built environments

**Overview**

This session will provide a global perspective on how city and community designs may affect health, with a particular focus on active transportation strategies. We will identify the greatest public health challenges which can be addressed through better planning practices, such as obesity, exposure to urban air pollution, and climate change. Theoretical and empirical evidence of links between the built environment, behaviours, exposures and health will be reviewed. Topics will include for example neighbourhood design, physical activity, social interaction, travel behaviour, traffic injuries, air pollution exposure, climate change, greenspace, and health impact of the various behaviours and exposures. In the context of the growing concern over the pandemic of obesity and physical inactivity we will make the case for comprehensive approaches to health and planning decision-making. In particular, we will consider the need to evaluate unintended consequences of planning policies, such as physical activity in polluted environments. Research and policy frameworks for assessing and addressing health and the built environment will be discussed.

**Essential reading**

de Nazelle A, Nieuwenhuijsen MJ, Antó JM, Brauer M, Briggs D, Braun-Fahrlander C, et al. Improving health through policies that promote active travel: A review of evidence to support integrated health impact assessment. Environment International. 2011;37(4):766-77.

**Recommended reading**

Frumkin H. Urban sprawl and public health. Public Health Rep. 2002 May-Jun;117(3):201-17.

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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Thursday 6 December

**Tobacco as a major global health issue – Ben Hawkins (LSHTM)**

**Session Overview**

This session examined the global tobacco pandemic and its impact on global health. The lecture focuses on the attempts by Transnational Tobacco Corporations (TTCs) to resist tobacco control measures aimed at addressing tobacco related mortality and morbidity. It will examine the research conducted on TTC activities as a result of documents released during class action lawsuits in the USA in the 1990s. We will focus on the different stages of the tobacco pandemic, the interventions designed to counter it and the shift in TTC strategy which resulted from this. The lecture examines the lobbying strategies employed by TTCs to influence policy at the national and trans-national levels, including their use of international trade agreements to prevent national governments from introducing restrictions on their ability to sell and market their products (e.g. through then introduction of plain packaging). We focus also on attempts by corporate actors to circumnavigate government interventions to influence the price of cigarettes through taxation through their complicity in smuggling and contraband activity. The final part of the lecture examines the FCTC and tobacco corporations response to this, using Corporate Social Responsibility (CSR) initiatives as a means of avoiding further regulation.

**Learning Outcomes**

By the end of the session, you will have:

* been introduced to the structure of TTCs;
* examined their marketing and lobbying strategies;
* assessed their attempts to avoid regulation and their complicity through various measures.

**Essential Reading**

**Holden, C and Lee, K. Corporate power and social policy: the political economy of the transnational tobacco companies. Global Social Policy 2009; 9(3): 328–354.**

This article focuses on the economic and political interests of global tobacco corporations. It begins by setting out a useful framework for analysing the political influence of corporate actors in terms of structure and agency power. This may prove a useful tool for students when analysing the activities of corporations in other sectors. It goes on to offer a useful overview of the emergence and consolidation of trans-national tobacco corporations. The latter part of the article examines their political interests and influence through the lens of the structure-agency model. In reading the article students should focus on the different activities engaged in by TTCs in order to influence policy and try to assess the effectiveness of these in influencing policy. How effective are they in achieving their goals and why do they employ the approach they do? In addition, students should evaluate the values of the structure agency framework for analysing these issues. How could this approach be applied to other policy issues and industries?

**Further Reading**

**Lopez, A et al. A descriptive model of the cigarette epidemic in developed countries. Tob. Control 1994; 3: 242-247.**

This article charts the development of the tobacco epidemic in developed countries over a period of more than 100 years. In so doing it demonstrates the effectiveness of tobacco control measures in countering the population level health impact of widespread tobacco use and demonstrates the challenges faced by developing countries in countering the health impact of tobacco.

**Holden, C et al. Trade policy, health and corporate influence: British American Tobacco and China’s accession to the World Trade Organisation. Int J Health Serv 2010; 40 (3): 421–441.**

This articles examines the influence of Transnational Tobacco Corporations (TTCs) attempts to influence negotiations over China’s accession to the World Trade Organization through a range of mechanisms, including personal access of BAT employees and lobbyists to policymakers; employment of former civil servants from key U.K. government departments; use of organized business groups and participation in forums organized by Chatham House. As such it provides an important insight into the global reach of TTC and the variety of over and covert tactics employed by them to pursue their interests. It demonstrates also that the political forums targeted by the TTCs and the lobbying activities they employ extend beyond the level of the state and into the international sphere. In addition, the article examines the interaction between corporate and state actors, particularly the US government, during the negotiations. When reading the article students should consider the extent to which the interests of the US government (and the European Commission) coincided with those of the TTCs. They should ask themselves when reading this article what role governments ought to play in representing corporate interests in international trade negotiations and other forums? Should the role they play differ when dealing with tobacco as opposed to other, arguably less harmful products?

* **WHO Report on the Global Tobacco Epidemic – The MPOWER package (2008)**
* Available at: <http://www.who.int/tobacco/mpower/en/index.html>

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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Karin van Veldhoven: **Student- led seminar: asbestos as a world-wide occupational and environmental carcinogenic exposure**

**Outline**

The students will prepare for the student led seminar by reading the paper by Magnani et al. They will be asked to discuss the paper and as a guideline we will make sure that the following points have been addressed:

* Sources of non-occupational exposure
* Why a case-control study
* Who are selected as cases and who are selected as controls and what are the implications of this?
* Methods (implications)
* Results (descriptive statistics and outcomes), discussion, conclusion, implications
* Potential sources of bias

**Essential Reading**

Magnani C, Agudo A, González CA, Andrion A, Calleja A, Chellini E, Dalmasso P, Escolar A, Hernandez S, Ivaldi C, Mirabelli D, Ramirez J, Turuguet D, Usel M, Terracini B. Multicentric study on malignant pleural mesothelioma and non-occupational exposure to asbestos. Br J Cancer. 2000 Jul;83(1):104-11.

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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Friday 7 December

**The global burden of Alzheimer’s disease and other late-onset dementias**

**Lefkos Middleton**

Learning outcomes

* Ageing of the world’s population and effects on age related diseases, such as dementias
* Known risk factors of Alzheimer’s disease and other dementias.
* Methodological difficulties in conducting epidemiological studies in neurodegenerative diseases such as dementias around the world.
* Prevention strategies for dementias.

Overview

The World Health Organization (WHO) reports a 223% expected increase from 1970 to 2025 in adults age 60 and above. By 2025, there will be 1.2 billion people in this age group worldwide and, by the year 2047, the number of older people aged 60 years and older world-wide is expected to exceed the number of children (younger than 15 years). Late-onset dementias are chronic, progressive and debilitating disorders, mainly characterized by cognitive and memory decline. The Delphi consensus report (Ferri et al, 2005) estimated that there were 24.3 million dementia sufferers in the world in 2001 and predicted that this number would rise to 42.3 million in 2020 and exceed 81.1 million by 2040, as a result of demographic changes and longer life expectancies. Alzheimer’s disease (AD) is the commonest form of dementia, accounting for >70% of all dementia cases. AD will similarly increase and by 2050 the number of patients with AD is projected to more than quadruple. Fratiglioni et al (1999) showed that dementia prevalence ranged from 0.3 to 1% in ages 60-64, increasing to 42.3-68.3% among those aged 95 and older; incidence rates have been shown to increase exponentially with age, particularly in the seventh and eighth decades of life, varying from 0.8-4.0 per 1,000 person years in ages 60-64 to 49.8-135.7 per 1,000 person years in those 95 and older. Estimates of geographic and ethnic variations of incidence rates have given somewhat contradictory results. However, a recent systematic review of peer-review literature on the rate of increase of the risk of AD with advancing age showed that variations between different populations ethnic groups and gender are not statistically significant (Ziegler-Graham et al, 2008). There are no effective disease modifying or preventative therapies and the only available treatment is symptomatic. In recent years, several modifiable risk factors for late-life, sporadic dementia and AD have been identified through observational studies. Many are related to vascular health and include hypertension, obesity, type 2 diabetes mellitus (T2DM), and cardiovascular diseases (CVD). With obesity, a cornerstone of vascular risk becoming pandemic, increases in dementia occurrence are projected over and above those due to population ageing. However, vascular risk factors are modifiable, and there is increasing evidence that other modifiable factors, such as higher levels of intellectual, social and physical activities, as well as Mediterranean-type diet, may be protective. Depression (also associated with stress, obesity, and CVD) may be a risk factor and/or prodromal feature of dementia. Age and genetic susceptibility are important, albeit non modifiable, risk factors. Whilst the rare genetic cases typically occur earlier in life, recent studies have shown that the “sporadic” form of late-onset AD has a heritability of approximately 70%. Several risk genes have been identified for AD, with APOE still the most validated susceptibility gene.

Essential Reading

* [Ballard C](http://www.ncbi.nlm.nih.gov/pubmed?term=Ballard%20C%5BAuthor%5D&cauthor=true&cauthor_uid=21371747), [Gauthier S](http://www.ncbi.nlm.nih.gov/pubmed?term=Gauthier%20S%5BAuthor%5D&cauthor=true&cauthor_uid=21371747), [Corbett A](http://www.ncbi.nlm.nih.gov/pubmed?term=Corbett%20A%5BAuthor%5D&cauthor=true&cauthor_uid=21371747), [Brayne C](http://www.ncbi.nlm.nih.gov/pubmed?term=Brayne%20C%5BAuthor%5D&cauthor=true&cauthor_uid=21371747), [Aarsland D](http://www.ncbi.nlm.nih.gov/pubmed?term=Aarsland%20D%5BAuthor%5D&cauthor=true&cauthor_uid=21371747), [Jones E](http://www.ncbi.nlm.nih.gov/pubmed?term=Jones%20E%5BAuthor%5D&cauthor=true&cauthor_uid=21371747).. Alzheimer’s disease. [Lancet.](http://www.ncbi.nlm.nih.gov/pubmed/21371747) 2011 Mar 19;377(9770):1019-31

Suggested Reading

* Brookmeyer R, Gray S, Kawas C. Projections of Alzheimer’s disease in the United States and the public health impact of delaying disease onset. Am J Public Health 1998; 88: 1337–1342.
* Ferri CP, Prince M, Brayne C, Brodaty H, Fratiglioni L, Ganguli M, Hall K, Hasegawa K, Hendrie H, Huang Y, et al. 2005. Global prevalence of dementia: A Delphi consensus study. Lancet 366: 2112–2117.Fratiglioni L, De Ronchi D, Aguero-Torres H. World-wide prevalence and incidence of dementia. Drugs Aging. 1999;15:365-375
* Gustafson D, Rothenberg E, Blennow K, Steen B, Skoog I. 2003. An 18-year follow-up of overweight and risk of Alzheimer disease. Arch Intern Med 163: 1524–1528.
* Mayeux R and Stern Y. Epidemiology of Alzheimer’s disease. [Cold Spring Harb Perspect Med.](http://www.ncbi.nlm.nih.gov/pubmed/22908189) 2012 Aug 1;2(8). pii: a006239. doi: 0.1101/cshperspect.a006239.
* Scarmeas N, Luchsinger JA, Schupf N, Brickman AM, Cosentino S, Tang MX, Stern Y. 2009. Physical activity, diet, and risk of Alzheimer disease. JAMA 302: 627–637
* Ziegler-Graham K, Brookmeyer R, Arrighi HM. World-wide variation in the doubling time of Alzheimer’s disease incidence rates. Alzheimer’s & Dementia 2008;4:316-323

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Asthma as a major global public health problem**

Neil Pearce

London School of Hygiene and Tropical Medicine

Until recently, most studies had reported that asthma prevalence has increased in recent decades. The best indication of what is now happening globally will be provided by Phase III of the ISAAC study. Some individual ISAAC centres in Western countries, as well as several studies in adults, have already reported either no increase, or even a decrease, in asthma prevalence over the last ten years. “Established” risk factors for asthma cannot account for the global prevalence increases, or the international patterns, or the recent declines in prevalence in some Western countries. It seems that the “package” of changes in the intrauterine and infant environment occurring with “Westernization” is causing an increased susceptibility to the development of asthma and/or allergy. The “package” includes changes in maternal diet, increased fetal growth, smaller family size, reduced infant infections and increased use of antibiotics and paracetamol, and immunization, all of which have been (inconsistently) associated with an increased risk of childhood asthma, but none of which can alone explain the increases in prevalence. It is likely that the “package” is more than the sum of its parts, and that these social and environmental changes are all pushing our immune systems in the same direction. To know what that direction is, requires that better etiologic theories of asthma are developed to replace the allergen theory, or to incorporate it as a special case. Global comparisons of asthma prevalence, and assessment of time trends, will continue to play a major role in this process.

**Essential reading**

N.Pearce, J.Douwes, The global epidemiology of asthma in children STATE OF THE ART SERIES, **INT J TUBERC LUNG DIS 10(2):125–132**

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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**Tuesday 11 December**

Tuesday 11 December

**Corporate Actors Lecture**

Ben Hawkins

**Session Overview**

The aim of this session is to introduce students to the idea of Trans-National Corporations (TNCs) as political actors and the impact they have on global health policy.The first part of the session will focus on the nature of a corporation and will chart the emergence of Transnational Corporations. It will be argue that the economic and political power of corporations make them important actors in the policy process, who follow distinct political strategies designed to obtain specific politcal objectives. It will examine the role that TNCs play in the political process in both the domestic and international spheres. We examine how the global nature of these corporations differentiates them from domestic actors and the ways in which this impacts on the political power they can wield.The second part of the lecture examines some specific examples of the role of corporations in global health.We will look at the ways in which corporate actors influence governance through public regulation, co-regulation and self-regulation by private standards.In so doing, we shall look at case studies if the WTO TRIPS agreement, The UN Global Compact and WHO Framework Convention on Tobacco Control (FCTC).

**Learning Outcomes**

By the end of the session, you will have:

* been introduced to the structure and workings of a TNC;
* examined the various ways in which TNCs engage in the political process;
* understood their relevance to global health;
* critically engaged with specific examples of TNC activity in the field of global health.

**Essential Reading**

**Bond, L, Daube, M and Chikritzhs, T. Selling addictions: similarities in approaches between big tobacco and big booze. Australasian Medical Journal 2010; 3 (6): 325-332.**

This article examines the similarities in approach between the global alcohol and tobacco industries by focusing on corporations active in both the tobacco and alcohol markets. It draws parallels between the framing of debates and the influencing tactics employed in each sector. Furthermore, it draws on the internal communications of these corporations to examine the extent to which the lobbying strategy employed by alcohol industry actors was specifically informed by the experiences of the tobacco industry. In reading the article students are encouraged to reflect on the similarities and differences between the two industries. In what ways are the pressures and calls for regulation faced by each industry the same and how do they differ? What differences are there in approach to the policy process and what may account for this? Finally students should consider the effects of industry lobbying on the policy process and how this impacts on public policy and public health more broadly.

In addition, students should watch the film ***The Corporation*** prior to the lecture. The entire film is available on its own (legal and official) You Tube page:

<http://www.youtube.com/view_play_list?p=FA50FBC214A6CE87>

**Further Reading**

**Jernigan, D..The global alcohol industry: an overview. Addiction 2008; 104 (Suppl. 1): 6–12.**

This article was chosen as it offers and overview of the structure and interests of the global alcohol industry. It should be read therefore as a supplement to the core reading set out above which focus on the links between the tobacco and alcohol industries. Furthermore, the article looks to explain the development and characteristics of the industry within the context of globalisation. It argues that industry activity is shaped by the trans-national character of the largest corporations which control many of the best selling alcohol brands in the market. When reading the article, students should attempt to understand the policy priorities of these corporations and the rationale they have for adopting the positions they do. This is essential to understanding the direct and indirect ways in which corporations articulate their interests to regulators and in order to shape policy. One mechanism through which industry actors engage in the policy arena is through social aspects organisations (SAOs) which are discussed here. Understanding these issues allows us to question whether policy as it currently stands privileges certain powerful actors over other interests and to analyse how further regulation of the industry may impact on the alcohol corporations.

**Munro, G. An addiction agency’s collaboration with drinks industry: Moo Joose as a case study. Addiction 2004; 99: 1370–1374.**

This article presents a case study of how corporate actors have sought to influence the regulation of alcoholic beverages in Australia through the mechanism of a SAO. As such it follows on and complements the issues covered in the previous article. When reading the article students are encourages to consider the function played by SAOs and whether they should be involved in the policy making process. Are the criticisms levelled at their involvement well founded or can they make a positive contribution to regulating the industry effectively? What are the consequences of excluding these organisations from the policy process? What issues does this case study raise beyond the remit of SAOs?

**Seminar Role Play: US-Indonesia WTO Dispute**

Background

Ninety percent of world trade is regulated by the World Trade Organisation (WTO) which oversees the various treaties and rules regarding the regulation of international trade through national tariff systems and other measures. There are a number of examples of trade disputes arising from efforts to protect public health. Trade in goods and services can be restricted by various measures if they are believed to pose a risk to public health, but this must be based on sound scientific evidence and should be as least trade restrictive as possible. Evidence used must be of certain scientific standards, and the applicability of the “precautionary principle” (potential risk/harm to health versus proven risk/harm to health) as a basis for limiting trade remains contested. A member state of the WTO can challenge the imposition of such measures through the Disputes Settlement Body (DSB) if it feels there is evidence of unfair trade practices at play.

The US Family Smoking Prevention and Tobacco Control Act became law in June 2009. From September of that year, the Act bans all flavoured cigarettes except menthol cigarettes. The intention of the measure is to protect teenagers and children from smoking, since it is believed that they are more likely to be attracted to flavoured cigarettes. In August 2009, Indonesia circulated a communication to the WTO Committee on Technical Barriers to Trade, questioning why menthol cigarettes had been exempted from the law when clove cigarettes had not, and on 9th June 2010 it requested the establishment of a disputes panel. The panel has not yet reported its findings.

Clove cigarettes, kreteks, are the main form of tobacco consumption in Indonesia, and the country is the largest exporter of such cigarettes to the US and other countries. Whilst most clove cigarettes smoked in the US are imported, most menthol cigarettes are produced domestically. Menthol is the most popular flavoured cigarette in the US, with a large market among African Americans. Indonesia argues that the different treatment of clove and menthol cigarettes is discriminatory and violates several WTO agreements, including the General Agreement on Tariffs and Trade (GATT), the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), and the Agreement on Technical Barriers to Trade (TBT).

Task

This task takes the form of a role-play based upon the presentation of the respective cases of Indonesia and the USA to the WTO disputes panel. You, along with your fellow group members, will act as one of the legal representatives to the panel of the WTO DSB. The class will be divided into 3 groups. **Group 1** will present the case for Indonesia, arguing that the Family Smoking and Tobacco Control Act is discriminatory and that importation and sale of clove cigarettes in the US should be permitted. **Group 2** will present the position of the US government, arguing that the Act is not discriminatory but is a legitimate public health measure. **Group 3** will be play the role of the WTO Dispute Resolution Panel. The members of the panel will hear the case and make a ruling based on the strengths of the arguments (NB: votes should be based on group performance and not your own personal views).

Rules and Procedure

* Each legal team will be permitted up to 30 minutes to present their case as they wish. You may present evidence, cite scientific data, and/or call expert witnesses. The seminar leader will act as the chair of the panel and keep speakers strictly to time. (two teams x 30 minutes = 60 minutes total)
* After the two teams have presented their cases there will be a period for questions from the panel (remainder of the class). (20 minutes maximum)
* Each team will then be permitted 5 minutes to summarise their case. (two teams x 5 = 10 minutes)
* The members of the panel (Group 3) will then have an opportunity to discuss among themselves the pros and cons of the case. Members of Groups 1 and 2 may not speak during this part of the seminar. (10 minutes maximum)
* The members of the panel (Group 3) should elect a chair who will deliver their judgement (in collaboration with other group members). Group 3 will then make a decision by a vote on the case (if there is a draw the Chair will cast the final vote) and explain their decision to the representatives of the US and Indonesia.

Guidance and Preparation

Your group will act as the legal representation for either Indonesia or the US at the DSB/WTO. You will have a maximum of 30 minutes to present your case orally to the DSB panel. Remember that members of the panel are not public health or scientific experts but are trade law specialists. You should present the merits of your case accordingly. You might also wish to anticipate the arguments of the opposing group.

Please meet with your group to plan your presentation. All members of the group are expected to be involved in preparing and/or presenting. Individual team members should also coordinate in order to avoid overlap or repetition. The overall content of the presentations of the speakers should be planned together to optimise final impact.

You may wish to consider the following questions in preparing your case:

* What key arguments are there for or against the ban on flavoured cigarettes, the inclusion of cloves in this, and/or the exemption of menthol?
* Are clove cigarettes and menthol cigarettes comparable or like products?
* What scientific evidence can your group use to underpin your case?
* What opinions of recognised and respected organisations and individuals can you cite to support your case?

Purpose

The seminar seeks to demonstrate how international trade rules can be an important factor in determining what measures can be permitted to protect and promote health. Through an examination of this case, you should gain a better understanding of how trade policy and social policy may intersect and sometimes come into conflict, and how such disputes are resolved through the machinery of the WTO.

Please see the group allocation below for this seminar:

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| **Group** | **Surname** | **First name** |
| 1 | Nur | Johari |
| 1 | Yasin | Maryiam |
| 1 | de Rosa | Eleanor Jane |  |  |
| 1 | Prager | Latreille Gabrielle Mary |
| 1 | Ramjan | Rubeena |
| 1 | Lee | Samuel |  |  |
| 1 | Ologunde | Rele Matthew Adedeji |
| 1 | Forshaw | Jennifer Anne |
| 1 | Low | Jen Mae |
| 2 | Grahame | Emma |
| 2 | Patel | Alvin |
| 2 | McGown | Patrick James |
| 2 | Arnold | Jake |  |  |
| 2 | Patel | Purvi Nimishkumar |
| 2 | Feyereisen | Laura |
| 2 | Keech | Max |
| 2 | Sadasivan | Luvarnia |
| 2 | Yeats | James |  |  |
| 2 | Wynberg | Elke |
| 3 | Kim | Sung-Hee |
| 3 | Zahid | Shereen Sanaa |
| 3 | Karnani | Nisha |  |  |
| 3 | Emanuwa | Emudiaga Jonathan Ewan |
| 3 | Lewis | Marissa |
| 3 | Boussabaine | Emaan |
| 3 | Lee | Yin Yin |
| 3 | Rae | Sophie |
| 3 | Wynberg | Elke |  |  |
| 3 | Stewart | Eleanor Margaret |

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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**One useful learning point I would like to remember from this session:**

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**Water salinity in Bangladesh: impacts of Climate Change - Aneire Khan**

The lecture will cover:

* Climate change and sea-level rise impacts on water security in Bangladesh
* The health consequences due to rising salinity, mainly among vulnerable coastal groups
* A case-control study investigating the relationship between high salinity consumption and blood pressure
* Precautions and potential adaptation measures

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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**One useful learning point I would like to remember from this session:**

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**Water quality, quantity and climate change**

**Pauline Scheelbeek**

The first part of the lecture will cover:

* Impact of climate change on water on sea level rise and flooding
* Effects of flood on water quality
* Effects of flood on water quantity
* Other water related health effects during/after flooding

At the end of the session students will have a better insight in:

• How climate change affects water sources all around the world

• The public health problems associated with contaminated and damaged water sources

• Control mechanisms to minimize the impact of climate change on water associated diseases

The Intergovernmental Panel on Climate Change (IPCC) reports to have high confidence that the rate of sea level rise has increased over the past century. ([IPCC 2008](#_ENREF_7)). Rise of sea level is expected to result in higher tidal waves and more frequent floods in coastal areas.([Woodworth and Blackman 2004](#_ENREF_21)). These floods can considerable deteriorate the drinking water quality and therewith influence public health in coastal areas.

Bacteriological and chemical contamination could deteriorate water quality after floods. Flood-related bacteriological contamination may lead to infectious disease outbreaks caused by bacteria such as *Vibrio cholerae*, *Escherichia coli*, *Salmonella enterica* and *Cryptosporidium parvum*. (Watson, Gayer et al. 2007). Pregnant women have an altered susceptibility to and severity of infectious diseases. (Jamieson, Theiler et al. 2006) Diarrhoeal diseases, for example, are the 3rd leading cause of maternal death in developing countries (WHO 2009). The magnitude and type of chemical contamination of drinking water sources due to intrusion of sea water highly depends on the presence of chemicals in coastal areas.

Another challenge associated with climate change is the increasing water salinity in coastal areas (Khan *et al,* 2011). High intake of sodium through water, might lead to high blood pressure and in pregnant women is could cause gestational hypertension and/or (pre)eclampsia ([Sibai, Dekker et al. 2005](#_ENREF_12)).

When conventional water sources form a health hazard (after floods), water treatment and/or the use of alternative water sources may be a temporary solution to provide water to the population in affected areas.

Common treatment methods include chlorination, solar disinfection, solar distillation and filtration, sometimes in combination with coagulation. Common alternative sources that are used include rainwater harvesting devices, deep wells, and springs.

Essential reading

Delpla I, Jung AV, Baures E, Clement M, Thomas O. Impacts of climate change on surface water quality in relation to drinking water production. Environment International Volume 35, Issue 8, November 2009, Pages 1225–1233

WHO/DFID Vision 2030: The resilience of water supply and sanitation in the face of climate change. Summary and Policy Implications 2009

<http://www.who.int/water_sanitation_health/publications/9789241598422/en/>

Recommended reading

Meuleman AF, Cirkel G, Zwolsman GJ.When climate change is a fact! Adaptive strategies for drinking water production in a changing natural environment. Water Sci Technol. 2007;56(4):137-44.

Delpla I, Baures E, Jung AV, Clement M, Thomas O. Issues of drinking water quality of small scale water services towards climate change. Water Sci Technol. 2011;63(2):227-32.

Cann KF, Thomas DR, Salmon RL, Wyn-Jones AP, Kay D. Extreme water-related weather events and waterborne disease. Epidemiol Infect. 2012 Aug 9:1-16.

Khan AE, Ireson A, Kovats S, Mojumder SK, Khusru A, Rahman A, Vineis P. Drinking Water Salinity and Maternal Health in Coastal Bangladesh: Implications of Climate Change. Environ Health Perspect. 2011 Apr 12.

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**Thursday 13 December**

**Climate change and health - vulnerability, adaptation and mitigation**

Andy Haines  
  
Brief outline  
The presentation will outline potential health effects of climate change, the potential for adaptation to reduce impacts and the health benefits of a low carbon economy.

Learning objectives   
  
By the end of the session students should be able to outline:  
1. the health outcomes that are likely to be affected by climate change,   
2.populations that are likely to be particularly vulnerable to the effects on health   
3.potential adaptation strategies and their limitations   
4. the health benefits of a low carbon economy  
  
Recommended Reading   
  
Haines A, Kovats RS, Campbell-Lendrum D, Corvalan C. Climate change and human health: impacts, vulnerability and mitigation. Lancet 2006; 367; 2101-9   
  
Haines A, McMichael AJ, Smith KR, Roberts I, Woodcock J, Markandya A, Armstrong BG, Campbell-Lendrum D, Dangour AD, Davies M, Bruce N, Tonne C, Barrett M, Wilkinson P. [Public health benefits of strategies to reduce greenhouse-gas emissions: overview and implications for policy makers](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T1B-4XSTPDR-B&_user=1210936&_coverDate=11%2F26%2F2009&_alid=1130669348&_rdoc=5&_fmt=high&_orig=search&_cdi=4886&_sort=d&_docanchor=&view=c&_ct=91&_acct=C000052012&_version=1&_urlVersion=0&_userid=1210936&md5=48deb5c499b364c11e75cccf7e7ea02c). Lancet 2009; 374: 2104-14

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
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* **One useful learning point I would like to remember from this session:**

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**Climate Change, Water and Health: Practical**

**Pauline Scheelbeek**

By the end of this practical, you will be able to

1. Find information about national health problems related to climate change and water for various countries
2. Explain what the main problems are related to climate change, water and health in a selected country
3. Understand the policy implementations/plans aimed at mitigating, reducing or preventing climate change
4. Understand how these policy implementations will affect public health
5. Explain why some policies related to climate change succeed or fail in meeting their objectives
6. Formulate your own policy recommendation for a selected climate change affected country

The practical focuses on the national health (and water) related problems of countries affected by climate change. In this practical we will split up into smaller groups. Each of the groups will focus on one country. You can pick one of the following two countries with different climate change induced health / water problems:

* South Africa
* Bangladesh

You can select another country if you like, but please make sure there are climate change policy documents available online for the country of choice.

The practical will be 1 hours. Please note that the last 15 minutes are reserved for presenting your findings to the other groups. You are kindly requested to finish your search and discussions in and 45 minutes.

**Recommended reading**

* Parry ML et al eds. (2007). Climate change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, Cambridge University Press
* WHO (2009) Protecting Health from Climate Change: Global Research Priorities, Geneva, World Health Organisation.
* Intergovernmental Panel on Climate Change (2008). Climate change and water.  IPCC Technical Paper

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | | Neutral | | Disagree | | Strongly Disagree | |
|  |  |  |  |  |  |  |  |  |  |  | |  | |  | |  | |  |

* **One useful learning point I would like to remember from this session:**

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**Climate change mitigation and why dealing with CO2 is so difficult**

Simon Buckle (Grantham Institute)

Brief outline

This session will explain

1. the role of greenhouse gases in causing climate change
2. the projections of, and evidence for, climate change
3. why dealing with CO2 is so difficult given the nature of our energy, industrial and transport systems
4. where international efforts to prevent climate change have got to and what key emitting countries are doing

Learning outcomes

An understanding of

* the contribution of different greenhouses gases to climate change
* the main mitigation strategies, options and technologies for CO2; and
* the technical and political challenges involved in tackling climate change

Required reading

**IPCC, 2007: Climate Change 2007: Synthesis Report.** Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.

Optional reading:

S. Pacala*, et al.* Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies, *Science* 305, 968 (2004);

| **The lecture(s) are well structured** | | | | | **The lecturer explains concepts clearly** | | | | | **The lecturer engages well with the students** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Strongly Agree | Agree | | Neutral | | Disagree | | Strongly Disagree | |
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* **One useful learning point I would like to remember from this session:**

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## Module 2: Essay on country health profile

## Guidance for students

**Submission deadline** 1.00pm on Wednesday 5 December 2012

**Description**

A 2500 word essay on the country profile of your choice.

**Where to get ideas for your topic**

To get some ideas for your chosen topic, it may be worth looking through the World Health Organisation’s website under *Countries*. The balance between a descriptive approach (e.g. the epidemiology of a non-communicable disease within a given country) and a wider analysis (e.g. linking this to the country’s health system/policies/programmes to respond to the chosen NCD) depends on your preference.

For a multidisciplinary source of data on countries, you may find some useful information on the following website (a database of development literature which also contains a health section in each country’s profile, as well as some links to country-specific recent literature relating to this): <http://www.eldis.org/go/country-profiles>

You will find some examples of past country profiles on the intranet which are meant to give you an idea of different ways of approaching this task. These are not meant to represent all the different ways in which you can complete your country profile, but rather give you a flavour of the variety of questions and formats students have chosen in the past.

**Instructions**

A country profile is generally understood as an account and analysis of the main health indicators for a country, or a more specific topic such as recent changes in disease rates, or peculiarities in disease occurrence (e.g. presentation on obesity in Tonga). We would like you to focus on non-communicable diseases (either a particular disease or a range of diseases or risk factors associated with these). Country profiles will be expected to include some information on communicable diseases of course, but we would like the main focus to be on NCDs in order to enable you to develop your learning on this. Essays should be no more than 2500 words; penalties will be applied for longer texts. As you know, this is an individual task so we will expect essays to be written individually. However, you are allowed to focus your essay on the same country as other students.

Sections can (but do not necessarily have to) include:

Abstract

Introduction

Methods

Results

Discussion

Conclusion

If you would like to approach your subject from the point of view of a commentary/analysis, you may choose the more conventional essay format (ie. Introduction, different arguments/subheading, conclusions).

**Penalties for late submission:**

5% will be deducted from the awarded mark for assessed work for each day late up to 14 days after the deadline. No mark will be awarded for work submitted after fourteen days.

**Penalties for word count:**

1% of the mark will be deducted for every 1% over the word limit

**MARKING CRITERIA for EXAMS and ESSAYS**

The following criteria are the basis on which both exam answers and course work essays are assessed. Feedback should include comments on the structure, referencing and diagrams, as well as the content and the students understanding of the topic. Due allowance is made for which year is being marked and for the time available in an exam. **NB**: Problem type answers should be marked on a semi-absolute scale.

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| --- | --- |
| Mark (%) | Criteria |
| 100  95  90  85 | **Exceptional** Answer is an exceptionally well presented exposition of the subject, showing (1) command of the relevant concepts and facts, (2) a high critical or analytical ability\*\*\*, (3) originality and (4) evidence of substantial outside reading (where applicable).  Comments from markers should show how this exceeds the expected level of performance of a student at this stage of their degree. |
| 80  76  72 | **Excellent** (*approx 1st class*): Answer is (1) a very well presented exposition of the subject, (2) shows command of the relevant concepts and facts and (3) most of the above features, but falling short in one or two of them. |
| 68  65  62 | **Very Good** (*approx Upper 2nd class*): Answer shows (1) a clear grasp of the relevant concepts and facts, (2) gives an accurate account of the relevant taught material (as exemplified in the model answer), and (3) shows evidence of some outside reading or critical or analytical ability\*\*.. |
| 58  55  52 | **Good** (*approx Lower 2nd class*): Answer shows (1) a grasp of the basic concepts and facts, (2) gives a mainly accurate account of at least half of the relevant taught material, but (3) does not go beyond that, or goes beyond that but is then marred by significant errors. |
| 48  45  42 | **Adequate** (*approx 3rd class*): Answer shows (1) only a moderate grasp of the subject, and (2) is marred by major errors or brevity, but (3) by presenting at least a third of the material expected of a Very Good answer, shows sufficient relevant knowledge to reach degree level. |
| **Below 40**  38  35  30  25  20  15  10  5  0 | **Fail**  Answer shows a weak grasp of the subject that includes about one third of the material expected for a Very Good answer. Major errors of understanding may be evident, or the answer is too brief to show better than a Pass level of understanding.  Answer shows (1) a confused understanding of the question, and (2) insufficient relevant knowledge to reach degree level by presenting less than a third of the material expected of a Very Good answer.  Answer is too inaccurate, too irrelevant, or too brief to indicate more than a vague understanding of the question, and presents less than a quarter of the material expected of a Very Good answer.  Answer presents only one, two or three sentences or facts that are correct and relevant to the question.  Answer contains nothing correct that is relevant to question. |

**BIOGRAPHIES**

**Dr Toby Athersuch, Lecturer in Environmental Toxicology & Biomarkers, MRC-HPA Centre for Environment & Health, Imperial College London**

Toby started at Imperial College London as a PhD student in 2002, studying the metabolism of aromatic amines in vivo using a range of analytical chemistry techniques including nuclear magnetic resonance (NMR) and mass spectrometry (MS). His postdoctoral work included the application of these techniques to address the effects of chemical carcinogens on in vitro cell systems (EU FP6 carcinoGENOMICS) and in the search for ‘omics’ markers that can link environmental exposures to pollutants with cancer endpoints (EU FP7 EnviroGenomarkers). He continues to be involved in these projects, and was appointed as a lecturer at the MRC-HPA Centre for Environment & Health in 2010. His primary research is directed at developing novel analytical and statistical techniques for metabolic profiling, and to implement them as an efficient tool for providing individual-level, information rich measurements in molecular epidemiological studies. In addition to his research, he is heavily involved in the running of the postgraduate training programme for the MRC-HPA Centre.

**Ashton Barnett-Vanes, MB/PhD student, ‘RBL Centre for Blast Injury Studies’, Imperial College London**

Ashton Barnett-Vanes is a MB/PhD student currently based at the ‘RBL Centre for Blast Injury Studies’ at Imperial College London. His interests lie in trauma and emergency care, particularly within the context of Conflict and Disasters. He has travelled and researched in East Asia and East Africa and returned this summer from a 2 month internship at the World Health Organisation HQ in Geneva, Switzerland.

**Marta Blangiardo, Lecturer in Biostatistics, MRC-HPA Centre for Environment and Health, Department of Epidemiology and Biostatistics.**

Marta has a degree in Statistics, Demography and Social Sciences from the University of Milan (Italy) and a PhD in Applied Statistics from the University of Florence (Italy). She joined Imperial College in 2005 as Research Associate in Biostatistics and became a Lecturer in 2010. She works on Bayesian hierarchical models with applications on environmental epidemiology. Some of her recent works includes the development of Bayesian models for a better characterisation of exposure to air pollution using time activity data and the specification of latent variables models for linking pesticide exposure during pregnancy and adverse birth outcomes.

**Dr. Simon Buckle, Director, Climate Policy, Grantham Institute**

Simon joined the Grantham Institute for Climate Change at Imperial as Policy Director in September 2007 after some 20 years working in the Foreign and Commonwealth Office, as an economist in the Bank of England (1998-2002) and in the Ministry of Defence (1988-91). Simon originally trained and worked as a theoretical physicist in low-temperature physics and quantum optics. Simon was awarded a CMG in the 2007 New Year's Honours and is a Fellow of the Institute of Physics. Simon became Pro Rector for International Affairs at Imperial on 1 October 2011.

**Queenie Chan PhD, Department of Epidemiology and Biostatistics, School of Public Health, Imperial College London, UK**

Dr Chan is the statistician and project manager for the INTERMAP Study.  She completed her PhD on “The Relationship of Alcohol and Blood Pressure” in 2011.  She is the co-author of over 30 peer reviewed publications on the INTERMAP Study.  Her research interests are lifestyle and CVD.

**Dr. Audrey De Nazelle, Centre for Environmental Policy, Imperial College London**

Audrey de Nazelle recently joined the Centre for Environmental Policy, Imperial College London as a lecturer in air pollution management, prior to which she was a postdoc at the Centre for Environmenal Epidemiology in Barcelona, Spain. Audrey holds a PhD from the University of North Carolina at Chapel Hill in Environmental Sciences and a Maîtrise in Mathematics from the University Paris VI Pierre et Marie Curie. She is an expert in risk assessment and exposure modelling. Her work focuses on health impacts of planning policies and includes novel approaches to exposure assessment such as the use of smartphone technology.

**Professor Paul Elliott, Head of the Department of Epidemiology and Biostatistics, Imperial College London**

Prof Paul Elliott is a clinical epidemiologist with an extensive track record of research into the relationship between dietary factors and, in particular, of sodium intake and blood pressure in human populations. He was a lead investigator in the 1980s of the well-known INTERSALT Study and is currently a lead investigator of the International Cooperative INTERMAP Study on Diet and Blood Pressure. He has recently advised the World Health Organisation and the Centers for Disease Control and Prevention on optimal methods to measure sodium intake in populations.

He is Head of the Department of Epidemiology and Biostatistics and Director of the MRC-HPA Centre for Environment and Health in the School of Public Health at Imperial College London.

**Robin Ewart-Biggs, Family Therapist, Freedom from Torture**

Robin Ewart-Biggsmanages a multi-disciplinary adult clinical team at Freedom from Torture (formerly the Medical Foundation for the Care of Victims of Torture) in London. He is trained as a systemic family therapist and has worked at Freedom from Torture since 2001. He teaches family therapy at the Institute of Family Therapy and has also worked in NHS primary care. He is interested in the psycho-social, cross-cultural and political aspects of clinical work.

**Professor Majid Ezzati, Chair in Global Environmental Health, Imperial College London**

Majid Ezzati is the Chair in Global Environmental Health at Imperial College London.   His research focuses on exposure to, and health effects of, environmental, behavioural, nutritional, and metabolic risk factors and their interventions at the population level.  The research activities routinely combine concepts, data, and methods from a range of environmental, health, and quantitative sciences with a systems perspective.  Ezzati’s research group collect and analyze primary field data on environmental risk factors (primarily air pollution).  They also develop and apply analytical models to combinations of primary and secondary data to estimate health effects of risk factor exposures and interventions.  He led the World Health Organization’s collaborative project on risk factors (titled “the Comparative Risk Assessment Project”) which appeared in the *World Health Report 2002: Reducing Risks, Promoting Healthy Life* and is currently leading the Comparative Risk Assessment component of the Global Burden of Diseases, Injuries, and Risk Factors 2010 Study.

**Dr. Marc Gunter, Reader in Cancer Epidemiology and Prevention, Imperial College London**

Dr Gunter is Reader in Cancer Epidemiology and Prevention in the Department of Epidemiology and Biostatistics, School of Public Health, Imperial College. Dr Gunter’s primary research interests include the molecular and genetic epidemiology of colorectal and gynaecologic cancers.

**Professor Andy Haines, Professor of Public Health and Primary Care, LSHTM**

My research interests are in epidemiology and health services research focussing particularly on research in primary care and the study of environmental influences on health, including the potential effects of climate change and the health co-benefits of the low carbon economy. Previous research includes a number of randomised trials evaluating interventions to change patient and practitioner behaviour and the impact of information and communications technology on primary care. I am also interested in how health systems issues affect the scaling up of primary health care programmes. As chair of an international task force on developing guidance for health system strengthening I have recently co-authored a series of articles on the challenges of assessing evidence for health systems policies and developing guidance for policymakers.

**Ben Hawkins, Research Fellow, Department of Global Health and Development, LSHTM**

Ben Hawkins is a Research Fellow in the Department of Global Health and Development at the London School of Hygiene and Tropical Medicine. His research interests include the alcohol and tobacco policy in the UK and beyond. He has recently completed an AERC/ARUK funded research project on alcohol policy in the UK. Currently, he is currently working on an NIH funded project on global trade agreements and tobacco regulation and an ERC funded project on the use of research evidence in health policy making.

**Dr. Matthew Hodes, Senior Lecturer in Child & Adolescent Psychiatry, Imperial College**

Dr Matthew Hodes is Senior Lecturer in Child & Adolescent Psychiatry in the Centre for Mental Health, Division of Brain Sciences, Imperial College. For many years has been investigating the mental health of young migrants including refugees. Also works as Honorary Consultant in Child & Adolescent Psychiatry in CNWL NHS Trust.

**Professor Marjo-Riitta Järvelin, Director of Postgraduate Studies, Imperial College London**

Professor Marjo-Riitta Järvelin was trained in medicine in the University of Oulu, Finland and in Environmental Epidemiology and Policy at the London School of Hygiene and Tropical Medicine, University of London. She has been affiliated at Imperial College London in the Department of Epidemiology and Biostatistics since 1998. She has been running large-scale population based studies for over 20 years. Her team is currently working on the genetic and early life environmental origins of multi-factorial diseases/disorders in close collaboration with many internationally well-known institutions, groups and networks. She is a director of the widely acknowledged Northern Finland Birth Cohort (NFBC) Studies (about 20 000 subjects, born in 1966 and 1986), and has developed areas of study related to cardiovascular metabolic health. The NFBC team has done pioneering work on smoking and alcohol drinking during pregnancy and its consequences for offspring. Recent research has targeted on genome wide genetic and life-course analyses of intermediate cardiovascular phenotypes such as blood pressure, lipids, obesity and metabolic syndrome. Professor Järvelin’s special focus has been in understanding the disease or disorder development from prenatal period until adult age. She has also a special interest in the methodological aspects related to the analyses of longitudinal lifecourse data. She has also an active role in research training as a Divisional Director of Postgraduate Studies.

**Rachel Kelly, PhD student, Imperial College London**

I am a third year PhD Student studying gene-environment interactions in Non-Hodgkin’s Lymphoma. I studied Biological Sciences at Warwick University before completing a Masters in Public Health at the University of Nottingham. I worked at the Institute of Cancer Research, Sutton for three years before beginning my PhD under the supervisions of Professor Paolo Vineis. My research interests include environmental carcinogens, genetic epidemiology, the use of biomarkers and biostatistical techniques.

**Aneire Khan, Research Assistant, Imperial College London**

Aneire Ehmar Khan is a Research Assistant and a PhD candidate at the Dept. Of Epidemiology and Biostatistics at Imperial College London. She is a Grantham Institute for Climate Change Scholar and her research thesis is investigating “Water salinity and Maternal Health Impacts in coastal Bangladesh”. Ms. Khan’s research publications include ‘Contamination of drinking water in Bangladesh’ in the Lancet and most recently, ‘Drinking Water Salinity and Maternal Health in Coastal Bangladesh: Implications of Climate Change’ in the Environmental Health Perspectives Journal.

 In 2010, Ms Khan she received the 1st ‘HSBC Climate Change Award’ in Bangladesh for her research on Climate Change and maternal health; and has been an invited panelist to “Setting the Scene: Health, Climate Change & Bangladesh” at the 2009 WHO – Government of Bangladesh National Workshop on Climate Change & Health Impacts in Bangladesh.

Ms. Khan completed her MSc in Modern Epidemiology from Imperial College London in 2006; and her BA in Neuroscience & Behaviour from Wesleyan University, Middletown, USA in 2004.

**Dr Tom Lissauer, Honorary Clinical Senior Lecturer, Imperial College London**

Hon. Consultant Paediatrician at Imperial College Healthcare Trust, Consultant Paediatric Programme Director in Global Health at Imperial College London. Previously Consultant Neonatologist and Paediatrician at St Mary's Hospital, with a particular interest in medical education.

Initiated Imperial College-Rwanda partnership programme of ETAT+ (Emergency Triage and Treatment Plus Admission ) courses for the recognition and management of sick children. Courses initially conducted by instructors from Kenya for all final year medical students and staff in district hospitals followed by assistance with its implementation to improve patient care. Initiated Komera project to improve neonatal care in hospitals in Rwanda, including provision of basic respiratory support and intense nurse training.

**Professor Lefkos Middleton, Chair in Clinical Neurology, Imperial College London**

Lefkos joined Imperial College London (ICL) in 2007 as Professor of Neurology and Head of the Division of Neuroscience and Mental Health (2007-2010). He is currently chair of Neurology in the Neuroepidemiology and Ageing Research Unit, within the Imperial College London School of Public Health (SPH). Prior to ICL, he was Head of Translational Medicine and Genetics of GSK R&D.

**Pauline Scheelbeek, PhD Student, Imperial College London**

Pauline F.D. Scheelbeek is a PhD-student at the department of Epidemiology and Biostatistics. She did her training as epidemiologist at the London School of Hygiene and Tropical Medicine. Then, she worked as epidemiologist / water & sanitation specialist for MSF, mainly in West-Africa. She continued her career at the Royal Tropical Institute in Amsterdam, where she did research to various water associated diseases, such as cholera, typhoid fever and malaria. At Imperial College she now focuses on the impact of climate change on water quality and associated blood pressure problems in pregnant and non-pregnant women.

**Terrence Simmons, Project Manager, Imperial College London**

BA History – University of Guyana

MA – History (Econ) – University of Guyana

Registered PRINCE2 Project and Programme management (MSP) Practitioner – APMG UK

* Current Role – Project Manager to Prof Paolo Vineis, EBS, School of Public Health
* Has worked in international & grassroots-based development for the last 20 years, working in social and economic development areas of health, education, youth and small business development
* Served as Programme Director for the United States Peace Corps in Guyana for 9 years
* Consultant to UNDP and the Ministry of Health of Guyana in community peace building and development of community health partnerships.
* Has worked in London on the development of social infrastructure for Black and other Ethnic Minority Communities including serving on the Advisory Board of London’s Minority Ethnic Network (MiNet)

**Karin Van Veldhoven, PhD student, Imperial College London**

I studied physiotherapy and after that biomedical sciences at the Radboud University in the Netherlands. As part of my masters I performed an 8 month internship at the department of Epidemiology and Biostatistics at Imperial College London, with prof. Paolo Vineis as my supervisor. I investigated the association between physical activity and lymphomas and leukemias in the EPIC study, which resulted in a publication in the European Journal of Cancer. After getting my degree I worked for 1 year as a junior researcher at the Human Genetics Foundation in Turin, Italy where I was involved in various epidemiological studies. In October 2010 I started my PhD at Imperial College London focussing on exposure to environmental pollutants, biomarkers based on –omics technologies and breast cancer risk.

**Dr. Anne-Claire Vergnaud, Research Associate, Imperial College**

Dr. Anne-Claire Vergnaud received her MSc in Mathematical engineering in biology, statistics applied to social sciences and epidemiology (University of Paris V, 2005) and her PhD in Public Health and Epidemiology (University of Paris V / Paris XI, 2008). Her thesis examined the determinants of weight gain and weight fluctuations and their consequences on cardiovascular disease risk. Since 2008, she is working as a Research Associate in Epidemiology in the Department of Epidemiology and Biostatistics, Imperial College of London. She worked in the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort, where she studied the relations between diet and prospective weight gain as well as the individual and combined effect of lifestyle factors on cancer risk and mortality. She is currently developing several research areas in the ongoing Airwave Health Monitoring Study. This study primarily aims to determine the long term health effect of TETRA (Terrestrial Trunked Radio) exposure in police officers of the United Kingdom. More generally, collection of various data on life-style and health will provide unique insights into the causes of police sickness and absence from work.

**Professor Paolo Vineis, Chair of Environmental Epidemiology, Imperial College London**

Professor Paolo Vineis is Chair of Environmental Epidemiology at Imperial College London. His research focuses on cancer epidemiology, and in particular environmental causes of cancer, the use of laboratory methods (epigenetics, adducts, mutations) applied to the study of cancer etiology in populations; and gene-environment interactions. He has led methods development in the field of molecular epidemiology. He is Head of the Genetic and Molecular Epidemiology Unit at the HuGeF Foundation in Torino, Italy.

**Helena Wright, Doctoral Researcher, Imperial College London**

Helena Wright is a Doctoral Researcher at the Centre for Environmental Policy, Imperial College London. She has experience in clean energy, sustainability, climate change and development, and has recently attended the UN climate talks as an observer.