



MARCH–
APRIL 2013

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



THE LEGACY OF JOHN SNOW

Epidemiology Yesterday,
Today & Tomorrow



johnsnow.org.uk

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John Snow & Disease Mapping

15–16 MARCH 2013

MAPPING DISEASE: JOHN SNOW AND CHOLERA

11–12 APRIL 2013

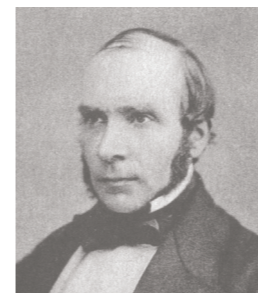
SNOW'S LEGACY: EPIDEMIOLOGY TODAY
AND TOMORROW

13 MARCH – 17 APRIL 2013

CARTOGRAPHIES OF LIFE & DEATH:
JOHN SNOW & DISEASE MAPPING

JOHN SNOW (1813–1858)

A Celebration of the 200th Anniversary of Snow's Birth



John Snow is an iconic figure in epidemiology and public health, best known for his work on cholera, for a famous map, and for organising the removal of a pump handle in Soho. Less well known are his important contributions to anaesthesia and to epidemiological methods, and his engagement in public debates of

the time. The breadth and depth of Snow's activities provide a model for population researchers concerned not only with sound method but also with bringing their results to public benefit. Indeed, though epidemiology is often described as the study of health-related aspects of populations, its methods are applicable to studies of virtually anything in populations, and disciplines which now acknowledge the methods and terminology of epidemiology range from education to crime science and economics.

Snow was born in York on 15 March 1813, one of eight children in a family of modest means. He apprenticed with a surgeon-apothecary in Newcastle from 1827 to 1833, and there witnessed the first epidemic of cholera in the UK. He then moved to London, qualified as physician in 1843 and set up general practice in Soho. Early in his career he became interested in the physiology of respiration in recognition of the major problem of asphyxia of the newborn. These interests led him to be invited to witness one of the first applications of ether anaesthesia in the UK in December 1846. He immediately recognised the importance of ambient temperature and within one month published tables of the vapour pressure of ether. This initiated an important line of research on instruments for administering anaesthetics and led to his becoming the most prominent authority on anaesthesia in the UK. He administered chloroform to Queen Victoria at the birth of Prince Leopold in 1853.

The second great cholera epidemic arrived in London in 1848 and many attributed its cause to an atmospheric "effluence" or "miasma". Snow's firsthand experience of the disease in 1832, combined with studies of respiration, led him to question miasma theories and to publish the first edition of *On the Mode of Communication of Cholera in 1849*, in which he proposed that cholera was attributable to a self-replicating agent which was excreted in the cholera evacuations and inadvertently ingested, often, but not necessarily, through the medium of water.

When cholera returned in 1853, Snow recognised an ideal opportunity to test his hypothesis by comparing cholera mortality rates in populations of south London supplied by water drawn from sewage-contaminated versus uncontaminated regions of the Thames. He personally carried out a cohort study to make this comparison, recognising the need to confirm the water source of

each case and to assure comparability of the populations concerned. On 30 August 1854 while involved in these studies, a dramatic cholera epidemic began near his home in Soho leading to more than 550 deaths within two weeks. Analysis of the addresses of the cholera deaths and interviews of residents of the area led him to suspect that water from a pump on Broad Street was responsible – and he prevailed upon the local council to remove the handle of the pump on 8 September 1854. Though the epidemic was already in decline by that date, the rapidity of his action, the logic of the analysis, and the pragmatism of the response has made this a classic event in the history of public health, well known to students and practitioners the world over. The combination of these studies provided overwhelming evidence for an infectious agent, known now as *Vibrio cholerae*.

Snow described this work in the second edition of *On the Mode of Communication of Cholera*. He then expanded his public health interests by becoming involved in debates over legislation concerning nuisance industries in London, while maintaining his research and practice in anaesthesia until his death in 1858.

The 200th anniversary of Snow's birth provides an occasion to celebrate his achievements, to consider their original context, to discuss their place in contemporary epidemiology, and consider their likely future, not only as the armamentarium of public health, but as a framework of method for science and society.

The London School of Hygiene & Tropical Medicine and the Wellcome Trust, in collaboration with the International Epidemiological Association and the John Snow Society, are hosting two meetings as part of a series of events to commemorate the bicentenary. To coincide with Snow's birth anniversary, the meeting on 15–16 March will focus on historical aspects of his work and will include a public lecture and a day-long meeting orientated to medical history. The meeting on 11–12 April will provide a contemporary evaluation of Snow's legacy and will include an appraisal of developments in epidemiological methods and their application in disciplines within and beyond the health sciences.

Image: John Snow portrait. Credit: London School of Hygiene & Tropical Medicine Archives.

15–16 MARCH 2013 – MAPPING DISEASE: JOHN SNOW AND CHOLERA Programme

FRIDAY 15 MARCH

PUBLIC LECTURE

18.00 CHOLERA IN LONDON

Sandra Hempel, Journalist and Historical Writer, Author of ‘Medical Detective’ and ‘The strange tale of the Broad Street pump: John Snow and the mystery of cholera’

WELCOME

Baron Peter Piot, Director, London School Of Hygiene & Tropical Medicine

THANKS

Professor Pat Buffler, Presidentelect, International Epidemiology Association

19:00 RECEPTION

SATURDAY 16 MARCH

SCIENTIFIC MEETING

09:00 REGISTRATION/COFFEE

SESSION I

Chair: Virginia Berridge, London School of Hygiene & Tropical Medicine

09:30 JOHN SNOW’S CONCEPT OF CHOLERA: THE REVOLUTION BEYOND EPIDEMIOLOGY

Christopher Hamlin, Professor of History, University of Notre Dame, Indiana, USA; Visiting Professor, London School of Hygiene & Tropical Medicine

10:15 THE IMAGE OF JOHN SNOW

Jan Vandenbroucke, Professor of Epidemiology, University of Leiden; Academy Professor of the Royal Netherlands Academy of Arts and Sciences

11:00 COFFEE

SESSION II

Chair: Shah Ebrahim, London School of Hygiene & Tropical Medicine

11:30 ICDDR,B – A HISTORY OF CHOLERA RESEARCH

Alejandro Cravioto, Chief Scientific Officer, International Vaccine Institute, Seoul, South Korea; former Director, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

12:15 CHOLERA VACCINATION 1894: THE FIRST CONTROLLED MEDICAL TRIAL

George Davey Smith, Professor of Clinical Epidemiology; Director of the MRC Centre for Causal Analyses in Translational Epidemiology, University of Bristol

13:00 LUNCH

SESSION III

Chair: Sandy Cairncross, London School of Hygiene & Tropical Medicine

14:30 WILLIAM BUDD ON CHOLERA

Michael Dunnill, Emeritus Fellow, Merton College, Oxford

15:15 JOHN SNOW, HERO OF CHOLERA, RIP

Tom Koch, Adj. Professor of Medical Geography, University of British Columbia

16:00 COFFEE

SESSION IV

Chair: Branwen Hennig, London School of Hygiene & Tropical Medicine

16:30 WAVES OF TRANSMISSION

Gordon Dougan, Head of the Microbial Pathogenesis group, Wellcome Trust Sanger Institute, Cambridge; Visiting Professor, London School of Hygiene & Tropical Medicine

17:15 THANKS AND CLOSE OF MEETING

Professor Pat Buffler, President-Elect, International Epidemiology Association

15–16 MARCH 2013 – MAPPING DISEASE: JOHN SNOW AND CHOLERA Biographies of Speakers & Chairs



Virginia Berridge

Virginia Berridge is Professor of History at the London School of Hygiene & Tropical Medicine and Director of the Centre for History in Public Health. She has published widely on the history of public health, specifically on drugs, alcohol, smoking and HIV/AIDS. Her most recent books are *Public Health in History* (2011), and *Environment Health and History* (2012). Her book provisionally entitled *Binge* for Oxford University Press is forthcoming. She is a member of the Wellcome Trust research resources funding committee. She edits the *Addiction History* series for Addiction and is a Fellow by distinction of the Faculty of Public Health.



Pat Buffler

Dr Patricia Buffler is President-Elect of the International Epidemiological Association (IEA). She is Professor of Epidemiology in the School of Public Health at the University of California at Berkeley where she was Dean from 1991–1998. She was elected to the Institute of Medicine/National Academy of Science in 1994, has received the prestigious Lilienfield Award and the James D. Bruce Memorial Award. Her work on smoking and cancer in women helped target more smoking cessation programs and led to government regulations on environmental and workplace tobacco exposures. Dr Buffler’s current research focuses on the genetic, environmental, and infectious exposures associated with childhood leukaemia and other childhood cancers, and in 2006 she established the Childhood Leukaemia International Consortium (CLIC), a collaboration with over twenty studies of childhood leukaemia from across the globe.



Sandy Cairncross

Dr Sandy Cairncross is a public health engineer by profession and an epidemiologist by vocation. He has spent his career in research, teaching, and implementing water, sanitation and public health programmes in developing countries. He worked in Lesotho and then Mozambique as a water/sanitation engineer, before joining the London School of Hygiene & Tropical Medicine in 1984, working on with Unicef and WHO to support national Guinea worm eradication programmes. He now leads a research group working on environmental health in developing countries. He is an editor of *Tropical Medicine & International Health*.



Alejandro Cravioto

Dr Alejandro Cravioto’s research has focused on diarrhoeal diseases. His work has contributed to the understanding on how bacteria attach to intestinal surfaces and on how diarrhoeal diseases affect the growth, development

and nutritional status of infants and children in developing countries. Dr Cravioto earned an MD and was Dean at the Faculty of Medicine of the National Autonomous University of Mexico (UNAM). He gained his DTPH and PhD from the London School of Hygiene & Tropical Medicine. Formerly Executive Director of the International Centre for Diarrhoeal Disease Research in Dhaka, Bangladesh, he is currently Chief Scientific Officer of the International Vaccine Institute in Seoul, South Korea.



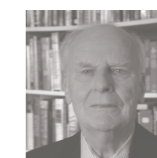
George Davey Smith

George Davey Smith is professor of clinical epidemiology at the University of Bristol and holds professorships at the University of Glasgow and London School of Hygiene & Tropical Medicine. He is Scientific Director of the Avon Longitudinal Study of Parents and Children and Director of the MRC Centre for Causal Analyses in Translational Epidemiology. His major research uses genetic epidemiology to understand the causal influence of environmentally modifiable risk factors. He has also has also worked on HIV/AIDS prevention in Nicaragua and India, history of epidemiology, meta-analysis, lay epidemiology and epidemiological methodology. He is a foreign associate of the Institute of Medicine, US National Academy of Sciences and co-editor of the International Journal of Epidemiology.



Gordon Dougan

Professor Gordon Dougan is currently Head of Pathogen Research and a member of the Board of Management at the Wellcome Trust Sanger Institute. He is also a Professor at Cambridge University and the London School of Hygiene & Tropical Medicine. Previously he worked at Imperial College London and in industry developing vaccines and novel drugs. He is currently working in the area of the genomic sciences, translating his research into the field and has a major interest in *Salmonella enterica*, particularly *S. typhi*, the cause of typhoid. Prof Dougan is currently on the science advisory board for the International Vaccine Institute in Korea and the Novartis Vaccine Global Health Institute in Siena, Italy. He is a Fellow of the Academy of Medical Sciences, the American Society for Microbiology and the Royal Society.



Michael Dunnill

Michael Dunnill was born in Bristol, attended the Grammar school and qualified in medicine at Bristol University. After national service in the army in Egypt he held junior clinical, teaching and research appointments in Bristol, Oxford and Columbia University, New York. He was then appointed consultant pathologist at the John Radcliffe Hospital, University Lecturer in pathology and Fellow of Merton College, Oxford. As well as many papers in scientific

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journals he is the author of *Pulmonary Pathology* and *The Pathological Basis of Renal Disease*. Now an Emeritus Fellow he spends his time studying medical history and has published *The Plato of Praed Street, the life and times of Almroth Wright and Dr William Budd, Bristol's most famous physician*.



Shah Ebrahim

Professor Shah Ebrahim is a clinical epidemiologist at the London School of Hygiene & Tropical Medicine with research interests in global cardiovascular disease and diabetes. He directs the British Women's Heart & Health Study – a national cohort study of British women – established in 1999. He is also coordinating editor of the Cochrane Heart Group and is co-editor of the *International Journal of Epidemiology*. He set up the South Asia Network for Chronic Disease (www.sancd.org) and established a programme to strengthen research and educational capacity with the Public Health Foundation of India in 2008 funded by the Wellcome Trust.



Christopher Hamlin

Christopher Hamlin is trained as an historian of science. He is Professor of History at University of Notre Dame, USA where he specialises in history of science, medicine and technology related to Britain. He is author of *Cholera: The Biography* (2009), *A Science of Impurity* (1990), *dealing with the history of concepts of water quality*, and *Public Health and Social Justice in the Age of Chadwick* (1998), dealing with the emergence of modern public health. He is currently at work on a book examining the history of ideas about particular natural processes, ranging from population stability to decomposition. Hamlin teaches courses on science and technology studies, the history of medicine, the history of technology, and environmental history.



Sandra Hempel

Sandra Hempel is an author and journalist who specialises in health and social issues. She has written for and edited a variety of medical and nursing publications, as well as working for the Department of Health/NHS and contributing to national newspapers and magazines. Her first book, *The Medical Detective*, which tells the story of John's Snow's work on cholera, won the 2007 British Medical Association Book Award for the Public Understanding of Science and the 2006 Tony Thistlethwaite Book Award. Her new book, *The Inheritor's Powder*, which looks at arsenic poisoning and the development of toxicology in the 19th century, is published by Weidenfeld and Nicolson on 13 June 2013.



Branwen Hennig

Dr Branwen Hennig is a genetic epidemiologist. Based at the London School of Hygiene & Tropical Medicine since 2003, she currently heads the genetics programme within the MRC International Nutrition Group. Her research interests include nutritional genetics, the genetics of growth and development, genetic susceptibility to disease, the genetic control of immunity induced by vaccination and epigenetics. Many of the studies she is involved in are based in The Gambia. Previously she was based at the Wellcome Trust Centre for Human Genetics in Oxford and had completed her PhD at Newcastle University.



Tom Koch

Tom Koch is an adjunct professor of medical geography at the University of British Columbia, Canada, focusing on the environmental determinants of health and disease. In both teaching and research he has argued the importance of mapping as a “workbench” on which theories of disease are formulated and then tested in specific outbreaks. In both teaching and research he has written broadly on the work of Snow and its place in this tradition. His books include *Cartographies of Disease* (2005) and more recently *Disease Maps: Epidemics on the Ground* (2011) in which John Snow's epidemiology is reviewed, recreated, and critiqued.



Jan Vandenbroucke

Professor Jan Vandenbroucke trained in internal medicine at the University of Leuven, Belgium. He earned a MSc in Epidemiology at the Harvard School of Public Health, USA, and a PhD at Erasmus University Rotterdam, Netherlands. He is professor of Clinical Epidemiology at Leiden University Medical Center, Netherlands. His main interest is in the application of epidemiologic methods to problems of aetiology and pathogenesis. He was appointed as an Academy Professor by the Royal Netherlands Academy of Arts and Sciences in 2006. He is a Fellow of the Royal Colleges of Physicians of London and Edinburgh, serves on the international advisory board of *The Lancet*, and is co-associate of the James Lind Library.

11–12 APRIL 2013 – SNOW'S LEGACY: EPIDEMIOLOGY TODAY AND TOMORROW Programme

THURSDAY 11 APRIL

10:00 REGISTRATION/COFFEE

SESSION I: INTRODUCTION

Chair: Peter Piot, Director, London School of Hygiene & Tropical Medicine

11:00 WELCOME

Peter Piot, Director, London School of Hygiene & Tropical Medicine

11:10 EPIDEMIOLOGY: BROAD STREET TO BROAD VIEW

Paul Fine, Professor of Communicable Disease Epidemiology, London School of Hygiene & Tropical Medicine

11:30 THE SINGULAR SCIENCE OF JOHN SNOW

Nigel Paneth, University Distinguished Professor, Departments of Epidemiology & Biostatistics and Pediatrics & Human Development, College of Human Medicine, Michigan State University; John Snow Biographer

12:45 LUNCH

SESSION II: EPIDEMIOLOGY TODAY

Chair: Shah Ebrahim, Professor of Public Health, London School of Hygiene & Tropical Medicine

14:00 EPIDEMIOLOGY TODAY: WHO ARE WE?

Cesar Victora, President of the International Epidemiological Association; Professor of Epidemiology, Federal University of Pelotas, Brasil

14:30 AETIOLOGY: INFERRING CAUSES

Ken Rothman, Distinguished Fellow, Research Triangle Institute, North Carolina

15:00 THE COMMUNICATION OF RISK

David Spiegelhalter, Winton Professor of the Public Understanding of Risk, Centre for Mathematical Sciences, University of Cambridge

15:30 COFFEE

SESSION III: UPDATE ON JOHN SNOW THEMES

Chair: Ros Stanwell-Smith, Honorary Secretary, John Snow Society

16:00 CANCER, VIRUSES AND CAUSALITY IN THE 21ST CENTURY: WHEN SHOE-LEATHER EPIDEMIOLOGY MEETS MOLECULAR BIOLOGY.

Patrick Moore, Professor, Department of Microbiology and Molecular Genetics, University of Pittsburgh

16:30 HYGIENE: THE FOUNDATION OF PUBLIC HEALTH

Val Curtis, Director, Hygiene Centre, London School of Hygiene & Tropical Medicine

17:00 CHOLERA: FROM THE GANGES TO SOHO TO HAITI

David Heymann, Chair, Public Health England; Head of Chatham House Centre on Global Health Security

17:30 “INSTALLATION” OF THE PUMP IN JOHN SNOW HALL

Dilys Morgan, Head, Department for Gastrointestinal, Emerging and Zoonotic Infections, Health Protection Directorate (Colindale), Public Health England”

19:00 DINNER AT THE WELLCOME TRUST

Host: Jimmy Whitworth, Head of International Activities, Wellcome Trust

“Bad Science” After dinner speaker: Ben Goldacre, Science writer and Epidemiologist, London School of Hygiene & Tropical Medicine

11–12 APRIL 2013 – SNOW’S LEGACY: EPIDEMIOLOGY TODAY AND TOMORROW Programme

FRIDAY 12 APRIL

09:00 ARRIVAL

SESSION IV: TRANSMISSION AND SPREAD

Chair: John Edmunds, Dean of the Faculty of Epidemiology and Population Health, London School of Hygiene & Tropical Medicine

09:30 TREATING VIOLENCE AS AN EPIDEMIC DISEASE

Gary Slutkin, Founder and Executive Director of Cure Violence (formerly CeaseFire), Professor of Epidemiology and International Health, University of Illinois at Chicago School of Public Health

10:00 EPIDEMIOLOGY OF FINANCIAL NETWORKS

Robert May, Professor Lord May of Oxford, UK Government Chief Scientific Advisor 1995–2000

10:30 COFFEE

SESSION V: INTERVENTION

Chair: Peter Smith, Professor of Tropical Epidemiology, London School of Hygiene & Tropical Medicine

11:00 FROM BURDEN TO ACTION: IMPLEMENTING TRIALS OF MENTAL HEALTH INTERVENTIONS

Vikram Patel, Professor of International Mental Health and, Wellcome Trust Senior Research Fellow, London School of Hygiene & Tropical Medicine

11:30 INTERPRETING LARGE-SCALE RANDOMISED EVIDENCE

Richard Peto, Co-Director, Clinical Trials Service Unit, University of Oxford

12:00 SO IT ACTUALLY WORKS – WHAT NOW?

Ian Roberts, Professor of Epidemiology and Public Health, London School of Hygiene & Tropical Medicine

12:45 LUNCH

SESSION VI: EPIDEMIOLOGY BEYOND HEALTH

Chair: Richard Smith, Dean of the Faculty of Public Health and Policy, London School of Hygiene & Tropical Medicine

14:00 EPIDEMIOLOGY, CRIME AND CRIMINALITY

Richard Wortley, Head, UCL Department of Security and Crime Science; Director Jill Dando Institute, University College London

14:30 OPPORTUNITIES AND CHALLENGES OF TRIALS IN EDUCATION RESEARCH

Carole Torgerson, Chair in Education, School of Education, Durham University

15:00 EPIDEMIOLOGY, RANDOMISED TRIALS, AND THE SEARCH FOR WHAT WORKS IN ECONOMIC DEVELOPMENT

Angus Deaton, Professor of International Affairs, and Professor of Economics and International Affairs, Princeton

15:30 COFFEE

SESSION VII: ACCESS TO ELECTRONIC DATABASES – EPIDEMIOLOGY GOES DIGITAL – PANEL AND DEBATE

Chair: Jon Snow, Journalist, Channel 4 News

16:00 THE ARGUMENT FOR GREATER ACCESS

Mark Walport, Director Wellcome Trust, 2003–2012; UK Government Chief Scientific Advisor 2012 –

16:15 THE LEGAL AND ETHICAL PERSPECTIVE

Jonathan Montgomery, Chair of Nuffield Council on Bioethics, Professor in Heath Care Law, Southampton Law School

16:30 CLINICAL PERSPECTIVE

Jane Anderson, Director, Centre for the Study of Sexual Health and HIV, Homerton Hospital, London

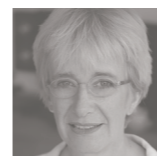
16:45 AUDIENCE PARTICIPATION

17:30 LANCET ANNOUNCEMENT
Richard Horton, Editor, *The Lancet*

18:13 CLOSE

18:58 JOHN SNOW PUB

11–12 APRIL 2013 – NOW’S LEGACY: EPIDEMIOLOGY TODAY AND TOMORROW, Biographies of Speakers & Chairs



Jane Anderson

Professor Jane Anderson (Homerton University Hospital NHS Foundation Trust) has been involved in the clinical care of people with HIV since the beginning of the

epidemic, working in east London, a particularly diverse inner city area with substantial inward migration coupled with high levels of unmet clinical and social care needs. Her clinical practice and research interests focus on migrant and ethnic minority populations in the UK. Prof Anderson is interested in the ways that information about HIV is gathered, stored and used, the implications for confidentiality, risk reduction and surveillance. In addition to her clinical post, she holds honorary academic appointments at Barts and the London School of Medicine and Dentistry and at University College London. She is currently Chair of the British HIV Association.



Val Curtis

Dr Val Curtis is Reader in Hygiene at the London School of Hygiene & Tropical Medicine and Director of the Hygiene Centre.

Trained as an engineer, epidemiologist and anthropologist, her research centres around water, sanitation and hygiene, in particular on the design of interventions to improve behaviour. She is co-founder of the Global Public-Private Partnership for Handwashing with Soap, which unites the marketing abilities of the private sector with the reach of the public sector and the science of academia in large-scale national handwashing programmes. She teaches and consults on behaviour change with governments, international organisations and industry. She has published widely on hygiene, behaviour and disgust and her book on the evolution of disgust is due to appear in 2013.



Angus Deaton

Angus Deaton is Dwight D. Eisenhower Professor of Economics and International Affairs at Princeton University. Prof Deaton is the author of five books and many

papers; his interests include health, development, poverty, inequality, and wellbeing. He is a long time consultant to the World Bank on poverty measurement and international comparisons, and to the Gallup Organization, exploring global and national links between life evaluation, hedonic wellbeing, income and health. He was the first recipient of the Econometric Society’s Frisch Medal, and was Editor of *Econometrica* from 1984 to 1988. He is a Fellow of the British Academy and of the Royal Society of Edinburgh, and was President of the American Economic Association in 2009. He holds honorary degrees from the universities of Rome, London, St Andrews, Edinburgh, and Cyprus. In 2012 he won the BBVA Foundation Frontiers of Knowledge Award in recognition of his life’s work.



John Edmunds

Professor John Edmunds is the Dean of the Faculty of Epidemiology and Population Health at the London School of Hygiene & Tropical Medicine. His research interests

centre on the use of mathematical models to guide infectious disease policy-making. He has published about 150 peer-reviewed articles on topics ranging from HPV vaccination to the economics of measles eradication. He is a member of a number of national and international committees including WHO’s Immunisation and Vaccines related Implementation Research, the European Technical Advisory Group of Experts on Immunisation, the UK Government advisory body for pandemic influenza (SPI, Scientific Pandemic Influenza) and its modelling sub-group (SPI-M) and various subcommittees of the Joint Committee of Vaccines and Immunisation – the UK’s vaccine policy advisory body. Before joining the School he was Head of the Modelling and Economics Unit of the Health Protection Agency.



Paul Fine

Paul Fine trained in veterinary medicine in the USA and in parasitology and epidemiology in the UK, worked in the smallpox eradication programme in India

in 1975, and spent a year at UC Berkeley working on arboviruses before joining the staff of the London School of Hygiene & Tropical Medicine in 1976, where he is Professor of Communicable Disease Epidemiology. His major research interests have been in infection dynamics, family studies, genetics, and vaccines. He directed a large epidemiological research programme – the “Karonga Prevention Study” – in Malawi from 1978–2006, concentrating first on leprosy, then tuberculosis and HIV. In recent years his vaccine interests have broadened to include the implications of oral vaccine virus transmissibility for the global polio eradication programme, the implications of “non-specific effects” of vaccines, procedures for the optimisation of vaccination schedules in developing countries, and evaluation of veterinary vaccines. He was among the founding members of the John Snow Society in 1993.

11-12 APRIL 2013 – SNOW'S LEGACY: EPIDEMIOLOGY TODAY AND TOMORROW

Biographies of speakers & chairs



Ben Goldacre

Ben Goldacre is a doctor, writer and broadcaster. He is currently a research fellow in epidemiology at London School of Hygiene & Tropical Medicine working on problems in trial design. His public engagement work focuses on unpicking the evidence behind misleading claims from journalists, the pharmaceutical industry, alternative therapists, and government reports. He has made several documentaries for BBC Radio 4, and wrote the *Bad Science* column in the *Guardian* for a decade. His previous book *Bad Science* reached number one in the UK and has sold over 500,000 copies worldwide in 20 languages. His current book *Bad Pharma* has triggered an international campaign for trials transparency and a UK government inquiry into publication bias.



David Heymann

David Heymann is Professor of Infectious Disease Epidemiology at the London School of Hygiene & Tropical Medicine, Head of the Centre on Global Health Security at Chatham House, and Chairman of Public Health England. Previously he held positions at WHO that ranged from coordinator of AIDS research to dDirector of Emerging Infections, Executive Director of Communicable Diseases, and then Assistant Director General. At WHO he headed the global responses to SARS and the initiative to eradicate polio. Before joining WHO, Heymann worked for 13 years as a medical epidemiologist in sub-Saharan Africa on assignment from the US Centers for Disease Control and Prevention (CDC) and participated in the response to the first and subsequent outbreaks of ebola hemorrhagic fever, and supported ministries of health in research to strengthen control of tropical and other infectious diseases.



Richard Horton

Dr Richard Horton is Editor-in-Chief of *The Lancet*. He was born in London and is half Norwegian. In 2011, Richard was appointed co-chair of the independent Expert Review Group overseeing delivery of the UN Secretary-General's Global Strategy of Women's and Children's Health. In 2011, he was also elected a Foreign Associate of the US Institute of Medicine. He has a strong interest in global health and medicine's contribution to our wider culture.



Robert May

Robert McCredie May, Lord May of Oxford, OM AC Kt FRS, holds a Professorship at Oxford University and is a Fellow of Merton College, Oxford. He was President of The Royal Society 2000-05, and Chief Scientific Adviser to the UK Government and Head of the UK Office of Science and

Technology 1995–2000. His career includes a Personal Chair in Physics at Sydney University aged 33, Class of 1877 Professor of Zoology at Princeton 1973–1988, and then a Royal Society Research Professor at Oxford. His interests include how dynamical systems are structured and respond to change, particularly with respect to infectious diseases, biodiversity, and financial “ecosystems”. His honours include: the Royal Swedish Academy's Crafoord Prize (ecology's equivalent of a Nobel Prize); the Swiss-Italian Balzan Prize; the Japanese Blue Planet Prize; and the Royal Society's Copley Medal, its oldest (1731) and most prestigious award.



Jonathan Montgomery

Jonathan Montgomery is Professor of Health Care Law at the University of Southampton. He chairs the Health Research Authority, Nuffield Council of Bioethics and Advisory

Committee on Clinical Excellence Awards. From 2009-2012 he was chair of the Human Genetics Commission. He has served on a number of working parties looking into bioethical issues, including the Organ Donation Taskforce's work on presumed consent, the Committee on the Ethical Aspects of Pandemic Influenza, the Nuffield Council of Bioethics Working Party on Public Health Ethics, and the Medical Ethics Committee of the BMA. He chaired a Strategy Committee on Brain Banking for the UK Clinical Research Collaboration and was the founding chair of the Scientific Steering Committee of the UK Brain Banks Network. He is co-director of the network, Health Ethics and Law, University of Southampton, which blogs at <http://healuos.wordpress.com>.



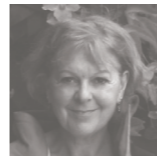
Patrick Moore

Patrick Moore, MD, MPH, is an American Cancer Society and Distinguished Professor in the University of Pittsburgh Cancer Virology Program. He received degrees

from Westminster College, University of Utah, Stanford University and UC Berkeley and trained at CDC as an Epidemic Intelligence Service officer. Together with his wife, Yuan Chang, he discovered and characterised Kaposi sarcoma herpesvirus in 1994 and Merkel cell polyomavirus in 2008, including establishing their causal roles in Kaposi sarcoma and Merkel cell carcinoma, respectively. He previously described international spread of an epidemic meningococcal clone by molecular methods, established WHO epidemic meningitis emergency guidelines and assessed refugee and displaced person health and mortality in Nepal and war-torn Somalia. Dr Moore's research has been recognised with the General Motors Mott Prize, the Robert Koch Prize, SGM Marjorie Stephenson Prize and CDC Langmuir Award, which included a rapidly-disappearing case of John Snow Pub beer, and other honours.

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Biographies of speakers & chairs



Dilys Morgan

Dr Dilys Morgan has had a long and interesting career alternating between mainly medical research in rural Africa where she lived and worked for 13 years, and UK public health. Dr Morgan is currently Head of Gastrointestinal, Emerging and Zoonotic Infections at Public Health England, which undertakes surveillance of gastrointestinal and zoonotic infections to monitor trends and interventions and to detect and respond to outbreaks and incidents, and provides expert advice and support. Her particular interests are the detection and assessment of new and emerging infections particularly at the human-animal interface. She is an honorary Professor at the London School of Hygiene & Tropical Medicine and was one of the founding members of the John Snow Society.



Nigel Paneth

Dr Nigel Paneth is a paediatrician and a perinatal/developmental epidemiologist with a particular interest in the causes and prevention of perinatal mortality and childhood neurodevelopmental handicap, especially cerebral palsy. He has developed several large cohort studies of premature infants focusing on long-term outcomes, and is now leading a case-control study of cerebral palsy focusing especially on differential patterns of gene expression in the newborn period. After receiving his MD from Harvard, he trained in Paediatrics at the Albert Einstein College of Medicine and in Epidemiology at Columbia University. He has taught at Michigan State University since 1989, where he served as the founding chair of the Department of Epidemiology. Dr Paneth has a strong interest in epidemiologic history, reflected in his work on the history of case-control studies, and as one of the authors of *Cholera, Chloroform and the Science of Medicine: A Life of John Snow* (2003).



Vikram Patel

Vikram Patel is a Professor of International Mental Health and Wellcome Trust Senior Research Fellow in Clinical Science at the London School of Hygiene & Tropical Medicine. He is the Joint Director of the School's Centre for Global Mental Health and Honorary Director of the Public Health Foundation of India's Centre for Mental Health. He is a co-founder of Sangath, a community based NGO in India. He serves on the WHO's Expert Advisory Group for Mental Health and the Technical Steering Committee of the Department of Child & Adolescent Health, and the Mental Health Policy Group of the Government of India. Prof Patel's book *Where There Is No Psychiatrist* (2003) is widely used in developing countries. He is based in India where he

leads a programme of mental health research and capacity development in partnership with Sangath, the Public Health Foundation of India and government agencies.



Richard Peto

Sir Richard Peto is Professor of Medical Statistics & Epidemiology at the University of Oxford, Founding Fellow at Green-Templeton College, University of Oxford, and Co-Director, with Professor Sir Rory Collins, of the University of Oxford's Clinical Trial Service Unit & Epidemiological Studies Unit (CTSU). The CTSU conducts large-scale randomised or observational studies in high, middle and low-income countries of the causes and treatment of chronic diseases such as cancer, heart attack or stroke. In addition, the CTSU organises several worldwide collaborative meta-analyses of trials and of observational studies. The CTSU is particularly well known for its studies of the effects of smoking in many different populations and for its generation and systematic review of large-scale randomised evidence in early breast cancer and in vascular disease.



Peter Piot

Peter Piot CMG MD PhD FMedSci is currently the Director of the London School of Hygiene & Tropical Medicine, and Professor of Global Health. Prof Piot was founding

Executive Director of UNAIDS - the chief advocate for worldwide action against AIDS - and Under Secretary-General of the United Nations from 1995 until 2008,... His early career included co-discovering the ebola virus in Zaire in 1976 and leading research on AIDS, women's health and public health in Africa. He has published over 500 scientific articles and 16 books. He was knighted as a baron in 1996 in his native Belgium.

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Ian Roberts

Ian Roberts is Professor of Epidemiology at the London School of Hygiene & Tropical Medicine. He trained in paediatrics and epidemiology in New Zealand and

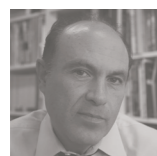
Canada. He is co-ordinating editor of the Cochrane Injuries Group, a network that prepares systematic reviews of the effectiveness of interventions in the prevention, treatment and rehabilitation of injury. He is principal investigator of the CRASH trials, large international clinical trials of better ways to treat injured trauma patients. The CRASH-1 trial, which included 10,000 patients with head injury from around the world, showed that corticosteroids, which were widely used in the management of head injury, did not improve patient outcome after head injury but increased the risk of death. The CRASH-2 trial has shown that tranexamic acid, an inexpensive and widely practicable treatment, safely reduces mortality in bleeding trauma patients. He wrote *The Energy Glut: the politics of fatness in an overheating world*.



Ken Rothman

Dr Ken Rothman is a Distinguished Fellow and Vice President for Epidemiology Research at the Research Triangle Institute, an independent nonprofit research institute

dedicated to improving the human condition. He is also a Professor of Epidemiology at Boston University. His research interests in epidemiology have spanned a wide range of health problems, but his main career focus has been the concepts and methods of epidemiologic research. He has written two epidemiologic textbooks: *Modern Epidemiology*, first published in 1986 and now in its third edition, is a comprehensive and widely used advanced text of epidemiologic methods; *Epidemiology – An Introduction* is a popular introductory text published by Oxford University Press, now in its second edition. He is the founding editor of the journal *Epidemiology*, and has served in many editorial posts, including the editorial board of the *New England Journal of Medicine* and the international advisory board of *The Lancet*.



Gary Slutkin

Dr Gary Slutkin is an epidemiologist, an innovator in violence reduction, and the Founder/ Executive Director of Cure Violence, formerly known as CeaseFire. He

previously served as Medical Director for the San Francisco Health Department Tuberculosis Program, and worked for WHO on reversing epidemics, including Uganda's AIDS programme – the only country to have reversed its AIDS epidemic. Dr Slutkin applied lessons learned from more than a decade fighting epidemics to the creation of Cure Violence, a public health approach to violence reduction that has been statistically validated by two independent evaluations conducted by the Department of Justice and Centers for

Disease Control. Cure Violence is currently being promoted or endorsed by the Institute of Medicine, National League of Cities, the National Governors Association, and the White House. The program is being replicated at more than 30 sites in 15 US cities, as well as five other countries.



Liam Smeeth

Liam Smeeth is Professor of Clinical Epidemiology and Head of the Department of Non-Communicable Disease Epidemiology at the London School of

Hygiene & Tropical Medicine. He also undertakes clinical work as a general practitioner in north London. Much of his research is based on making better use of computerised clinical data both to investigate drug effects and disease aetiology. He holds a Wellcome Trust Senior Fellowship in Clinical Science and is Deputy Director of the MRC Centre for Health Service and Academic Partnership in Translational eHealth Research. His work is largely in cardiovascular disease, with one area of particular interest being the causal role of infections and inflammation. Other areas of interest are genetic epidemiology and non-communicable diseases in low income settings. Prof Smeeth is involved in a range of activities for NICE and the NHS more widely.



Peter Smith

Peter Smith is Professor of Tropical Epidemiology at the London School of Hygiene & Tropical Medicine, which he joined in 1979 to head the Tropical Epidemiology

Unit, followed by the Department of Epidemiology and Population Sciences from 1990-96 and the newly created Department of Infectious and Tropical Diseases from 1997 to 2004. Research interests include large-scale intervention studies against tropical diseases. From 1996 to 2004 he served on the UK Spongiform Encephalopathy Advisory Committee and chaired the committee from 1999-2004. He has also chaired the WHO Global Advisory Committee on Vaccine Safety and chairs the WHO Global Malaria Programme/Initiative for Vaccine Research Joint Technical Expert Group on Malaria Vaccines in Pivotal Phase 3 Trials & Beyond. He is a Governor of the Wellcome Trust.

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Richard Smith

Richard Smith is Professor of Health System Economics, and Dean of the Faculty of Public Health and Policy, at the London School of Hygiene & Tropical Medicine. Following

undergraduate and postgraduate studies in economics at the University of York, and positions in Sydney, Cambridge, Bristol, Melbourne and Norwich, Prof Smith joined the School in 2007. He has worked in a number of areas of health economics, such as the monetary and non-monetary valuation of health, health care reform and genomics. His current interests are in the developing the application of macro-economics to health, the economics of globalisation and health, and aspects of trade and health. He has received over £30 million in grant income, published five books and more than 100 journal papers. He holds honorary positions at a number of other institutions, sits on funding council and journal editorial boards, and acts as an expert advisor for a number of international and national bodies.



Jon Snow

Sadly Jon Snow is not, so far as he can divine, related to the great John Snow but he wishes he was. He has been the Main Presenter of Channel 4 News since 1989. Before that

he was a reporter with ITV's News at Ten, and Washington Correspondent 1983-87. He reported the overthrow of Idi Amin in Uganda; the Iranian Revolution; Iran-Iraq War; Soviet invasion of Afghanistan; release of Nelson Mandela through to the Japanese tsunami and both Obama election campaigns. He has interviewed Pope John Paul II; Reagan; Mandela; Thatcher; Blair; Cameron; and Russell Brand. His greatest regret: not to have interviewed John Snow. He is married to epidemiologist Dr Precious Lungu.



David Spiegelhalter

David Spiegelhalter is Winton Professor of the Public Understanding of Risk at the University of Cambridge. His background is in medical statistics, particularly Bayesian methods.

He led the statistical team in the Bristol Royal Infirmary Inquiry and also gave evidence to the Shipman Inquiry. In his post he leads a small team (UnderstandingUncertainty.org) which attempts to improve the way in which the quantitative aspects of risk and uncertainty are discussed in society. He works closely with the Millennium Mathematics Project in trying to bring risk and uncertainty into education. He gives many presentations to schools and others, advises organisations and government agencies on risk communication, and is a regular columnist on current risk issues. He presented the BBC4 documentary 'Tails you Win: the Science of Chance', and in 2011 competed in 'Winter Wipeout'. He was elected FRS in 2005 and awarded an OBE in 2006 for services to medical statistics.



Ros Stanwell-Smith

Dr Ros Stanwell-Smith, MB BCh, M.Sc, FRCOG, FFPHM, Hon FRSPH, Dip. Hist. Med, has specialised in epidemiology and public health since 1980, initially in

combination with clinical posts. Since 2000 she has worked independently and is currently public health advisor to four UK water companies. She is an honorary Senior Lecturer at the London School of Hygiene & Tropical Medicine and is proud to have helped to found the John Snow Society, serving as its Secretary. Water and sanitation are favourite topics for lecturing and writing. In her role as a London Blue Badge tourist guide, she has led many walks exploring the history of Dr John Snow and other pioneers of medicine and public health.



Carole Torgerson

Carole Torgerson is Professor of Education in the School of Education at Durham University. Her main methodological interests are in the fields of trial design and research synthesis

in education research. She has undertaken several pragmatic randomised controlled trials and numerous systematic reviews in diverse topic areas in the field of education. She has received awards from the EEF, DfE, Home Office, ESRC, HEA, CfBT, HEFCE, NIHR and a range of other organisations. She sits on a number of grant awarding bodies and advisory groups as a RCT methodologist, including as principal member of the United States Institute for Education Sciences Reading and Writing and Science and Mathematics Review Panels. She is also a RCT consultant to the Department for Education, Department for Business, Innovation & Skills and the United States Institute for Education Sciences expert methodology group.

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Cesar Victora

Cesar Victora is Emeritus Professor of Epidemiology at the Federal University of Pelotas, Brazil and holds honorary faculty positions at Johns Hopkins University, the London School of Hygiene & Tropical Medicine, and Oxford University. He has conducted extensive research in maternal and child health and nutrition, birth cohorts, inequalities in health, and in health impact evaluations. Prof Victora is the President of the International Epidemiological Association (2011–14).



Mark Walport

Sir Mark Walport FRS FMedSci was appointed Government Chief Scientific Adviser on 1 April 2013. Previously Mark Walport was Director of the Wellcome Trust, a global

charitable foundation dedicated to achieving extraordinary improvements in health by supporting the brightest minds. Prior to this he was Professor of Medicine and Head of the Division of Medicine at Imperial College London. He has been a member of the Prime Minister's Council for Science and Technology since 2004. He has also undertaken independent reviews for the UK Government on the use and sharing of personal information in the public and private sectors: 'Data Sharing Review' (2009); and secondary education: 'Science and Mathematics: Secondary Education for the 21st Century' (2010). He received a knighthood in the 2009 New Year Honours List for services to medical research and was elected as Fellow of The Royal Society in 2011.



Richard Wortley

Professor Richard Wortley has been Head of the UCL Department of Security and Crime Science and Director of the UCL Jill Dando Institute since 2010. Prior to UCL

he worked in various Australian universities for 25 years. A psychologist by discipline, he began his career as a prison psychologist and is a past national chair of the Australian College of Forensic Psychologists. His research interests centre on the role that immediate environments play in criminal and corrupt behaviour, and the implications this has for situational crime prevention. He has undertaken funded research in areas including official misconduct in prison, whistleblowing in the public sector, child sexual abuse, internet child exploitation, and intimate partner homicide. Recent books include *Preventing Child Sexual Abuse* (with Smallbone & Marshall), *Internet Child Pornography* (with Smallbone) and *Psychological Criminology*.



Jimmy Whitworth

Professor Jimmy Whitworth first went to work in Africa 30 years ago. He has never had cholera nor had a chloroform anaesthetic, but has made maps for epidemiological

purposes and tried to take decisive action to control epidemics. He was one of the original members of the John Snow Society, membership number 005, and has been on the committee since its inception. He qualified in medicine from Liverpool in 1979, has worked at both the London and Liverpool Schools of Tropical Medicine. He has lived and worked in The Gambia, Sierra Leone and Uganda. Since 2005 he has been Head of International Activities at the Wellcome Trust, developing policy and strategy for funding researchers in low and middle income countries, working closely with researchers to develop a strong portfolio of research to improve human and animal health.

CARTOGRAPHIES OF LIFE & DEATH: JOHN SNOW & DISEASE MAPPING

13 March – 17 April 2013, Mon–Sat 10am–5pm, Free entry

Inspired by the pioneering work of medical detective John Snow, the London School of Hygiene & Tropical Medicine is holding an exhibition celebrating his work and legacy. Historical treasures and newly commissioned artworks inspired by science can be found both in and around the School's Keppel Street building.

Presented in the style of a disease mapping 'detective' trail, exhibition highlights include a pop-up water-based cocktail bar, weekly street performances, and disease maps from the School's archives showing how scientists have tracked disease outbreaks around the world from the early 1900s to the present day.

Smartphone users can visit johnsnow.org.uk to take a GPS journey from Keppel Street through Victorian London to the location of John Snow's seminal Broad Street map. A printed map is also available.

New contemporary artworks include: Amy Sharrock's 'Water Bar & Museum of Water', 13–16 March 11am–5pm, serving only water at the site of the John Snow memorial pump on Broadwick Street, Soho, to ask us to rethink our relationship with water; Catherine Anyango's 'Tunnel' drawing based on her journey into London's sewers; 'In the Event of Snow' by Pam Skelton uses animation to bring together the biological, environmental and social aspects of Snow's pioneering work; and Anne Eggebert's drawings combine Google Earth with Pro-Med mail data on where cholera outbreaks occur today. Eggebert & Cole's 'Weekly Returns' will see a series of cross-disciplinary public street lectures and performances return expert knowledge to the streets of Soho, featuring singing, a Tarot reader, a School expert in Geographical Information Systems and a geologist.

The exhibition will also feature the work of world-renowned culinary artists Bompas and Parr, whose work 'Scent of London' reveals the city's invisible architecture and cartography of smell.

Historical items on display from the archives of the London School of Hygiene & Tropical Medicine, the Wellcome Library, Museum of London and the London Metropolitan Archives include rare maps and printed ephemera relating to cholera outbreaks at the time.

'London Flows', a film screening curated by The Urban Laboratory, UCL takes place at the London School of Hygiene & Tropical Medicine on Tuesday 26th March, 6–10pm. Register at johnsnow.org.uk

The exhibition is curated by Artakt, Central Saint Martins College of Arts & Design, and supported by a Wellcome Trust People Award and Arts Council England.

Free John Snow podcast available for download from 20 March at <http://bit.ly/johnsnowpodcast>

- Talk a walk around Soho with Ros Stanwell-Smith to discover the history of John Snow
- Chris Grundy, the School's modern day cartographer meets with artist Anne Eggebert to look at the parallels in their work
- Our Archives team uncover the secrets of rare items on display in 'Cartographies of Life & Death'
- Join us at the 'Water Bar' in Soho to hear from scientists, artists and visitors

CARTOGRAPHIES
OF LIFE & DEATH

■ John Snow & Disease Mapping ■

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Improving health worldwide

The London School of Hygiene & Tropical Medicine is a world-leading centre for research and postgraduate education in public and global health, with 4000 students and more than 1300 staff working in over 100 countries. The School is one of the highest-rated research institutions in the UK, and was recently cited as one of the world's top universities for collaborative research. The School's mission is to improve health and health equity in the UK and worldwide; working in partnership to achieve excellence in public and global health research, education and translation of knowledge into policy and practice.

With special thanks to the organising committee: Vickie Bazalgette, Virginia Berridge, Alexandra Casey, Oliver Cumming, Shah Ebrahim, Ann Fazakerley, Paul Fine, Judith Glynn, Ann Hardy, Lisa Heiler, Chris Howard, Mary O'Mahony, Jenny Orton, Ian Roberts, Peter Smith, Ros Stanwell-Smith, Katie Steels, John Watson, Jimmy Whitworth, Patrick Wilson.

The John Snow bicentenary meetings are supported by:



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