aetiology  epidemiology  genomics  laboratory sciences  large and small clinical trials  choice architecture  evaluation  behavioural sciences  biostatistics  risk stratification  medical anthropology  ethnography  health intelligence  natural experiments  modelling  public engagement
The Institute’s Director, Professor Carol Brayne, explains why public health matters

“Public health covers the organised efforts of society to improve and sustain health in populations – integrating population level and individual level action and encompassing many disciplines and approaches. Public health has historically transformed the health of populations around the world, deriving from research and service – from sanitation to vaccination and tobacco control.’

‘As public health professionals, our objective is to extend healthy lives around the world. New global challenges continue to emerge as demographic and technological changes collide with urbanisation, migration and economic change. Longer lives are coming with a burden of ill health, often linked to poverty.’

‘Epidemics of non-communicable disorders, such as cardiovascular disease, cancer, chronic lung disease and diabetes, pose challenges in the developed and developing world alike. Re-emerging communicable diseases and increasing antibiotic resistance are also public health concerns. Inequalities in access to health services and interventions persist or enlarge while new approaches and technologies offer tremendous potential.’

“The Institute brings together a globally successful cadre of scientists and investigators to propel thinking on public health questions using a rich variety of perspectives.”

The Institute is a vibrant and multidisciplinary partnership of academics and public health professionals, based at the University of Cambridge School of Clinical Medicine. Our membership includes units from the University, Public Health England and the Medical Research Council.

Our members carry out research in public health and population sciences, educate scientists and public health leaders, and analyse and interpret population health evidence and data for policymakers and those working in public health.
Research

Institute members conduct population and public health research across the quantitative, biological, and social sciences. We investigate some of the most important non-communicable conditions: cancer, cardiovascular diseases, diabetes and obesity, and diseases of ageing, such as neurodegenerative conditions and bone disorders.

Institute research strengths lie in understanding how genetic, developmental, lifestyle, and environmental factors influence the major chronic diseases; behavioural change to improve health; primary care and health services research.

Our methodological strengths are focused on epidemiology, behavioural psychology, statistical methods and their application; and the analysis and interpretation of population health data including the cancer registry.

Our large-scale population studies, such as EPIC Norfolk and CFAS, help us to understand and identify the separate and combined influences of the genetic and lifestyle factors in major diseases. Our researchers are at the forefront of generating population data on genes and biomarkers, backed by the Institute’s international leadership in the development of biostatistical and other methods to make optimum use of novel technologies.

The Institute’s position at the heart of the Cambridge Biomedical Campus, our strategic links with key clinical and service institutions and agencies, and our extensive set of externally funded programmes have enabled our scientists to deliver world class research programmes with the highest ratings.

The knowledge and methodology we develop helps to shape effective public health policy and practice in the UK and internationally.

Training

Cambridge Institute of Public Health educates and inspires the next generation of public health leaders, scientists and practitioners.

We deliver specialist public health and primary care training to undergraduate medical students studying at the School of Clinical Medicine, University of Cambridge. Public health training is integrated with teaching delivered in hospital-based specialties and is coordinated through the leadership of the Clinical Dean and the Clinical School Education Division.

The Institute has a strong tradition of postgraduate training and offers Masters Programmes in Epidemiology, Public Health and Clinical Sciences (Primary Care Research). PhD applications are welcomed across the Institute.

Cambridge Institute of Public Health continues to support public health professionals throughout their careers. This includes offering training to Public Health Registrars and providing a range of short courses throughout the year addressing topics within biostatistics, public health intelligence and epidemiology.
Our focus on understanding health and wellbeing in populations is matched by an emphasis on knowledge exchange. The Institute’s ties with policymakers, service providers, commissioners and planners enable us to understand real world health challenges and to exchange knowledge, evidence, data and methodologies with those working in public health.

Several of Public Health England’s health intelligence units are located at the Institute. They supply evidence, data and resources to help public health planners and commissioners to make rational assessments of population needs.

Our biostatisticians and analysts are leading the field in aspects of methodology and surveillance that underpin policy and planning, including data handling, health intelligence and health economic modelling.

Locally, we have powerful links across the health system in East Anglia, to integrate our population and healthcare research with service provision.

We are at the forefront of innovation and research in healthcare, located within the Cambridge Biomedical Campus, with access to leading clinical, academic and industry expertise. Our service partners from the UK NHS include Cambridge University Hospitals, Papworth and the Cambridgeshire and Peterborough Foundation Trust.

We are partner in a series of nationally important health science collaborations, from the NIHR School for Public Health Research to the new Eastern Academic Health Science Network.

Set up in 1993 to facilitate collaboration between population health scientists and the health service, the Institute’s strategic connections today reach right across the academic, health service and policy arenas for public health.

The Institute as hub for generating knowledge

We host PublicHealth@Cambridge, the innovative public health research network that connects public health expertise across the disciplines and provides new perspectives on public health from all six University Schools and other Cambridge-based researchers.

Research into action

Our major determinants of ill health:
- Smoking, alcohol, physical activity, diet and nutrition
- Drug dependency
- Built environments

Widespread chronic disorders:
- Diabetes, cardiovascular disease, stroke
- Cancer, dementia

Across the lifecourse:
- Local, regional, national, global
The Cambridge Institute of Public Health is one of the world’s leading centres of expertise in the health of populations and the factors which influence health; and our alumni are working all over the world to improve public health.

Our success stems from the breadth and depth of our expertise across the field of public health, and from our strong and stable partnerships.

We are now working to consolidate our success with three areas for development:

- **Inspiring success** – a new integrated training strategy
- **Research into action** - strengthening our external relations and knowledge transfer activities
- **Public Health 2025** – a building for the future

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**Public involvement**

Our work is carried out in partnership with a wide range of patients and members of the public. Across our research programmes, population studies and clinical trials we consult and collaborate with a variety of groups on topics from ageing to cardiovascular disease and cancers.

**Population studies**

The Institute’s population studies typically involve detailed assessment of participants recruited from East Anglia and elsewhere in the UK. These include the Norfolk element of EPIC, the major European cancer study, and several major longitudinal studies looking at health and cognitive function in older people.

**International collaborations**

The Institute is a partner in international collaborative studies that give us access to larger populations, enabling analyses of particular exposures or disease outcomes. Two important current studies are looking at risk factors in heart disease (2.3 million participants) and breast cancer (216,800 participants).

We have a number of programmes in developing countries, including South Asia’s largest study of coronary disease.

Our collaboration with the UNC Gillings School of Global Public Health in the United States is exploring aspects of dementia, obesity, high risk behaviour and statistical methods.

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**Our future**

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**Credit:** Phil Mynott
Guideline to the Institute

1. Department of Public Health and Primary Care, University of Cambridge

Professor John Danesh

Cardiovascular disease. The Department generates evidence to inform the prevention of premature death and disability, the promotion of health, and provide evidence-based health policy. There is a particular focus on common chronic conditions – common cancers, cardiovascular disease, neurodegenerative diseases, osteoporosis and metabolic diseases.

Professor Martin Roland

Ageing and Neurosciences. These three programmes (CamCAN, CFCAS and CC75C) contribute to the understanding of brain ageing with a population perspective that spans usual, pathological and successful ageing. The programme is led by Professor Martin Roland.

Professor Carol Brayne

Centre for Cancer Genetic Epidemiology. Carries out association studies in breast, ovarian, prostate and other cancers, to identify and test novel risk factors and mechanisms into preventative and testing these strategies in populations and settings representative of primary care.

Professor Nick Wareham

MRC Epidemiology Unit.

Conducts powerful and detailed studies to identify and evaluate genetic, biochemical, pathological and successful ageing. These three programmes (CamCAN, CFAS and CC75C) contribute to the understanding of brain ageing with a population perspective that spans usual, pathological and successful ageing. The programme is led by Professor Martin Roland.

Professor Martin Roland

Cancer data at the National Cancer Registry (Eastern Office), staff collect, process, store and analyse all malignant tumours and some pre-cancerous and non-malignant cancers newly diagnosed in the East of England.

Dr Jem Rashbass

Health surveillance. The East of England Field Epidemiology Unit conducts analyses information on infections and environmental exposures with the objective of rapid detection of outbreaks, incidents and trends requiring action.

Dr Mark Reacher

NIHR School for Public Health Research

This national partnership aims to build the evidence base for effective public health practice, looking at what works practically to improve population health and reduce health inequalities. In Cambridge, we are investigating: ageing well, alcohol, childhood obesity, and the built environment.

Professor Carol Brayne

2. MRC Epidemiology Unit, University of Cambridge

Scientists here study the genetic, developmental and environmental factors that cause obesity, diabetes and related metabolic disorders. The outcomes from these studies are then used to develop strategies for the prevention of these diseases in the general population.

Professor Nick Wareham

3. MRC Biostatistics Unit

Develops statistical methods and their application to the design, analysis and interpretation of biomedical studies. Major focus on statistical genomics, randomised trials, evidence synthesis and longitudinal data.

Professor Sylvia Richardson

4. MRC Human Nutrition Research Unit

Conducts nutrition research and surveillance to improve the health of the population with a particular focus on obesity and metabolic risk, musculoskeletal health, intestinal health and nutritional inequalities.

Professor Theresa Marteau

5. The PHG Foundation

This independent health policy think-tank has a particular focus on statistical genomics, randomised trials, evidence synthesis and longitudinal data.

Professor Theresa Marteau

6. Cross cutting units at the Institute

UKCRC Centre for Diet and Activity Research (CEDAR)

The Centre is studying the factors that influence dietary and activity related behaviours, developing and evaluating public health interventions, and helping shape public health practice and policy.

Professor Nick Wareham

Behaviour and Health Research Unit

Contributes evidence to national and international efforts to achieve sustained behaviour changes that improve health outcomes and reduce health inequalities.

Professor Theresa Marteau

NIHR CLAHRC East of England

This partnership focuses on improving the health and wellbeing of vulnerable people in complex health systems; research themes include dementia, frailty and end of life care.

Professor Peter Jones

Cambridge Centre for Health Services Research

The focus here is on: (a) developing methods of measuring quality of health care, (b) evaluating public health policies and approaches to the delivery of healthcare, and (c) learning from international comparisons of evidence base for effective public health practice, looking at what works practically to improve population health and reduce health inequalities. In Cambridge, we are investigating: ageing well, alcohol, childhood obesity, and the built environment.

Professor Carol Brayne

7. Public Health England units at the Institute

Analysis and interpretation of population health data

The PHE Knowledge and Intelligence Team (East) helps public health teams based in local authorities and the NHS to make better decisions for commissioning, prioritisation and improving outcomes, by providing high-quality analysis and interpretation of population health data. Provides online resources backed up by workforce training and access to expert advice.

Dr Julian Flowers

Cancer data

At the National Cancer Registry (Eastern Office), staff collect, process, store and analyse all malignant and some pre-cancerous and non-malignant cancers newly diagnosed in the East of England.

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Health surveillance

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For more information about our structure, visit: www.iph.cam.ac.uk