About us

The NIHR HPRU in Gastrointestinal Infections at University of Liverpool is a partnership with Public Health England (PHE) in Gastrointestinal Infections and brings together internationally leading researchers from the University of East Anglia, University of Oxford and the Institute of Food Research working in partnership to exploit synergy, world-class facilities, and breadth and depth in relevant research between these institutions.

OUR WORK AIMS TO:

- explore and explain the distribution of diarrhoeal diseases in the population, establishing for whom the disease burden is greatest and why
- generate new strategies for control to reduce disease burden and associated health inequalities

Conventional approaches to controlling diarrhoeal diseases have not reduced the overall disease burden. We will integrate natural science and social science methodologies to work out how best to control diarrhoeal diseases.”

Professor Sarah O’Brien, Director of the HPRU

Contact us

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Health Protection Research Unit in Gastrointestinal Infections

A public health problem
Up to 17 million people are affected by diarrhoeal diseases each year in the UK, leading to 11 million working days lost to the economy and 8 million absences from school.

The NIHR HPRU in Gastrointestinal Infections is part of the National Institute for Health Research and is a partnership between the University of Liverpool and Public Health England in collaboration with the University of East Anglia, the University of Oxford and the Institute of Food Research.
Our research

THEME 1 | PEOPLE
Exploring socio-economic and behavioural factors in gastrointestinal infections

We will provide the evidence for developing national and local policy and practice to reduce inequalities in the causes and consequences of gastrointestinal (GI) infections. We will identify inequalities in the burden of infections then explore the role of factors in the socio-economic environment generating these inequalities. Next we will identify potential points for intervention and finally we will develop more effective control measures with local partners that factor in the realities of people’s lives.

THEME 2 | TRACKING DISEASE IN THE POPULATION
Developing novel methods for disease surveillance and outbreak investigation

We will develop and apply epidemiological methods to improve the evidence base and available toolkit for service and academic public health epidemiologists working with GI and other infections. We will carry out a programme of secondary and primary research to fill gaps in the evidence base on parameters of GI infections, such as incubation times and carriage duration, the development of tools to update estimates of these from data, and the development of epidemiological methods to support surveillance and outbreak investigation.

THEME 3 | PATHOGENS
Exploiting recent advances in genomics

We will develop the analysis of whole genome sequence data of gastrointestinal pathogens for improved surveillance and investigation of infectious intestinal disease. A major objective is to provide a comprehensive integrated analysis platform comprising WGS data and associated metadata data to facilitate the evidence-based interpretation of genomic variation to test biological and epidemiological hypotheses.

THEME 4 | PLACES
Elucidating the role of environment in gastrointestinal disease outbreaks

We will determine the contribution of environmental contamination, human behaviour, and host risk factors on the success of noroviruses; the commonest cause of outbreaks and sporadic cases of gastroenteritis in the UK population. This is essential in order to design effective interventions for the prevention and control of outbreaks in acute and community health and social care settings.

THEME 5 | PATHWAYS
Understanding transmission of gastrointestinal infection to and between people

We will generate new knowledge on the range and relative importance of the different transmission pathways through which gastrointestinal pathogens spread from person-to-person, animal-to-person and environment-to-person and how these different pathways interact to influence the epidemiology of disease. This is essential to enable us to design better control strategies for gastrointestinal pathogens with multiple transmission pathways.

THEME 6 | THE MICROBIOME
The role of microbial communities in gastrointestinal disease

We will generate an archive of faecal specimens from patients with gastrointestinal disease together with associated epidemiological information and state of the art microbiological diagnostics.