

NEWS



**NORTH WEST ZOOZOSES GROUP (NWZG) ANNUAL CONFERENCE
'EMERGING THEMES IN ZOOZOSES'**

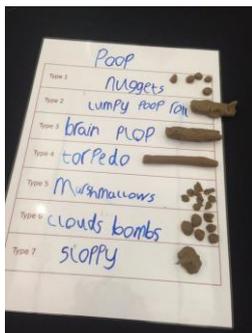
Intestinal carriage of antimicrobial resistant (AMR) bacteria in pets was found to be associated with feeding dogs a raw meat diet. This was one of the main conclusions of the presentation by Prof. Nicola Williams at the annual North West Zoonoses Group (NWZG) conference on 'Emerging Themes in Zoonoses' on 6 July.

Inter-agency working, one of the aims of the NWZG, was illustrated by Prof. Sarah O'Brien and Kevin Maher from Food Standards Agency during their discussion of a case study which reviewed consumer behaviour and marketing and how this influenced advice on the manufacture and preparation of gourmet burgers. The full review of the event is available [here](#).



THE PRIMARY SCHOOL SCIENCE FESTIVAL AT WORLD MUSEUM LIVERPOOL

On 6 July 2016 HPRU GI social science researchers held fun, interactive workshops for school children during the Primary School Science Festival. With the aid of 'Gerry the Gut', a giant inflatable intestine, local school aged children were asked to think about, describe and make sense of tummy bugs – where they might come from, what might happen if they had one, and how tummy bugs would make them feel.



Through various tasks, the researchers helped explore how children describe and make sense of their health and ill health, as well as the ways in which viruses and bacteria get into our guts. Visit the [HPRU GI website](#) to read more about this event.



HPRU GI ANNUAL SCIENTIFIC MEETING

The 2017 HPRU GI Annual Scientific Meeting will be held at the Liverpool Medical Institution on 1-2 March 2017. Call for abstracts will be out soon.

 Public Health England

Public Health England Annual Conference 2016

13-14 September 2016

PUBLIC HEALTH ENGLAND ANNUAL CONFERENCE 2016

Public Health England's fourth annual conference was held 13-14 September 2016 at the University of Warwick, and brought together over 1,450 participants from a wide range of organisations. The theme for the event was 'Evidence into Action', and keynote speeches were given by PHE's Chief Executive Duncan Selbie, Chris Wormald the new Permanent Secretary at the Department of Health and Sir David King, the Foreign Secretary's Special Representative for Climate Change who gave a lecture on climate change and the risks to humanity. The NIHR HPRU GI's research was featured, including Dr Noel McCarthy's presentation on 'Maximising the benefits from the application of new technologies for outbreak control: learning lessons from whole genome sequencing (WGS)'.



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IT'S THE SMALL THINGS IN LIFE

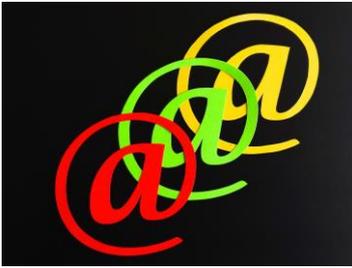
HPRU GI researchers Professor Martin Maiden and Dr Frances Colles have been involved in the Wellcome Trust's 'The Crunch' activities to help people think about how our food, our health and our planet are all interconnected. They worked with Pearson to produce a script, and then did some filming with them at farm and laboratory locations to describe how *Campylobacter* isolates from broiler (meat) chickens and wild birds were collected and genotyped. The videos were incorporated as part of a larger education package created by the Wellcome Trust for school children aged 14-16.

For more information on the module 'Why cook your chicken?' visit:

<https://thecrunch.wellcome.ac.uk/schools-and-colleges/its-the-small-things>

Watch the Farm Story: <https://www.youtube.com/watch?v=K7Nj7bVmCGA>

Watch the Lab Story: https://www.youtube.com/watch?v=6upV_PPHUbs



HPRU GI WEBSITE& TWITTER

Our website address is www.hprugi.nihr.ac.uk and Twitter name is [@HPRUgi](https://twitter.com/HPRUgi)
Please don't forget to let us know about any news items, public engagement events, or anything similar, for the website, Twitter and next edition of this newsletter.

EVENTS

The British Science Association Launches New Regional Branch in Norwich

5-6.30pm, 26 October 2016, The Forum

The British Science Association is a nationwide charity dedicated to integrating science into our society and culture. If you fancy being involved with the branch and promoting accessible science in the area, *please come along and celebrate the launch*. The drinks reception will also be followed by a BSA Award Lecture, The Voice by Dr Carolyn McGettigan as part of the Norwich Science Festival.

The first branch meeting will be on 2 November at 6.30pm at The Forum.

For more details, visit the British Science Association website:

<http://www.britishtscienceassociation.org/norwich>

Institute of Psychology, Health and Life Sciences Postgraduate Annual Conference 2016

9am – 5pm, 28 October 2016, Foresight Centre, University of Liverpool

In this conference, IPHS PhD students will present their ongoing work, and those attending will have the opportunity to celebrate with them their progress and discuss the science in their projects. It will be great if you can all attend and be part of it, particularly if you are supervising students or plan to.

Please contact IPHS PGR administrator, Sharon Gillie at pcbspgr@liverpool.ac.uk to confirm attendance.

Public Health England Applied Epidemiology Scientific Conference 2017

21-22 March 2017, Ramphal Building, University of Warwick

The purpose of this conference is to support high quality and innovative science through the sharing of good practice including the work of the NIHR Health Protection Research Units. The meeting will be a mix of plenary sessions, posters and parallel sessions. Call for abstracts will be out shortly.

PHE Training

Public Health England are offering a range of different training courses which are open to both PHE staff and external delegates:

- 25-27 January – HIS Foundation course (run by the HIS foundation)



- 6-10 February – Introductory course on the epidemiology and surveillance of infectious diseases (this course is also run June and October)
- 22 February – STATA Training (this is also run in October)
- 22-24 February – Legionnaires’ disease: risk assessment, investigation and control
- 7 March – Advanced outbreak management course
- 28 March – Hitchhikers Guide to Microbiology, microbiology for non-microbiologists (this is also run June and November)
- 9 May – Hitchhikers Guide to Epidemiology

If you would like to attend any of these courses then please contact Gloria Wilson, PHE Education and Training Coordinator at gloria.wilson@phe.gov.uk

STAFF UPDATES

We would like to welcome Vikki Grimby who has started with us as Project Officer, based at the Farr Institute@HeRC at the University of Liverpool.

STUDENT NEWS



Anna Pulawska-Czub, PhD student from the Places theme gave birth to a baby girl on Sunday 5 June. Olivia weighed a healthy 9 pounds (4.1kg). Both mummy and baby are doing well.



Oluwaseun Esan and **Madison Pearce** both presented their research at the International Symposium Salmonella and Salmonellosis (i3S) in Saint-Malo, France held on 6-8 June 2016. Oluwaseun gave an oral presentation on ‘Factors affecting the development of chronic sequelae following non-typhoidal Salmonella infection in humans: A systematic review’. Madison gave a talk on ‘A gene by gene approach to developing a core genome MLST scheme within Salmonella enterica’.



Dr Sarah McGarrol (PDRA) and **Suzie Rotherham (PhD student)** attended the ENRGHI (Emerging New Research in the Geographies of Health and Impairment) conference: University of Glasgow 16-17 June 2016. Both researchers submitted posters: Suzie on ‘Risk, vulnerability and consequences of gastrointestinal infections in disadvantaged neighbourhoods in the North West of England’; and Sarah on ‘People and places: exploring and understanding factors influencing health inequalities in Gastrointestinal Infection (GI) in socially contrasting localities in the North West of England’.

Oluwaseun Esan took part in a rapid fire oral presentation at the International Population Data Linkage Conference held at Swansea University on 25 August 2016. Oluwaseun spoke for four minutes on 'Bespoke linkage of Public Health England data on gastrointestinal infections to the Clinical Practice Research Datalink: Ethics approval and a study proposal'. There are plans for this to be published in the International Journal of Population Data Science.

Helen Hughes presented two posters at the PHE Annual Conference held on 13-14 September 2016, on 'A tale of two cities: a comparison of the health impact of the 2014 air pollution episodes across London and Paris using emergency department syndromic surveillance' and on 'Emergency department syndromic surveillance: information for data action'. She was awarded the Global Health Poster Prize for her 'A tale of two cities' poster, as her work was considered to be contributing positively to global health efforts.

PHD STUDENT PROFILES



Adedoyin Awofisayo-Okuyelu

Adedoyin started in the Tracking Theme PhD studentship 'Estimating parameter distributions and developing epidemiological methods and tools to support GI outbreak investigations' in January 2016, with supervisors Noel McCarthy of University of Oxford and Ian Hall and Bob Adak of Public Health England. Adedoyin is a graduate of the University of Birmingham. She previously worked for Public Health England as an Epidemiologist. Her areas of interests are infectious disease epidemiology, outbreak investigations and international health. In addition to being a full-time PhD student, Adedoyin has several interests outside of school including running and shoe designing.



Helen Hughes

Helen began her People Theme PhD studentship 'The use of emergency department electronic health data for syndromic surveillance to enhance public health surveillance programmes' in May 2016, with supervisors Sarah O'Brien and Roberto Vivancos, Alex Elliot and Gillian Smith from Public Health England. Helen is a graduate in Biological Sciences from Lancaster University, and in Epidemiology from the University of Edinburgh. She works for Public Health England and having started on a mathematical modelling of pandemic influenza project, she is currently working in the Real-time Syndromic Surveillance Team. Outside of work she likes to stay active and will give almost any challenge a go (flying trapeze is brilliant fun; triathlon not so much), though figure and synchronised ice skating have become the focus of her training, for the winter at least.



Saskia Neuert

Saskia started her PhD studentship 'Application of metagenomics for diagnosis of gastrointestinal infections' in the Microbiome Theme in April 2016, with supervisors Arjan Narbad and Lee Kellingray of the Institute of Food Research and Tim Dallman of Public Health England. Saskia graduated from Liverpool John Moores University with a BSc in Biochemistry and Forensic Science and holds a Master's degree in Life and Medical Sciences from the University of Bonn. She has previously worked for a provider of diagnostics services in Germany where she gained experience in PCR-based identification of enteric pathogens. In her spare time, Saskia enjoys choral singing and plays an active role in keeping the carnival tradition alive in her German hometown.

NEW HPRU GI PHD STUDENTS

Welcome to **Jennifer Mattock**, who has joined us on HPRU GI PhD studentships. Her profile will be featured in a future HPRU GI newsletter.

PUBLIC INVOLVEMENT AND ENGAGEMENT, IMPACT AND KNOWLEDGE EXCHANGE

PUBLIC INVOLVEMENT AND ENGAGEMENT ACTIVITIES

Involving and engaging the public in our research is a key focus for the unit. Here are some activities that took place over the summer:

University of Third Age

Lee Kellingray, Research Assistant at the Institute of Food Research spoke to the University of Third Age, Norwich group, on gut microbiome and the importance of microbiome in health and disease.

Wirral Health Protection Group

One of the priorities for the Wirral's Health Protection Group is to reduce the incidences of food borne illnesses. The Group plan to collaborate with The University of Liverpool's HPRU GI in order to help reduce the number of occurrences. Dr Sarah McGarrol and Suzie Rotherham attended the Wirral Health Protection Meeting on 2 June 2016 to discuss exploring and understanding factors influencing health inequalities in Gastrointestinal Infection (GI) in socially contrasting localities in the North West of England.

Looking After Your Gut Bacteria

Professor Arjan Narbad of the Institute of Food Research gave a talk to 150 people on looking after gut bacteria, as part of the Summer Programme of St Andrew's Church Hall, Eaton in Norwich.

Added Value

Over the summer Professor Paul Hunter, HPRU GI Pathways theme leader, advised on two incidents of *Cryptosporidium* infection in drinking water supply in Southern England. He will also continue to lead the Research Task Team within WHO UNICEF Global Action Fund on Water Sanitation and Hygiene in Healthcare facilities.



Public Involvement Day

On 27 September, a training day for researchers and members of the Institute of Infection and Global Health/HPRU EZI Public Involvement Panel (PIP) took place at the Ronald Ross Building. For the [full review](#) see the EZI website.

Article on Nutra Ingredients.com

Professor Arjan Narbad was interviewed on probiotics which resulted in a published article on the Nutra Ingredients website: <http://www.nutraingredients.com/Research/UK-China-probiotics-centre-plans-GM-research>

Outreach Event

Dr Helen Clough, in her role as a Science, Technology, Engineering and Mathematics (STEM) Ambassador, attended the Liverpool Common INSET Day on 21st October at West Derby High School in Liverpool. The event was attended by teachers of Science subjects from across the six local authorities. Visit the [public engagement pages](#) of the GI website for more details.

UPCOMING EVENTS

There are numerous ways in which researchers can get involved, including the following events - please contact hprugi@liverpool.ac.uk for further information.



Norwich Science Festival

A new Norwich Science Festival will be held from 18-30 October 2016. The event will build on previous science activity, and is aimed at showcasing the world-class science being carried out in Norwich. Please visit www.theforumnorwich.co.uk/norwichsciencefestival for further information.



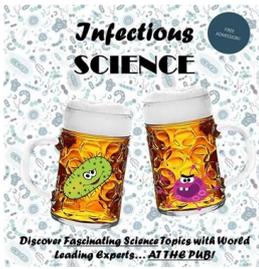
'Meet the Scientists' World Museum Liverpool Programme, World Museum, Liverpool

Weekend family-friendly events focused on key topics researched within the University of Liverpool's Faculty of Health and Life Sciences, including the HPRU GI. Providing an opportunity for visitors to meet real scientists and to find out about the latest research happening at the HPRU, in an informal, interactive and enjoyable way. The next event is on 26 November, 10am-4pm on **'Marvellous Medicines'**. For more details on this and future events, visit: <http://www.liv.ac.uk/health-and-life-sciences/meet-the-scientists/>



Engage Conference –Inspiring Innovation

The National Co-ordinating Centre for Public Engagement's 2016 conference will be held 29-30 November 2016 in Bristol, and provides an opportunity for all those interested in HEI public engagement to come together, to be inspired, challenged and refreshed. For details of how to register visit their [website](#).



Infectious Science

The next in the series of HPRU 'Infectious Science' events will be held on 12 December 2016 at The Vines public house in Liverpool. This free-of-charge evening event, aims to encourage people from all ages and backgrounds to take an interest in infections, and the event provides an opportunity for HPRU researchers to develop their public engagement skills. Please contact **Raquel Medialdea Carrera** at raquelmc@liverpool.ac.uk if you would like to present your research in Gastrointestinal Infections at this or a future event.



Pint of Science

The Pint of Science festival runs from 15-17 May 2017 across 3 different pubs in Liverpool. This will be the first time that the event will run in Liverpool, with the University of Liverpool taking the lead. The themes for the festival are 'Beautiful Mind', 'Our Body' and 'Planet Earth'. If you would like to discuss your latest research and findings in a pub setting then please contact hprugi@liverpool.ac.uk.

If you are involved in any relevant activities, please inform the HPRU GI Administration Team at hprugi@liverpool.ac.uk. Please provide the activity title, brief description, date, audience (schools, public, etc.), audience numbers, and any photographs or additional information.

PUBLIC ENGAGEMENT GRANT SCHEME

Have you got a great idea for a new Public Engagement activity, and would like some support to get it started? Are you already involved in an excellent Public Engagement project, and want to develop it further? The Faculty of Health and Life Sciences, at The University of Liverpool have grants available to support your engagement with individuals or groups outside of the University. If you want to apply for a grant of between £200 to £2,000 to support your project then contact Laura Winters, Faculty Public Engagement Officer, for an application form. All applications need to be completed by **18 November 2016** and projects must be completed by 30 June 2017.

NIHR COMMUNICATIONS

PUBLICATION APPROVAL AND ACKNOWLEDGMENTS

Acknowledging HPRU in Publications

Acknowledging the NIHR HPRU is vital as we need to capture all your relevant work. If a publication is acknowledged as an HPRU one it can be counted as an output for the Unit.

Anything HPRU related that is published by any HPRU researcher should have the following included as an address, in addition to your usual address:

- **NIHR Health Protection Research Unit in Gastrointestinal Infections, UK.**

Where a publication is a result of work directly funded or indirectly supported by the HPRU this too needs to be acknowledged.

Acknowledgment and disclaimer for work directly funded by the NIHR

The research was funded by the National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Gastrointestinal Infections at University of Liverpool in partnership with Public Health England (PHE), in collaboration with University of East Anglia, University of Oxford and the Institute of Food Research. [name of researcher] is based at [name of institution]. The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health or Public Health England.

Disclaimer for work not directly funded by the NIHR but where they have been acknowledged in the address

[name of researcher] is affiliated to the National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Gastrointestinal Infections at University of Liverpool in partnership with Public Health England (PHE), in collaboration with University of East Anglia, University of Oxford and the Institute of Food Research. [name of researcher] is based at [name of institution]. The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health or Public Health England.

UPDATED Submission

A draft of research articles should be submitted to NIHR at the same time as submission for publication or at least 28 days before the date intended for publication, whichever is earlier.

Please submit your paper directly to joanna.topping@nihr.ac.uk and mike.rogers@nihr.ac.uk copying in hprugi@liverpool.ac.uk to the email so that a record of outputs can be maintained. Please include details of the publication/journal the article is to be submitted to.

UPDATED Dissemination of results

NIHR would now like sight of any publication or work where the results of HPRU research are being disseminated (book chapters, abstracts from congress participation or poster presentations for example) to ensure the correct acknowledgments are being used, since these too are deemed to be research outputs. Again **please submit these directly to joanna.topping@nihr.ac.uk and mike.rogers@nihr.ac.uk copying in hprugi@liverpool.ac.uk to the email.**

PUBLICATIONS

Congratulations to the following who have published in recent months.

Arana A, Montes M, Jere K, Alkorta M, Iturriza-Gómara M, & Cilla G. **Emergence and spread of G3P[8] rotaviruses possessing an equine-like VP7 and a DS-1-like genetic backbone in the Basque Country (North of Spain), 2015.** *Infection, Genetics And Evolution.* 2016 Oct; 44: 137-144.

Available from: <http://dx.doi.org/10.1016/j.meegid.2016.06.048>

Awofisayo-Okuyelu A, Verlander NQ, Amar C, Elson R, Grant K, Harris J. **Factors influencing the time between onset of illness and specimen collection in the diagnosis of non-pregnancy associated listeriosis in England and Wales.** BMC Infectious Diseases. 2016; 16(1): 311

Available from: <https://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-016-1638-4>

Butcher, H, Elson, R, Chattaway, M.A, Featherstone, C.A, Willis, C, Jorgensen, F, Dallman, T.J, Jenkins, C, McLauchlin, J, Beck, C.R, Harrison, S. **Whole genome sequencing improved case ascertainment in an outbreak of Shiga toxin-producing Escherichia coli O157 associated with raw drinking milk.** Epidemiology and Infection. 2016 Mar; 144(13): 2812–2823

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Byrne L, Adams N, Glen K, Dallman TJ, Kar-Purkayastha I, Beasley G, Willis C, Padfield S, Adak G, Jenksin C. **Epidemiological and microbiological investigation of an outbreak of severe disease from Shiga toxin-producing Escherichia coli O157 infection associated with consumption of a slaw garnish.** Journal of Food Protection. 2016; 79(7): 1161-1168.

Available from: <http://dx.doi.org/10.4315/0362-028X.JFP-15-580>

Carmona-Vicente N, Vila-Vicent S, Allen D, Gozalbo-Rovira R, Iturriza-Gómara M, Buesa J, Rodríguez-Díaz J. **Characterization of a Novel Conformational GII.4 Norovirus Epitope: Implications for Norovirus-Host Interactions.** J Virol. 2016 Aug 12; 90(17):7703-14. doi: 10.1128/JVI.01023-16.

Available from: <http://jvi.asm.org/content/90/17/7703.long>

Dallman T, Inns T, Jombart T, Ashton P, Loman N, Chatt C, Messelhaeusser U, Rabsch W, Simon S, Nikisins S, Bernard H, le Hello S, Jourdan da-Silva N, Kornschöber C, Mossong J, Hawkey P, de Pinna E, Grant K, Cleary P. **Phylogenetic structure of European wide Salmonella Enteritidis outbreak correlates with national and international egg distribution network.** Microbial Genomics. 2016. doi: 10.1099/mgen.0.000070

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Grassly N C, Prahara J, Babji S, SP Kaliappan, Giri S, Venugopal S, Parker EPK, Abraham A, Muliylil J, Doss S, Raman U, Liu J, Peter JV, Paranjape M, Jeyapaul S, Balakumar S, Ravikumar J, Srinivasan R, Bahl S, Iturriza-Gomara M, Uhlig HMM HMM, Houghton ER, John J, Kang G. **The effect of azithromycin on the immunogenicity of oral poliovirus vaccine: a double-blind randomised placebo-controlled trial in seronegative Indian infants.** The Lancet Infectious Diseases. 2016; 16(8):905-914.

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Holmes CW, Koo SF, Osman H, Wilson S, Xerry J, Gallimore, CI, Allen DJ, Tang JW. **Predominance of enterovirus B and echovirus 30 as a cause of viral meningitis in a UK population.** Journal of Clinical Virology. 2016 Aug; 81:90-93.

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Available from: <http://www.eurosurveillance.org/images/dynamic/EE/V21N02/art21350.pdf>

Iturriza-Gomara M, O'Brien SJ. **Foodborne Viral Infections**. *Current Opinion in Infectious Diseases*. 2016 Oct; 29:495-501

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Kabue JP, Meader E, Hunter PR, Potgieter N. **Norovirus prevalence and estimated viral load between symptomatic and asymptomatic children from rural communities of Vhembe district, South Africa**. *Journal of Clinical Virology*. 2016; 84:12-18.

Available from: <http://www.sciencedirect.com/science/article/pii/S1386653216305339>

Kanagarajah S, Mook P, Crook P, Awofisayo-Okuyelu, A, McCarthy N. **Taste and safety: Is the exceptional cuisine offered by high end restaurants paralleled by high standards of food safety?** *PLOS Current Outbreaks*. 2016 Aug;2:8

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Keeley AJ, Beeching NJ, Stott KE, Roberts P, Watson A, Beadsworth M. **Clostridium difficile: A healthcare-associated infection of unknown significance in adults in sub-Saharan Africa**. *Malawi Medical Journal*. 2016; 28(2)

Available from: <http://www.ajol.info/index.php/mmj/article/view/141312>

Logan C, Beadsworth M, Beeching NJ. **HIV and diarrhoea - what is new?** *Current Opinion in Infectious Diseases*. 2016 Oct; 29(5): 486-494

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Moore CE, Elwin K, Phot N, Seng C, Saroeun M, Kuong S, Kumar V, Nader J, Bousfield R, Perera S, Bailey JW, Beeching NJ, Day NPJ, Parry CM, Chalmers RM. **Molecular characterization of Cryptosporidium species and Giardia duodenalis from symptomatic Cambodian children**. *PLOS Neglected Tropical Disease*. 2016 Jul 7; 10(7)doi:10.1371/journal.pntd.0004822

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Available from: <https://peerj.com/preprints/2300v1/>

NB If you have published, but it has not been listed here, please let us know about it!

GRANT SUCCESS

HPRU members have been successful in obtaining the following research funding.

Name	Details	Funder	Award
Dr Paul Hunter	WHO collaboration on water sanitation in hospitals	ESRC	£8500
Dr Michele Peters, Dr Mara Violato, Professor Crispin Jenkinson, Professor Alastair Gray (Nuffield Department of Population Health, University of Oxford)	The impact of changes in prescription policies of gluten free products in Coeliac Disease	Coeliac UK	£95,000
Professor Margaret Whitehead	School of Public Health Research (LiLaC)	NIHR	£1,500,000

SUBMIT YOUR NEWS

If you have any items for inclusion in the next newsletter please send them to hprugi@liverpool.ac.uk

NIHR Health Protection Research Unit in Gastrointestinal Infections

Website | <http://www.hprugi.nihr.ac.uk/>

Twitter | [@HPRUgi](https://twitter.com/HPRUgi)