Falk Foundation/Guts UK Awards 2025

F1/F2 RESEARCH AWARDS WINNER:
Dhanushan Gnanendran

Liver's Silent Crisis: A Multi-Stakeholder Approach to Environmental Hepatology

Dr Dhanushan Gnanendran will commence this project in August, when he takes up his role as NIHR Academic Clinical Fellowship specialising in Gastroenterology and Hepatology at University of Plymouth. He is currently a Foundation Year 2 Doctor rotating in General Medicine at York and Scarborough Teaching Hospitals NHS Foundation.

Dr Gnanendran explains:

'Liver disease represents a significant and escalating public health challenge, with mortality in the UK having increased four-fold over the past 50 years and now responsible for 10,000 deaths annually. While traditional risk factors such as alcohol-related liver disease, metabolic dysfunction-associated steatotic liver disease (MASLD), and viral hepatitis are well-established, mounting evidence also implicates other factors. Environmental exposures, including air pollution, microplastics, climate-induced food insecurity and infectious disease spread are all critical, yet under-recognised, contributors to hepatic pathology. We aim to explore the emerging field of environmental hepatology, aiming to characterise how planetary health intersects with liver disease epidemiology and care delivery.

'The project utilises sequential qualitative methodology. First, semi-structured interviews will be conducted with patient and public representatives (PPIE) and stakeholders, including hepatologists, environmental scientists, public health consultants and policy advocates, recruited through national societies such as the British Society of Gastroenterology (BSG) and the British Association for the Study of the Liver (BASL), local authorities and academic institutions including the Institute of Marine Sciences and the International Marine Litter Research Unit, as well as liver patient support groups like the British Liver Trust and South West Liver Buddies.

'Interviews will follow bespoke topic guides addressing perceptions of climate-health interactions, microplastics and environmental equity in liver care. Data will be audio-recorded, transcribed verbatim and analysed using Braun & Clarke's six-step reflexive thematic analysis.

'Secondly, a mixed PPIE-stakeholder focus group will apply the Nominal Group Technique to synthesise and refine interview themes, generate consensus-based research questions to achieving balanced, co-produced prioritisation. Outputs will include a stakeholder-informed research agenda that underpins future roadmap for translational and policy-driven work.

'By identifying risks and bringing together doctors, scientists, policymakers and patients, we can help shape policies and create effective strategies to fight liver disease. These include encouraging healthy lifestyles, improving healthcare access and using sustainable medical practices like telemedicine and non-invasive tests. These efforts can improve disease prevention rates, reduce hospital visits, improve treatment and healthcare services and help to protect vulnerable groups.

'My personal motivation for pursuing this project stems from a deepening interest in the broader, systemic determinants of liver disease and a desire to contribute to research that is both clinically meaningful and socially relevant. The intersection of climate change and hepatology represents a critical and timely frontier and I am passionate about shaping a research agenda that addresses this gap.'

Dr Gnanendran's Project Supervisor Aswin Dhanda, Associate Professor of Hepatology at the University of Plymouth comments:

'Environmental factors including the climate, air pollution and microplastics contribute to the increasing global burden of liver disease. However, research in this area is lacking.

'Dr Gnanendran, an aspiring academic hepatologist, is passionate about the environment and keen to start research in this field. He will use his excellent communication skills to work with diverse members of the community to address this issue and stimulate future research.'

Dr Gnanendran states:

'I'm deeply honoured to receive the Dr. Falk Guts UK Award, a recognition that affirms my commitment to advancing hepatology through interdisciplinary, environmentally conscious research. This opportunity arrives at a pivotal moment in my career as I prepare to enter an Academic Clinical Fellowship, and it strengthens my trajectory toward becoming an academic clinician working in the area of blending rigorous science with clinical impact.'

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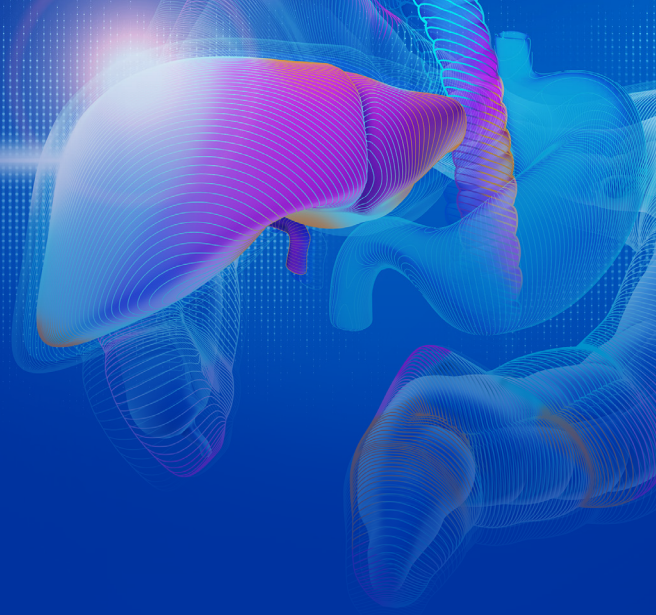

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UI–2500128
Date of preparation: June 2025