HEPATOLOGY RESEARCH GROUP
INSTITUTE OF HEALTH AND CARE RESEARCH,
PENINSULA MEDICAL SCHOOL, UNIVERSITY OF PLYMOUTH

Hepatology Research Group (HRG) structure:

Head
Prof Matthew Cramp, Professor of Hepatology and Consultant Hepatologist

Senior Clinical Academics:
Dr Ashwin Dhanda, Associate Professor and Honorary Consultant Hepatologist
Dr David Sheridan, Associate Professor and Honorary Consultant Hepatologist
Mr Somaiah Aroori, Consultant Hepatobiliary and Pancreatic Surgeon and Honorary Associate Professor

Senior Scientists:
Dr Daniel Felmlee, Lecturer
Dr Paula Boeira, Post-Doctoral fellow

Clinical Research Fellows:
Dr Kris Bennett – PhD student (from Sept 2022)
Dr Tamar Avades – PhD student (from Sept 2023)
Dr Ellie Walker - PhD student (from Apr 2024)

PhD Fellows:
Namrata Pandey (joined Jan 2023)
Justyna Lopatecka (completed Jul 2024)
Hannah Windmill

Hepatology Research Group Annual Report 2023-24

Overview:

The standout achievement for the HRG in the 2023-2024 academic year has been the significant internal investment by University of Plymouth to support the appointment of Professor Shilpa Chokshi. Professor Chokshi is an internationally recognised scientist, the Chief Scientific Officer of the Roger Williams Institute of Hepatology at Kings College London and has been acting director since Roger Williams' death in 2020. Professor Chokshi will join the university in late 2024 and will arrive with a remit to appoint several new post-doctoral posts and to develop a new centre of excellence for liver research. This will represent a major step change for the group and heralds an exciting period of growth and development.

The second major achievement has been to establish the use of precision cut liver slices in our laboratory. With the help of the hepatobiliary surgeons and especially Mr Somaiah Aroori our first precision cut liver slice was performed in November 2023. This development has been possible due to the generosity of the Mary Kinross Trustees who funded the purchase of the laboratory equipment needed, and the support and training from Professor Chokshi at the Roger Williams Institute of Hepatology. Human precision-cut liver slices are a versatile ex vivo model of liver disease and a powerful tool for us to investigate mechanisms of liver injury, whether that is from fat accumulation, alcohol, viral infection or exposure to nanoplastics. It has the great advantage of retaining the complex 3-dimensional and multi-cellular histoarchitecture of the liver to closely reflect what happens in-vivo and we are excited by the new opportunities this offers us to contribute to advance scientific understanding of liver disease pathogenesis.

In addition to these 2 notable successes, we have made progress across all our established research areas of alcohol related and steatotic liver disease, viral hepatitis and hepatocellular carcinoma and have expanded our work into early detection of liver disease and harnessing big data. I am particularly pleased by the progress made in our research in the field of nanoplastics and human health which will remain a major focus of the new expanded research team.

The HRG together with the wider SWLU clinical team and the research nurses continue to be active in clinical trials and we remain the largest recruiter to liver disease studies in the southwest. In the last year we have recruited to a broad portfolio of 20 clinical trials in a wide range of liver diseases.

Members of the HRG continue to have an impact at a national level. I am Chair of the British Liver Transplant Group (2022-25) focusing on improving access to liver transplant and developing a stronger patient voice. Ashwin Dhanda led the BASL / BSG SIG (special interest group) for alcohol related liver disease until April 2024 and leads the Alcohol-Related liver disease Multi-Stakeholder Hub (ARMS-Hub) – an

NIHR Research Partnership to enhance research activity in underserved communities in the UK

The HRG Team continues to evolve and grow. Mr Somaiah Aroori, a consultant hepatobiliary surgeon with an interest in liver and pancreatic cancer has joined our group. He will be key both in developing this field of research and in fostering stronger links with the wider surgical department to facilitate our work on precision cut liver and tumour slices. After being awarded her PhD Dr Paula Boeira joined the team in a new post-doctoral research assistant post, Dr Queenie Tan was awarded her PhD in late 2023, Dr Kris Bennett (clinical research fellow) and Namrata Pandey (cross faculty PhD student) are midway through their PhD projects and Dr Tamar Avades and Dr Ellie Walker have joined the group as clinical research fellowsWe enjoyed hosting undergraduate students from Bath and Exeter Universities with 3 excellent placement students completing their projects in July 2024.

The strategic focus of the HRG remains on building our research in environment and health, developing collaborations and improving financial stability with increased grant support so it is especially pleasing to be able to report the progress made in all 3 of these domains in this report. I am excited by the progress we are making and for all that there is to look forward to in the coming academic year.

Matthew Cramp, October 2024

Grant and Charitable Support:

MRC Minimising Mortality in Alcoholic Hepatitis (MIMAH) grant
- June 2018 – June 2024, Total funding £4.8m
- Ashwin Dhanda work stream lead

NIHR Health Technology Assessment grant 134670: The benefits, harms and costs of surveillance for hepatocellular carcinoma in people with cirrhosis: synthesis of observational and diagnostic test accuracy data and cost–utility analysis

- started July 2022, completion now due April 2025
- awarded £342,583
- Matthew Cramp – co-applicant

NIHR Research for Patent Benefit (RfPB): Reducing SteatOsis Prior to Liver Resection (RESOLVE) - A feasibility multicentre randomised controlled trial to test if a pre-operative two-week very low calorie diet with dietitian education and support reduces intra-operative blood loss and improves post-operative outcomes following liver surgery, compared with a control group

- Started Oct 2022, completion due Oct 2024
- awarded £268,392
- Somaiah Aroori, Chief Investigator, David Sheridan, co-applicant

NIHR Research Partnerships – Liver Disease: An Alcohol-Related liver disease Multi-Stakeholder Hub (ARMS-Hub) to enhance research activity in underserved communities in the UK

- Started March 2023, completion Feb 2024
- awarded £102,570
- Ashwin Dhanda – Chief Investigator

Peninsula Medical Foundation

- £158,000 awarded October 2022 from the Elwyn Thomas Memorial Fund
- Funding to secure a southwest biobank of human tissue for nanoplastic research for 10 years
- Matthew Cramp, lead applicant

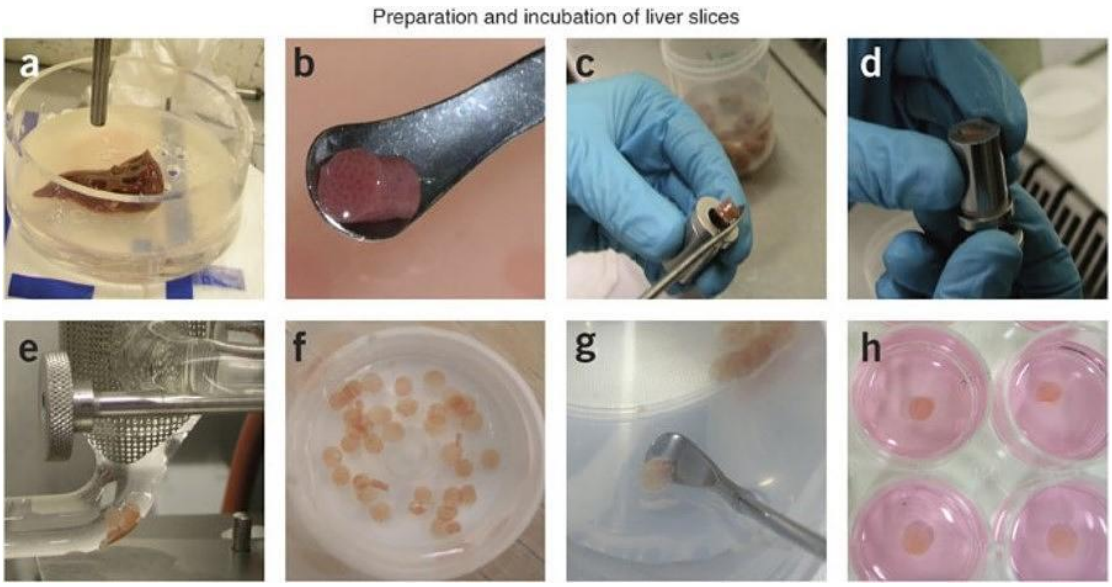
National Institute of Health and Social Care Research (NIHR); - BOOST: beta-hydroxymethyl-butyrate supplementation to optimise outcomes in people with advanced cirrhosis

- Awarded £499,980
- Commenced April 2024 for 30 months
- Ashwin Dhanda – Chief Investigator

National Institute of Health and Social Care Research (NIHR); Faecal microbiota transplantation for alcohol related hepatitis

- Awarded £2.6 million
- Commencing October 2024 for 48 months
- Ashwin Dhanda – co-investigator;

Precision cut liver slices:



Hepatitis C Virus infection and Protection from Infection
Leads: Dan Felmlee, Matthew Cramp.

From tragedy to hope for a broad-spectrum antiviral
The scandal involving the NHS transfusing high risk blood products has been the topic of great consternation. In the wake of this preventable outbreak, the HCV Lookback Programme worked to identify individuals that had received blood or blood products contaminated with hepatitis C virus (HCV) in an effort to identify and treat people who may not even know they had been exposed. An observation arose that around 1% of those exposed had neither viral infection nor any immunological signs of previous infection. To search if there were a genetic component to this resistance to infection, we sequenced the genomes of 8 of these individuals. We looked for genes with rare differences that were common among these 8 people. We found 13 genes that were common among at least 6 of them and have been investigating which, if any, of these genes is truly relevant to conferring resistance to HCV infection. We used a specific gene editing tool to delete each of these genes in a cell culture model. This specific cell type is tractable for HCV infection, so we can see if deleting that gene impacts infection. We now have cells with gene deletions for each of the 13 gene candidate and are challenging with HCV models. Early findings indicate potential candidates with exciting potential. We plan to take our findings and our panel of edited cells to other viral infections, in hope to find drug targets important for multiple viruses. I was able to present these findings at the national HCV-Flavi meeting in June (flaviviruses are related to HCV). In September, my work has been selected to be presented at the international HCV-Flavi meeting; the scientific field appreciates the value of finding such gene candidates with corroborated functional validation.
Important repairs to the containment level 3 lab have unfortunately slowed this work, but the required work is now out to tender and should be completed in early 2025. The facilities to execute this important work is finally falling into line.

Dan Felmlee

Metabolic-dysfunction associated steatotic liver disease (MASLD)
Lead: David Sheridan, Dan Felmlee

2023 saw three international liver societies (the American Association for Study of Liver Disease, the European Association for Study of the Liver and the Asociación Latinoamericana para el Estudio del Hígado) issue a new consensus definition for the prevalent liver disease formerly known as non-alcoholic fatty liver disease (NAFLD), being re-named under a broader spectrum of Steatotic Liver Diseases (SLD), as metabolic dysfunction associated steatotic liver disease (MASLD). This new definition points to some commonality and co-existence of steatotic liver diseases being driven by obesity and metabolic dysfunction, as well as by alcohol. Our experimental work elucidating the effects of gut microbiome metabolites on hepatocyte steatosis, mitochondrial respiration and dysfunction is supported by these new definitions. We

are further evaluating the role of obesity associated gut metabolites on mitochondrial dysfunction following ethanol exposure.
The key observation of altered mitochondrial bioenergetics and steatosis observed in liver cells lines following exposure to gut derived metabolites was a seminal piece of work conducted by Paula Boeira as part of her PhD thesis on investigation of methylamines and mitochondrial dysfunction in fatty liver disease – she was awarded her PhD in 2023.
Dr Sheridan continued to progress the programme of clinical research into MASLD. Notable achievements included being part of the NIHR Research for Patent Benefit (RfPB) trial – funded as co-applicant on 'Reducing SteatOsis Prior to Liver Resection (RESOLVE).This is a feasibility multicentre randomised controlled trial to test if a pre-operative two-week very low calorie diet with dietitian education and support reduces intra-operative blood loss and improves post-operative outcomes following liver surgery, compared with a control group. This is an important South West Liver Unit collaboration with HepatoPancreato Biliary (HPB) surgery, led by Mr Somiah Aroori. (see https://fundingawards.nihr.ac.uk/award/NIHR203632)

The clinical research programme continued to actively participate and recruit patients to the Wellcome Trust funded study 'Translating the potential of the urine steroid metabolome to stage NAFLD (TrUSt – NAFLD)', in Collaboration with University of Oxford. Further commercially sponsored clinical trials in NASH interventions continued with successful patient recruitment and retention.

Through leadership in the BASL NAFLD Special Interest Group, Dr Sheridan conducted the second National NAFLD care survey that has led to the subsequent first National NAFLD audit, recently accepted for publication in Journal of Hepatology Reports.

David Sheridan

Alcohol-related liver disease
Lead: Ashwin Dhanda

Laboratory research
Preliminary results from our laboratory biomarker study have demonstrated that the QuantiFERON Monitor immune function test is an accurate predictor of survival and infection in people with severe alcohol-related liver disease (https://doi.org/10.1002/jgh3.12891). Ongoing confirmation in a multicentre study as part of the MIMAH consortium is underway (www.mimah.org).

Two undergraduate placement students from the Universities of Bath and Exeter joined our group this year and worked on the effect of short chain fatty acids on hepatocytes in a model of alcohol-related liver disease. They developed a 3-D hepatocyte cell line model and testing will continue with the next Bath undergraduate placement students.

Collaborations
The NIHR-funded ARMS-Hub partnership completed its programme of events and activities this year. This multidisciplinary group of 40 experts in alcohol-related liver disease including 30 experts by experience met on 9 occasions in virtual and in-person events to discuss the most pressing issues relating to stigma. A prioritisation exercise identified the need to integrate alcohol, liver and mental health services to reduce barriers to accessing treatment. A proposal for a project to tackle this issue is in development.

Ashwin completed his second term as the BASL alcohol-related liver disease special interest group lead. During his tenure he oversaw a national service evaluation and developed quality standards for the management of patients with alcohol-related liver disease (https://doi.org/10.1136/bmjgast-2023-001221). He is leading a national audit at 100 UK sites to assess the current quality of care provided to people with alcohol-related liver disease. Ashwin has been elected to the liver committee of the BSG and has been contributing to clinical guideline development and the education programme of the annual meeting.

Clinical trials
In June, NIHR funding commenced for the BOOST clinical trial, of which Ashwin is Chief Investigator. This trial will test whether a nutritional supplement (hydroxymethylbutyrate – HMB) improves quality of life and function in people with advanced cirrhosis. The trial is being delivered by the Peninsula Clinical Trials Unit and will recruit 124 patients from 8 sites in the UK with the first patient expected to be recruited in May 2025. This has the potential to change clinical practice with a simple and cheap intervention. Ashwin will also lead trial delivery for the forthcoming faecal microbiota transplant for acute alcohol-related hepatitis trial taking place across 40 centres in the UK with recruitment due to start in 2025.

There are a growing number of national and global clinical trials for alcohol-related liver disease, for which Ashwin is the Principal Investigator at University Hospitals Plymouth. These range from digital apps (AlcoChange) to medications for severe alcohol-related hepatitis (FRESH trial from Intercept Pharmaceuticals). He is working with the research nursing team in the Research and Development Department to recruit patients to these trials, providing much needed new options and treatment strategies for them.

Ashwin's main achievement over the last year has been leading the MIRAGE trial to a successful completion. This trial, in collaboration with Prof Jackie Andrade from the School of Psychology and the Peninsula Clinical Trials Unit, tested the feasibility of delivering a novel psychological therapy (functional imagery training [FIT]) to people with alcohol use disorder and alcohol-related liver disease. Fifty-six patients were recruited in 4 sites across England. The main findings demonstrated that alcohol nurses could deliver FIT adequately, but further support was needed to help patients stay engaged in the treatment. Ashwin is seeking funding for a further feasibility trial that will test a modified FIT treatment with a robust retention strategy.

Ashwin Dhanda

Hepatocellular Carcinoma
Lead: Matthew Cramp

Advanced liver disease of any cause is the biggest risk factor for hepatocellular carcinoma (HCC) and as a consequence of the changing epidemiology of liver disease HCC cases are rapidly increasing. HCC has a poor prognosis unless detected early and is the 3rd largest cause of cancer deaths globally. Many centres perform a liver ultrasound every 6 months in people with cirrhosis to try and detect HCC at an earlier, smaller stage so that curative treatments can be provided and our research is focussed on addressing the lack of evidence for an optimal HCC surveillance strategy.

The NIHR Health Technology Assessment funded study "The benefits, harms and costs of surveillance for hepatocellular carcinoma in people with cirrhosis: synthesis of observational and diagnostic test accuracy data and cost utility analysis" began in July 2022 and will be completed in 2025. The first 2 work packages (1 -a systematic review and meta-analysis of cohort studies comparing HCCs found under surveillance with those diagnosed incidentally or symptomatically, 2) a systematic review and synthesis of diagnostic accuracy data relating to tests (imaging and biomarkers) for HCC in people with cirrhosis) are almost complete. Work package 3 (developing a decision-model to estimate the lifetime costs, benefits and harms of different HCC surveillance regimens) is well underway with work package 4 (developing a patient decision-aid, to support shared decision-making for people with cirrhosis about whether to start or stop surveillance) the major work left to be done. The systematic review work has recently been submitted for publication.

The South West Liver Unit continues to recruit patients into several HCC studies including the CRC-UK funded PEARL and SELINA biomarker studies.

Matthew Cramp

Early detection of liver disease
HRG Lead: Matthew Cramp

With the increasing prevalence of advanced chronic liver disease and alarming rise in liver mortality there is a pressing need for earlier disease detection at a stage where much of the liver damage is reversible. At present many patients only get diagnosed when hospitalised for very late stage advanced disease which has a high mortality. We are working on 2 areas to change this:

1) We are running a community liver pilot programme funded by NHS England to provide Fibroscans to those with risk factors for liver disease. This is delivered by the South West Liver Unit clinical nurse specialists and the Peninsula HCV Operational Delivery Network. The Fibroscan assesses for the presence of liver fibrosis and can identify cases before they present with decompensation. We have a Fibroscan and a mobile clinic facility (converted ambulance) with a target to scan 2000 people in a community setting by 2025. So far in 2024 over

1000 scans have been performed and a significant number of people with cirrhosis have been identified as well as many others at risk of developing more advanced liver disease – allowing time for interventions to prevent disease progression and to enter people into HCC surveillance programs for earlier cancer detection. The link between social deprivation and liver disease is clear, with many patients not able to readily access medical services. Provision of a community service with the support of community liver peers (people with lived experience of liver disease) appears to be working well and the outcomes from this pilot project will be analysed in 2025.

2) Developing a liver disease risk prediction algorithm – LRISK.
Dr Kris Bennett's PhD work

This work, being done in collaboration with Optimum Patient Care, is building on Kris's skills working with big data. The aim is to develop an LRISK algorithm that estimates an individual's 10-year risk of severe liver disease, and through retrospective analysis of EHRs also enable identification of presently undiagnosed cases. The natural history of chronic liver disease (CLD) is one of gradual fibrosis, progressing to irreversible scarring (cirrhosis) and complications (decompensation, liver cancer). CLD is often asymptomatic and late diagnosis is a hallmark; 50% of patients are diagnosed during emergency hospital admission with irreversible, decompensated cirrhosis, yet most have multiple preceding healthcare interactions. Earlier diagnosis would allow preventative interventions, but this must be balanced against unnecessary treatments, given only a minority with CLD go on to develop complications. To improve outcomes in CLD it is imperative patients are managed in a way proportionate to their future risk of severe liver disease. Electronic health records (EHRs) contain a wealth of information for evaluating risk and tools such as QRISK3 in cardiovascular disease have been transformative. Challenges for CLD include accurate identification of predictors, modelling non-linear interactions between many predictors and considering competing risk, especially in steatotic liver disease (SLD) where comorbidity is common. Big EHR databases allied with new machine-learning (ML) techniques offer opportunity to develop novel algorithms for CLD risk prediction and early detection.

This project aims to design robust, explainable risk prediction algorithms to predict incident severe CLD from routinely recorded data on a very large cohort of over 22 million individuals living in the UK, with a focus on comparison of traditional survival analysis techniques with novel ML survival models. It will use the Optimum Patient Care Research Database (OPCRD; https://opcrd.optimumpatientcare.org), which holds de-identified data for >22M unique UK patients, is population representative and can be linked to external datasets. Additionally the TrinetX (https://trinetx.com) health research network which integrates secondary care data from multiple providers (including Plymouth) will be used for modelling risk specifically in SLD.

Matthew Cramp

Environment and Liver Disease
HRG Leads: Matthew Cramp, Ashwin Dhanda

This expanding area of work for the HRG stems from global concern about the impact of the rapid accumulation of plastic pollution. Micro- and nanoplastics (MNPs) are widely present in our oceans, contaminating food supplies, and entering the human body, posing risks to many ecosystems and human health. Understanding the impact of MNPs on marine, animal, and human health remains a key unmet need. There are many challenges in detecting and characterising plastics, especially those in the nanoplastic size range, in tissue and in undertaking meaningful toxicology studies of biologically relevant plastics.

Our collaboration with the School of Biological and Marine Sciences (Prof Richard Thompson and Dr Nathaniel Clark) and School of Geography, Earth and Environmental Sciences (Dr Lee Durndell) was awarded a PhD studentship (Namrata Pandey).

Our work is presently focussed on developing 2 main areas:

1) Seeking confirmation of the presence of nanoplastics (NP) within human tissues.

NPs are consumed in food and drink with an estimated 250,000 NP in a single plastic bottle of drink. These NP are small enough to cross the gut, enter the portal circulation and be transported to the liver but what then happens is unknown. NP are likely to be taken up into hepatocytes where they may remain or be excreted in the bile to return to the gut. Little is known because the size and physical properties of NP prevents reliable identification using light, infra-red or electron microscopy.

We are using pyrolysis gas chromatography mass spectroscopy (Py-GCMS), a cutting edge exquisitely sensitive technology able to confirm trace amounts of plastic within human tissue. After initial problems, new equipment is now installed and working well. We are currently optimising the tissue sample preparation which involves multiple steps with our first studies planned for late 2024 analysing liver tissue from surgical resection. The Peninsula Medical Foundation funded biobank of human tissue awaits ethical approval but will store intestinal and liver samples, bile, blood and stool. Once refined and validated we plan to use Py-GCMS to learn about uptake and enterohepatic circulation of NP.

1) Defining the biological importance of Micro-/Nano-plastic on liver health.

We have studied NP uptake into human hepatocytes with experiments on HepG2 cell culture model exposed to an increasing concentration (0.1 – 10 µg/ml) of commercially available polystyrene nano-plastic particles. These experiments provide a proof-of-

concept of nanoplastic uptake in hepatocytes even in lower concentrations. In brief HepG2 cells were exposed to red fluorescently labelled 20 nm nano-polystyrene particles (nPS) for 24 hours, then washed to remove non-internalised nPS, and imaged using confocal microscope. This work showed a concentration-dependent cytoplasmic ptake of nPS in HepG2 cells (Figure 1).

Now we have confirmation of NP uptake we can use exposure studies to investigate the effects of plastic on cell function using assays for oxidative stress, metabolic capacity, and looking for changes in gene expression. Other next steps include work underway to understand the intra-cellular localisation of nanoplastics in hepatocytes with gold core PMMA particles (Au@PMMA) using scanning electron microscopy. These particles will also be used to measure the precise cellular uptake of nanoplastics in HepG2 in environmentally realistic concentrations using inductively coupled plasma-mass spectrometry (ICP-MS).

We are now expanding this work into the precision cut liver slice model which will allow us to visualise fluorescent labelled NP in different cell types and assess impact of NP on other aspects of cell function including bioenergetics / mitochondrial dysfunction and fat accumulation.

Matthew Cramp

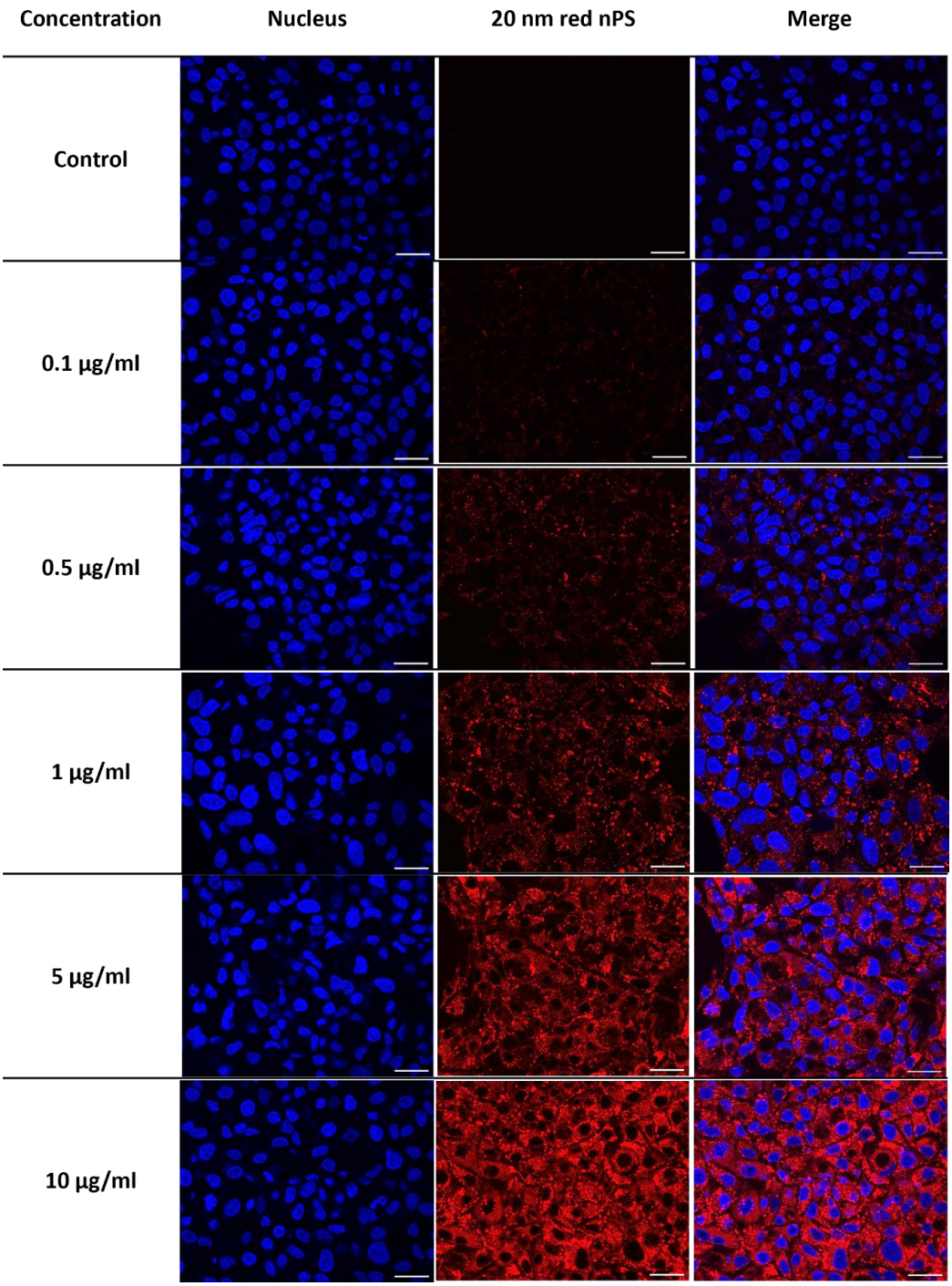


Figure 1: Internalisation of carboxylate-modified 20 nm red fluorescently labelled nPS particles in HepG2 cells exposed to nPS in increasing concentration for 24 hours. The nucleus was stained with DAPI. All images were taken in 63X magnification in oil immersion. The scale bar represents 20 µm.

Clinical Trials

Our extensive trials portfolio is delivered by the clinical academic team supported by other members of the South West Liver Unit and the research nurse team. We have 20 active clinical trials currently, spanning the whole spectrum of liver disease including rare diseases. We remain the largest recruiter to hepatology studies in the southwest. We have a number of studies in set up currently and are committed to bring studies to the southwest to ensure our patients have access to cutting edge treatments.

Future Plans

The coming 12 months will be an exciting time with Professor Chokshi's arrival and the recruitment to new post-doctoral posts allowing us to have the numbers and critical mass to develop new areas of research expertise and accelerate progress in all domains. We will maintain our strategic focus on 3 key themes:

1) Collaborations
2) Environment and liver disease
3) Grant support and financial stability

Collaborations, both within the University of Plymouth and with outside partners, remain key to the groups success. The cross-disciplinary science underpinning the environment and liver disease research plans has seen early success and we will seek to build on this with a cross-council funding application. The ARMS-Hub NIHR Research Partnerships grant has helped build a broad base of collaborators to enhance research in underserved communities in the field of alcohol related liver disease.

Our work in environment and liver health is taking off and with Professor Chokshi joining us and taking a leading role we anticipate some big strides both in generating new data and further success in obtaining funding. A key step for the next year is getting the human tissue biobank up and running.

Despite some inevitable disappointments in a very competitive field, this report highlights our increasing success in obtaining grant support, with current grants involving HRG members totalling over £8.6 million. Financial stability at a time of tightening university funding remains key and we are hopeful for further successful grant applications in the coming year.

Acknowledgements

We are truly grateful to our collaborators, the grant giving bodies and charities who have supported our work. We remain indebted to the whole clinical team at the SWLU, to the hepatobiliary surgeons who have helped recruit and consent patient and then provide the liver resection specimens, and especially to all the patients and their families who have supported us by their involvement in research work and clinical trials.

HRG Research Outputs 2023-24:

Publications in date order:

Top ten research priorities for alcohol use disorder and alcohol-related liver disease: results of a multistakeholder research priority setting partnership.
Subhani, M., **Dhanda, A.,** Olaru, A., Dunford, L., Ahmad, N., Wragg, A., Frost, K., Greenwood, J., King, M., Jones, K. A., Rosenberg, W., Sinclair, J., Rennick-Egglestone, S., Morling, J. R., Patel, K. & Ryder, S. D
The Lancet Gastroenterology and Hepatology 2024 May 9;5:400-402

Proactive case finding of alcohol-related liver disease in high-risk populations: A systematic review
Archer, A. J., Phillips, J., Subhani, M., Ward, Z., Gordon, F. H., Hickman, M., **Dhanda, A. D.** & Abeysekera, K. W. M.,
Liver International 8 Mar 2024;44(6):1298-1308

Mental Imagery to Reduce Alcohol-related harm in patients with alcohol use disorder and alcohol-related liver damaGE: the MIRAGE randomised pilot trial results.
Dhanda, A., Andrade, J., Allende, H., Allgar, V., Bailey, M., Callaghan, L., Cocking, L., Goodwin, E., Hawton, A., Hayward, C., Hudson, B., Ingram, W., Jeffery, A., King, A., Lavers, V., Lomax, J., McCune, C. A., Musicha, C., Parker, R. & Rollinson, C. & 2 others, ,
BMJ Open Gastroenterology. 29 Jan 2024;11(1): e001267.

National study of NAFLD management identifies variation in delivery of care in the UK between 2019 to 2022
Li, W., **Sheridan, D.**, McPherson, S., Alazawi, W., Abeysekera, K., Marjot, T., Brennan, P., Mahgoub, S., Cacciottolo, T., Hydes, T., Hardy, T., McGinty, G., Tavabie, O., Cathcart, J., Prematilaka, C., Mukhopadhya, A., Bhat, A., Begum, S., Abushaban, B. & Bhuva, M. et al
JHEP Reports. Dec 2023;5:12

Open-label, clinical trial extension: Two-year safety and efficacy results of seladelpar in patients with primary biliary cholangitis.
Mayo, M. J., Vierling, J. M., Bowlus, C. L., Levy, C., Hirschfield, G. M., Neff, G. W., Galambos, M. R., Gordon, S. C., Borg, B. B., Harrison, S. A., Thuluvath, P. J., Goel, A., Shiffman, M. L., Swain, M. G., Jones, D. E. J., Trivedi, P., Kremer, A. E., Aspinall, R. J., **Sheridan, D. A**. & Dörffel, Y. & 3 others,
Alimentary Pharmacology & Therapeutics. 30 Oct 2023: 0, 0

Global prevalence, cascade of care, and prophylaxis coverage of hepatitis B in 2022: a modelling study.
Razavi-Shearer, D., Gamkrelidze, I., Pan, C., Jia, J., Berg, T., Gray, R., Lim, Y. S., Chen, C. J., Ocama, P., Desalegn, H., Abbas, Z., Abdallah, A., Aghemo, A., Ahmadbekova, S., Ahn, S. H., Aho, I., Akarca, U., Al, M. N., Alalwan, A. & Alavian, S.. **Cramp ME** et al ,
Lancet Gastro & Hep. Oct 2023:8(10):879-907

Health promotion and public health. **Avades T, Dhanda A.** *Evidence-Based Nursing Published Online First: 27 July 2023. doi: 10.1136/ebnurs-2023-103751*

Satellite liver transplant centres significantly improve transplant assessment outcomes for patients with chronic liver disease but not hepatocellular carcinoma: a retrospective cohort study Tavabie OD, Kronsten VT, Przemioslo R, Ramos K, Joshi D, Prachalias A, Menon K, Agarwal K, Heneghan MA, Valliani T, Cash J, **Cramp ME**, Aluvihare V. *Frontline Gastroenterology 2023 July;14(4):334-342.*

Diagnostic accuracy of serological and imaging tests used in surveillance for hepatocellular carcinoma in adults with cirrhosis: a systematic review protocol.
Sadler L, Jones H, Whiting P, Rogers M, Watt K, **Cramp M**, Ryder S, Stein K, Welton N, Oppe F, Bell J, Rogers G. *NIHR Open Res 2023, 3:23*
(https://doi.org/10.3310/nihropenres.13409.1)

Conference Presentations:

International Meetings:

European Association for the Study of the Liver annual meeting - International Liver Congress – Milan 5th-8th June 2024

There is a need to improve retention of people with alcohol-related liver disease in clinical trials: a systematic review and meta-analysis of retention rates in intervention trials
Paula Boeira, Kris Bennett, Tamar Avades, Jaiveer Arora, Matthew Cramp, Ashwin Dhanda
Journal of Hepatology; 2024,volume 80, S153-S154.

Prioritisation of research to tackle stigma in alcohol-related liver disease: results from the ARMS-Hub partnership
Ashwin Dhanda, Victoria Allgar, Neeraj Bhala, Lynne Callaghan, Joana Castro, Shilpa Chokshi, Amanda Clements, Ewan H. Forrest, Lesley Manning, Richard Parker, Debbie L. Shawcross, Jennifer Towey
Journal of Hepatology; 2024,volume 80, S655-S654

Risk factors for future development of cirrhosis in UK primary care patients with elevated ALT: a survival analysis of the optimum patient care research database
Kris Bennett, Victoria Carter, Derek Skinner, William Henley, David Price.
Journal of Hepatology; 2024,volume 80, S645

National meetings:

BASL Basic Science Retreat – Dulwich College, London 19th-21st August 2023

Investigation of Microbiome Metabolites and Mitochondrial Function in MASLD
Paula Boeira

BASL Annual Meeting - Brighton, 19th-22nd September 2023

Long-term albumin administration in real-world UK patients with cirrhosis and recurrent ascites: validation of a discrete event simulation
Kris Bennett, Matthew Cramp, Duncan Stacey, Elisabet Viayna
Gut Sep 2023, 72 (Suppl 3) A53-A54; DOI: 10.1136/gutjnl-2023-BASL.79

There is a need to improve retention of people with alcohol-related liver disease in clinical trials: a systematic review and meta-analysis of retention rates in intervention trials
Jaiveer Arora, Paula Boeira, Kris Bennett, Ashwin Dhanda
Gut Sep 2023, 72 (Suppl 3) A21; DOI: 10.1136/gutjnl-2023-BASL.29

Local meetings:

Building a Rich Research Environment meeting 2024:

Precision Cut Liver Slices - A new translational model to study disease
Paula Boeira, Ashwin Dhanda, Somaiah Aroori, Matthew Cramp