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**An overview of the challenges and key initiatives in hepatology practice in the UK in 2022**

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## Abstract

The mortality and working years lost from liver cirrhosis present a significant challenge both in the United Kingdom (UK) and globally. The recent British Association for the Study of the Liver (BASL) annual meeting highlighted the inequities present across the UK in terms of the burden of liver disease, and access to specialist services. Innovative new ways of working and novel technologies are needed to address the growing demands of the specialty, whilst bearing in mind the need for sustainable and patient-focused interventions.

### Key Words

*Liver Disease, inequality, telemedicine, cirrhosis, deprivation*

## Introduction

Morbidity and mortality from chronic liver disease have significantly increased in the United Kingdom (UK) over the last 50 years, in stark contrast to other common conditions such as heart disease<sup>1</sup>. There is a need to develop liver services to meet this increasing demand while also developing early detection strategies aligned with public health policies to prevent the development of significant liver disease.

This report aims to highlight the major themes in work presented at the 2022 British Association for the Study of the Liver (BASL) Annual Meeting, and summarise the challenges facing the specialty. We discuss innovative work relating to sustainable hepatology, telemedicine, hepatology training and the growing role of allied health professionals (AHPs) in the care of hepatology patients as the specialty continues to develop. These challenges and innovations are ubiquitously encountered in other primary and secondary care specialties across the UK.

## Themes

### Access to specialist hepatology services

A major theme across the conference was regional variability in liver services across the UK. The Trainee Collaborative for Research and Audit in Hepatology UK (ToRCH-UK) presented a subgroup-analysis from their recently completed UK audit of decompensated cirrhosis admissions, comparing patients presenting with Hepatic Encephalopathy (HE) to those presenting with ascites and variceal haemorrhage<sup>2</sup>. Patients presenting with (HE) to non-specialist centres were less likely to survive their admission compared to other patients with decompensated cirrhosis. This was not the case at specialist centres. There was also significant differences in care provision for patients with HE at non-specialist centres compared to specialist centres, where they were more likely to be looked after by a Gastroenterologist/Hepatologist on a dedicated specialist ward<sup>3</sup>.

Variation was also demonstrated in the likelihood to refer patients with end-stage liver disease for transplant assessment between different geographical areas, and between specialist and non-specialist centres.<sup>4</sup> Additionally, the UK-PBC audit highlighted variability in prescribing second-line drugs for patients with inadequate response to first-line medications between specialist and non-specialist centres.<sup>5</sup> It was noted that there was no significant variation in the prescribing practices in England and Wales, as compared to Scotland. These data highlight the need to standardise care delivered across the UK whilst improving access to specialist services to deliver better outcomes for patients with liver disease.

The Royal College of Physicians Improving Quality in Liver Services (IQILS) accreditation process represents a possible strategy to reduce variability between hospitals and regions by establishing requisite standards for hepatology services and supporting hospitals to achieve these<sup>6</sup>. It is encouraging that many hospitals have already signed up to IQILS and have become accredited. NHS Trusts will need to commit time and funding to service development to meet these standards and improve outcomes for their patients.

### The association between deprivation and liver disease

Liver disease is strongly associated with deprivation, which may explain some of the regional variations in hospital admissions relating to liver disease<sup>7</sup>. In Leeds, it was demonstrated that there was a strong association between areas of deprivation, high alcohol use, obesity and severe liver disease. Interestingly however, healthcare utilisation by those in the most deprived cohorts was lower than those from less deprived areas.<sup>8</sup> This suggests that current strategies to prevent liver disease may be targeting the wrong cohorts of patients. Developing services and increasing workforce within areas of high deprivation may improve healthcare delivery and maximise the impact of early detection pathways.

### Sustainability

Liver disease is associated with significant economic ramifications and it is set to become the largest cause of working-years lost in Europe<sup>9</sup>. Similarly, this has enormous implications on the environmental cost of hospital admissions<sup>10</sup> and there is an urgent need for UK healthcare to become more environmentally sustainable. Within our own specialty it is clear that an inpatient admission with decompensated liver disease is associated with significant carbon emissions. In particular, admissions with specific clinical deterioration that requires emergency interventions, such as variceal bleeding or intensive care admission, has substantial ecological and resource implications<sup>10</sup>. Not only does this highlight the importance of preventing liver disease but it emphasises the need to utilise strategies to reduce both carbon footprint and financial cost to the NHS. Telemedicine is increasingly being utilised to reduce patient travel time and it is associated with increased patient satisfaction<sup>11</sup>. Risk-stratifying patients using non-invasive modalities to avoid carbon generating procedures such as endoscopy, combined with regular medication review should reduce carbon emissions.

Another novel approach is the use of implanted long-term ascitic drains (LTAD) rather than ambulatory paracentesis services. The REDUCe study demonstrated feasibility with preliminary evidence of LTAD effectiveness, safety, acceptability and reduced health resource

utilisation<sup>12</sup>. This is now the basis of a NIHR trial looking at establishing definitive evidence to support this development. These progressive approaches will not only improve the NHS's carbon footprint, but likely improve patient care and satisfaction.

### Shape of training

The changes to gastroenterology higher specialist training are a welcome step in hepatology training. Whilst the changes will see a shortened training scheme, significant efforts have gone into curriculum design to ensure trainees are well equipped to work across all aspects of hepatology, including transplant hepatology at the time of CCT. A survey of UK trainees found that over half of gastroenterology trainees intended to specialise in hepatology. However, it also demonstrated that trainees were more likely to prefer a consultant job in a specialist centre rather than a non-specialist centre<sup>13</sup>. How do we ensure that all patients with liver disease have the same access to services? It is impractical to expect patients to travel large distances to see a specialist from a convenience, cost and environmental perspective. The potential solutions to this problem were discussed in the 'Variations in UK Liver disease' panel session. Amongst the solutions discussed were the potential for job plans split across specialist and non-specialist centres. However, given that nearly 50% of advertised UK Consultant Gastroenterologist/Hepatologist posts were unfilled in 2020<sup>14</sup>, split site job plans, particularly over significant geographical areas, may not be attractive to trainees applying for consultant posts. Developing formal regional networks of specialist centres and non-specialist centres has the potential to improve access to specialist services. Accessible multidisciplinary meetings across the network will increase dialogue between centres and likely improve patient care. Combining this approach with 'levelling up' of non-specialist services through IQILS and innovated job plans will hopefully attract future Consultants to work in areas of need. Additionally, it was noted that future efforts to develop a sustainable hepatology workforce should focus on the current body of consultants within DGHs who deliver the majority of care to persons with decompensated liver disease in the UK. These consultants have ongoing educational needs which should be recognised, in addition to access to collective research opportunities, and collaborative engagement with referral centres as required.

### Embracing technology to improve patient care

Multiple presentations highlighted the potential role for telemedicine in the care of hepatology patients. Examples of which included;

- (1) Electronic Mental Health screening questionnaires, which allow prompt communication and resolution of concerns within outpatient clinics for patients with Primary Sclerosing Cholangitis<sup>15</sup>
- (2) The emerging role for app technology in early detection of complications associated with cirrhosis, with one group demonstrating promising results for the early identification of overt HE<sup>16</sup>
- (3) The use of accelerometers and virtual follow-up calls to monitor exercise engagement within the ExaLT trial<sup>17</sup>; and

(4) The use of big data to improve/inform our detection programs. For example a group in Somerset demonstrated changes in ALT and Platelet count over time could predict advanced chronic liver disease with high sensitivity and specificity <sup>18</sup>.

Embracing such technology should not only improve patient care but reduce costs to the NHS and our carbon footprint.

### Allied Health Professionals (AHP)

BASL 2022 had the largest attendance of AHPs on record. The main programme featured many elements of their involvement in liver disease care demonstrating the integral role AHPs have within the multidisciplinary team. The prevalence of physical frailty is high among those with liver disease and is associated with poor outcomes <sup>19</sup>. Regular assessment of physical frailty utilising quick and easy to use measures such as the Liver Frailty Index and Duke Activity Status Index were highlighted as a way of identifying those requiring access to AHP care. While preventative medicine has for a long time been central to NHS initiatives, it is evident that this needs to be moved to the forefront of liver care. Lifestyle modification to include engagement of patients with physical activity has the potential to reduce the development and progression of liver disease as well as liver-related mortality<sup>20</sup>. Investment in AHPs to engage and support patients with liver disease in these lifestyle modifications, as well as treat those at risk of becoming physically frail, will not only likely improve patient care but reduce the NHS carbon footprint.

### Research

There was significant focus on the inequity in research and research delivery in hepatology across the UK. Research in hepatology is not reflective of the diseases most likely to cause cirrhosis, with relatively few studies investigating alcohol related liver disease compared to autoimmune diseases. Additionally, the majority of research is conducted in a small number of specialist centres. A paradigm shift is required to deliver clinically relevant studies that improve outcomes for all of our patients. Developing research networks that focus on inclusivity, like the Trainee Collaborative for Hepatology Research and Audit UK <sup>21</sup>, is vital to achieve this goal. The recent NIHR funding call focused on proposals that aimed to develop relationships with less research active institutions. We are hopeful that this will start to address this inequity.

### Conclusion

Despite the undoubted challenges facing the hepatology community, there is clear focus on reducing healthcare inequities and improving outcomes for our patients. Emphasis has been placed in finding solutions to these inequities and providing quality, cost-effective, multidisciplinary and environmentally-friendly care for our patients. Similarly, it is recognised that the far-reaching effects of liver disease will necessitate closer working with colleagues across all specialisms to deliver comprehensive, holistic, patient-centred liver care to those

who are often marginalised and less likely to encounter healthcare services in a timely manner.

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