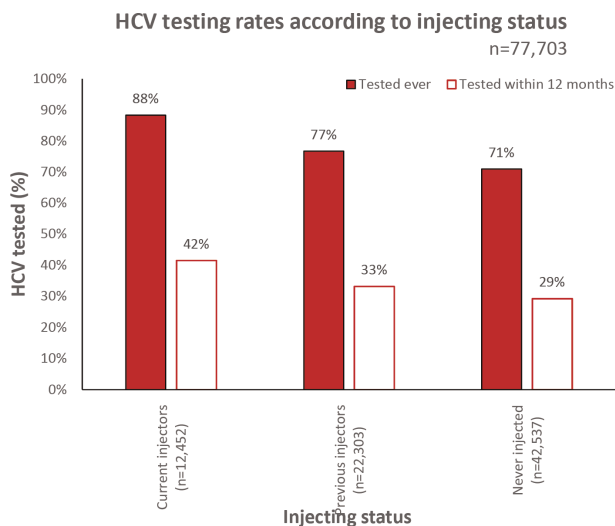


(NDTMS) shows that 84% of C&PI within DTS in England have ever been tested for HCV in 2017–18. We sought to examine recent testing levels and assess testing in those recorded as ‘never injected’.

**Methods** Gilead has established collaborations with leading DTS providers to support HCV Elimination in England. Through these, we obtained testing data for active clients stratified by injecting status, including:

- Number of clients ‘tested ever’ (recorded in NDTMS)
- Number of clients ‘tested within the past 12 months’ (not recorded in NDTMS)

**Results** As of February 2020, there were 77,703 active clients across the four DTS providers. Ever tested rates for ‘Current’ injectors were 88%; however only 42% had been tested within the last 12 months (figure 1).



Abstract P68 Figure 1

**Conclusion** While ever tested rates in DTS are high, our analysis of this large dataset shows that less than half of current and previous injectors were tested within the last 12 months. Ensuring clients with continued risk are tested regularly, in line with national guidance, is essential to reduce incidence of HCV. The reporting of annual re-testing rates into routine data sources, and publication in a timely manner, should be a priority. Encouragingly the majority of ‘Never injectors’ have been tested although there remains a significant population that should be tested.

**Disclosure of interest statement** Data were provided as part of a Gilead partnership with the named drug treatment service providers, which includes funding for data analysts and HCV coordinators.

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#### NEXT: NEEDLE EXCHANGE INITIATIVE TARGETING HEPATITIS C (HCV) INCIDENCE IN PEOPLE WHO INJECT DRUGS (PWID) – PHASE 1

<sup>1</sup>Victoria Rowell\*, <sup>2</sup>Athar Saeed, <sup>3</sup>Shayon Salehi, <sup>1</sup>Tamara Robinson, <sup>1</sup>Tracey Kemp, <sup>1</sup>Kasia Tylmanowska, <sup>4</sup>Stuart McPherson. <sup>1</sup>Change Grow Live, Gateshead, UK; <sup>2</sup>Gateshead Health NHS Foundation Trust, Gateshead, UK; <sup>3</sup>Medical Affairs, Gilead Sciences Ltd., London, UK; <sup>4</sup>The Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle, UK

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**Background** Injecting drug use accounts for ~90% of HCV infections in the UK. Needle and Syringe Programs (NSPs) present a key opportunity for early detection of incident HCV infection in active injectors. Despite this, there are no clear pathways for this vulnerable group. Our aim was to establish a defined blood-borne virus (BBV) testing pathway for people accessing NSPs co-located with drug treatment services (DTS) and streamline care for clients diagnosed with HCV.

**Description of Model of Care/Intervention** We commissioned a behavioural science research group to conduct an observational study at three NSP sites to map pathways and identify barriers to BBV testing and linkage-to-care (LTC). These outputs informed our multidisciplinary steering committee, consisting of the HCV treatment delivery network, CGL (DTS provider), local NSP staff and Gilead. We agreed an optimised BBV pathway to integrate HCV clinical assessment and treatment into harm reduction within the NSP. We then launched a multifaceted campaign including bespoke training, data support, peer mentorship and disease awareness materials.

**Effectiveness** Prior to this initiative, BBV testing was ad-hoc and data capture was not required. The project is currently ongoing; 6-month snapshot analysis (Feb2020):

- 732 unique clients attended NSP
- 100% (n=732) offered a BBV test
- 22% (162/732) accepted
- 41% (66/162) HCV antibody positive
- 20% (33/162) HCV PCR positive
- 75% (25/33) referred to the on-site hepatology clinic
- 24% (8/33) started and 6% (2/33) completed treatment

**Conclusion** Integrated NSP-BBV pathways will be crucial to eliminate HCV given the high prevalence observed. Linkage to care is ongoing; however, to-date, we have successfully initiated therapy in 8 patients at risk of onward transmission. The early data suggest testing uptake in this group is challenging. Phase 2 is focusing on increasing uptake of BBV testing and increasing linkage to treatment within the NSP.

**Disclosure of Interest Statement** The observational study, CGL coordinators and data analyst were funded by Gilead Sciences as part of the NHS England HCV Elimination Programme.

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#### THE COVID-19 PANDEMIC HEPATOLOGY AMBULATORY UNIT: A FUTURE MODEL FOR HEPATOLOGY OUTPATIENT SERVICES

Sarala Janarathanan\*, Kathryn Drysdale, Jovanpreet Dhaliwal, Andrew Tan, Graham Foster, Yiannis Kallis, Vikram Sharma. *Department of Hepatology, Royal London Hospital, Barts Health NHS Trust, London, UK*

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**Introduction** The COVID 19 pandemic presented a challenge to UK hepatology services to devise new strategies to provide safe and effective outpatient care.<sup>1</sup> Most patients could be managed remotely via virtual clinics but a cohort of patients with advanced liver disease need more direct monitoring and assessment.<sup>1</sup> We describe a new hepatology ambulatory care unit set up during Covid-19 in a tertiary liver unit and demonstrate its outcomes.

**Method** The Hepatology Ambulatory Unit (HAU) was managed by two clinical registrars assessing patients face to face

(F2F) with daily consultant supervision, supported by a registered nurse and two medical student volunteers acting as health care assistants. F2F and virtual clinic reviews were offered. Patients were referred into the HAU from local GPs, consultant referrals, following ward discharge and via a direct patient hot line triaged by two clinical nurse specialists.

**Results** Data were collected from 23rd March to 23rd June 2020, comprising 136 patient encounters. 86 patient encounters were completed in the F2F, the remainder in the virtual clinic. 67% of patients were females and 56% had decompensated cirrhosis in the F2F clinic, with alcohol the most common aetiology (41%). The rest of the patients has a mixture of non-cirrhotic aetiology. 14 patients needed paracentesis and 4 patients had infusions (blood or iron). Of the patients with cirrhosis, 83% had Child – Pugh Score B (7–9) and 14% had Child Pugh C (10–15), 56% had a UKELD between 49–60. Majority of the patients were followed up in the consultant led virtual clinic (65%) and HAU virtual clinic (25%). One patient underwent a liver transplant and 2 patients were referred to other specialist clinics. 3 patients were discharged to the GP. There were 2 patients admitted directly to the hospital with variceal bleed and sepsis. None of the patients within the HAU clinic were infected with Covid-19, and there were no deaths.

**Conclusion** Our study shows that patients with advanced liver disease can be safely managed as outpatients in a well-supported closely-monitored unit. Given reports of significantly increased Covid-19 related morbidity and mortality in patients with cirrhosis,<sup>1</sup> we have demonstrated an alternative and effective ambulatory model of care, which can be retained to deliver safe care to this vulnerable patient group in the future.

**Conflicts of Interest** The authors have no conflicts of interest or competing interests to disclose.

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## P71 ABCB4 MUTATIONS CAN CAUSE A SPECTRUM OF CHOLESTATIC PHENOTYPES PRESENTING IN ADULTHOOD

<sup>1</sup>Amil Sinha\*, <sup>2</sup>Claire Grant, <sup>3</sup>Alexander Gimson, <sup>4</sup>Edward Thompson, <sup>5</sup>Adam Duckworth, <sup>5</sup>Susan Davies, <sup>2</sup>Guruprasad Aithal, <sup>3</sup>William Griffiths. <sup>1</sup>University Of Cambridge School Of Clinical Medicine, UK; <sup>2</sup>Department of Hepatology, Nottingham University Hospitals NHS Trust, UK; <sup>3</sup>Department of Hepatology, Cambridge University Hospitals NHS Trust, UK; <sup>4</sup>Department of Molecular Genetics, Cambridge University Hospitals NHS Trust, UK; <sup>5</sup>Department of Histopathology, Cambridge University Hospitals NHS Trust, UK

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**Background and Aims** The ABCB4 gene encodes the floppase, multidrug-resistance p-glycoprotein 3 (MDR3), which transports phosphatidylcholine (PC) to the outer leaflet of the cell membranes lining the bile canaliculi. PC combines with bile acids in the canalicular lumen to form micelles, thus preventing the emulsification action of bile acids damaging the canalicular epithelium. Mutations in the ABCB4 gene are associated with failure of this process leading to cholestatic liver disease. Presentations range from progressive familial intrahepatic cholestasis type 3 (PFIC3), most commonly presenting in childhood, to less severe forms typically presenting in adulthood. Adult phenotypes are poorly characterised hence we sought to

examine in detail a series of patients with ABCB4 variants presenting to our institution.

**Methods** Six unrelated adults with ABCB4 variants (four female, mean age 39 years) presenting with a cholestatic liver disorder were identified. In addition, three sisters with adult-onset cholestasis (labelled as PFIC3), one of whom was compound heterozygous for ABCB4, were studied. As well as case note review, detailed sequencing and histopathological analysis were performed.

**Results** Cases were sub-phenotyped as follows: drug-induced cholestasis, idiopathic adulthood ductopenia, refractory primary biliary cholangitis (PBC) and adult PFIC3. 6/9 had presented with gallstone complications and 5/7 females had a history of intrahepatic cholestasis of pregnancy (ICP). Liver transplantation was required for two out of these nine patients, with another currently wait-listed. Histologically, all cases demonstrated a degree of ductopenia, affecting the smallest interlobular ducts only, copper-associated protein and fibrosis. Portal inflammation was consistently present but of note non-ductocentric. At least one previously unreported pathogenic ABCB4 variant was observed (c.620T>G, p.(Ile207Arg)) and ‘adult PFIC3’ was associated with compound, rather than simple, heterozygosity.

**Conclusion** We describe a range of adult phenotypes associated with pathogenic variants, including novel, in the ABCB4 gene. A distinct histological pattern was observed which differs from classical PBC and primary sclerosing cholangitis (PSC), in some cases overlapping with vanishing bile duct syndromes. Cholestatic liver disease in adults merits genetic analysis, particularly where there is a history of early gallstone disease or ICP, a relevant family history or where the histological profile described is present. Family members should be screened and liver transplantation may be required in more severe cases.

## P72 ‘FIRST REPORT OF LIVER TRANSPLANTATION IN BLAU SYNDROME’

<sup>1</sup>Ricky Sinharay\*, <sup>2</sup>Lorcán McKeown, <sup>2</sup>Catrina Phillips, <sup>2</sup>Alice Li, <sup>3</sup>Adam Duckworth, <sup>4</sup>Frances Hall, <sup>1</sup>William JH Griffiths. <sup>1</sup>Department of Hepatology, Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ UK, Cambridge, UK; <sup>2</sup>University of Cambridge, School of Clinical Medicine, Cambridge, UK; <sup>3</sup>Department of Pathology, Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ UK, Cambridge, UK; <sup>4</sup>Department of Rheumatology, Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ UK

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**Introduction** Blau syndrome is a rare autosomal dominant inflammatory granulomatous disease caused by mutations in the NOD2 gene, classically presenting in childhood. Hepatic manifestations are recognized including cholestasis and granulomatous liver disease. We describe a novel NOD2 gene mutation c.1471A>C, p.(Met491Leu) in an adult presenting with decompensated granulomatous liver disease, requiring an orthotopic liver transplant, the first reported in this syndrome. Disease recurrence has since occurred and he is awaiting re-transplantation related to septic complications from ischemic cholangiopathy. Furthermore, we appraise the effectiveness of antibody therapies in halting disease progression.

**Case report** Having originally been treated for juvenile idiopathic arthritis and uveitis since the age of three, our