Hepatitis C in the UK 2020

Working to eliminate hepatitis C as a major public health threat
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Foreword

In the UK, an estimated 118,000 people are chronically infected with hepatitis C (HCV), with many drawn from marginalised and underserved groups in society.

In this report, we review progress towards World Health Organization (WHO) elimination targets and highlight the important actions needed to reach them. In this period of pandemic, we have also included a preliminary assessment of the early impact of COVID-19 on hepatitis services and monitoring in the UK.

By 2019, substantial progress has been made towards the WHO elimination targets, with prevalence of HCV having fallen by around one third and deaths by 25%, when compared to the 2015 baseline, but challenges lie ahead.

Collaborative work between UK public health services, the NHS, local authorities, primary care, pharmaceutical companies and the third sector continue to drive innovations that raise awareness, increase testing and improve pathways into care for target populations, thereby helping to reduce health inequalities. Nonetheless, data presented in this report suggest that prevention activity may be failing to keep pace with the gains made in other areas. There is little evidence of any fall in the number of new infections in recent years. Injecting drug use is the main driver of HCV transmission in the UK, yet a significant minority of people who inject drugs (PWID) remain unaware of their HCV infections, needle and syringe provision is suboptimal and sharing injecting equipment remains of concern.

As in many areas, the COVID-19 pandemic poses a serious threat to our ability to meet WHO HCV elimination goals, with latest data showing that HCV diagnosis and treatment fell dramatically during the early months of the pandemic. However, services have started to recover, and the pandemic response has undoubtedly driven some innovative models of service delivery.

Now, more than ever, it is essential that we do not lose focus on the important actions needed to reduce incidence, increase testing and improve linkage into care. We also need to work hard to ensure that services hit during the pandemic are adequately re-instated if we are to avoid increased inequalities in access to care and health outcomes.

It has been remarkable to see how people working in the field of hepatitis, at all levels and in all sectors, have worked so hard to keep hepatitis services on track. I am sure that this same passion and commitment will stand us in good stead as we continue to drive towards our goal to eliminate HCV as a major public health threat in the UK by 2030.
Glossary of abbreviations

BBV  Blood-borne virus
CI   Confidence interval
CrI  Credible interval
COVID-19  Coronavirus 2019
DAA  Direct acting antiviral
DBS  Dried Blood Spot
EPIToPe Evaluating the population impact of hepatitis C direct acting antiviral treatment as prevention for people who inject drugs
ESLD End-stage liver disease
GHSS Global Health Sector Strategy
HCC  Hepatocellular carcinoma
HCV  Hepatitis C virus
HES  Hospital Episode Statistics
HIS  Hospital Inpatient System
IEP  Injection equipment provision
NSP  Needle and syringe programme
NESI Needle Exchange Surveillance Initiative
NWIS NHS Wales Informatics Service
NIHR National Institute for Health Research
NSGVH National Strategic Group on Viral Hepatitis
ODN  Operational Delivery Network
OST  Opioid substitution treatment
PHA  Public Health Agency
PHE  Public Health England
PHS  Public Health Scotland
PWID People who inject drugs
RCGP Royal College of General Practitioners
RNA  Ribonucleic acid
SHPN Scottish Health Protection Network
SSBBV Sentinel surveillance of blood borne virus testing
SGSS Second Generation Surveillance System
SVR  Sustained virological response
UAM Unlinked Anonymous Monitoring Survey
WHO World Health Organization
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In Scotland, we would like to thank the blood-borne virus (BBV) co-ordinators in each NHS Board, the Hepatitis C Clinical Database Monitoring Committee, HCV testing laboratories and treatment centres, services providing injecting equipment, Glasgow
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Executive summary

On 28 May 2016, the World Health Assembly adopted a Global Health Sector Strategy (GHSS) on viral hepatitis for the period 2016 to 2021. This strategy introduced the first-ever global targets for viral hepatitis control, including a 30% reduction in new cases of hepatitis B and C by 2020 and a 10% reduction in mortality. This report summarises UK progress towards meeting these targets, to help support focused action to eliminate HCV as a major public health threat by 2030 at the latest, and provides a preliminary assessment of the early impact of the coronavirus 2019 (COVID-19) pandemic on hepatitis services and monitoring in the UK.

Latest estimates suggest that in 2015 around 174,000 people (95% credible interval 161,000 to 188,000) in the UK were living with chronic HCV infection, and that this figure has fallen by around one third to 118,000 in 2019 (95% CI: 104,000, 133,000).

Injecting drug use continues to be the most important risk factor for HCV infection in the UK, with data from UK surveys of PWID suggesting that in 2019, just over half of PWID (54% in England, Wales and Northern Ireland; 55% in Scotland in 2019 to 2020) tested positive for HCV antibody, and just less than one quarter had evidence of current infection (23% in the England, Wales and Northern Ireland; 19% in Scotland).

Latest data from the UAM survey of PWID suggest that around half (51%) of participating PWID in the UK were aware of their HCV antibody positive status in 2019, and in the UK overall, surveys suggest that around one third (32%) of PWID were aware of their current (HCV RNA positive) infection in 2019. Although the WHO target of 50% of those ever infected in the WHO European region knowing their status by 2020 has been reached in the UK, more needs to be done if we are to reach the 90% target by 2030.

In the UK, preliminary data suggest that the incidence of HCV-related end-stage liver disease (ESLD) and hepatocellular carcinoma (HCC) fell from 2017 to levels 24% below the 2015 baseline by 2019. Mortality data suggest a fall in death registrations from HCV-related ESLD and HCC of 18% between 2015 and 2018, with provisional data suggesting a further fall of 8% in 2019. Thus with a fall in deaths of around 25% by 2019, from the 2015 baseline, the WHO target of reducing HCV-related mortality by 10% by the year 2020 has been exceeded more than twofold in the UK and hence a reduction of at least 65% by 2030 seems achievable.

The fall in mortality from HCV-related ESLD and HCC observed since 2015 is consistent with increased treatment and sustained virological response rates (SVR) achieved with new direct acting antiviral (DAA) drugs that have taken place over the past 5 years. Since 2014, numbers accessing treatment have increased dramatically, more than
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doubling pre-2015 levels to reach an all-time high of 15,449 treatment initiations in the tax year 2019 to 2020. While the success of national programmes to help find and treat individuals has led to increases in the numbers accessing treatment, the recent reduced rate of increase in the UK (just 1.6% increase between tax year 2018 to 2019 and tax year 2019 to 2020) suggests that those people who remain untreated are increasingly challenging to find and support to engage with care. By 2019, around 38% of individuals who had been infected with HCV are estimated to have been successfully treated.

Our ability to sustain the current increase in numbers accessing treatment is limited by our capacity to find and treat the undiagnosed, and to deliver treatment services in a way that is accessible to those who are diagnosed but untreated. Throughout the UK, a variety of enterprising partnerships support this. In England, resources have been developed to help people recognise their risk for infection, and innovative procurement agreements with substantial investment from NHS England and the pharmaceutical industry have been secured to help improve the numbers diagnosed and accessing treatment. This includes new initiatives to help people who are experiencing homelessness and those PWID who do not currently access addiction services, to access HCV testing, treatment and care. This increased testing and treatment activity is supported by peer workers who help vulnerable people to navigate the system to achieve cure.

Re-engagement exercises are underway in England, Northern Ireland and Wales to help identify people who have been diagnosed with HCV in the past but who may not have accessed new HCV treatments. Point of care testing is being rolled out in secure and detained settings throughout England and has been piloted in Wales, which, when combined with early access to pan-genotypic treatments, can allow immediate initiation of treatment within the prison setting. In England, a new testing initiative in primary care, which uses a software programme available on over 95% of general practice systems, will help identify individuals who would benefit from HCV testing. In addition, Public Health England (PHE) is working alongside NHS England to develop a data dashboard to provide epidemiological data at local level to help support operational delivery networks (ODNs) with case finding, resource allocation and to identify areas that would benefit from targeted testing initiatives. To support commissioners and health care providers in making decisions on prioritisation of resources and the commissioning of services, PHE has also published an evidence review highlighting interventions that are effective in increasing case-finding and linkage to care for people with HCV.(4)

In Scotland, recommendations on HCV case-finding and access to care have been published(5) to help support new HCV treatment targets set by Scottish Government, with the aim of eliminating HCV as a major public health concern in Scotland by 2024.(6) In Wales, work is being supported by the Liver Disease Delivery Plan to increase diagnosis in a range of settings, and the national microbiology service is now undertaking reflex PCR testing on antibody positive dried blood spot (DBS) samples.
Diagnostic testing is being developed in pharmacies and a key performance indicator related to diagnostic HCV testing, reported to Welsh Government, has been introduced in substance misuse services to help ensure that all clients who are in contact with substance misuse services are routinely tested for blood borne viruses on at least an annual basis. An all-Wales Network has been set up as a collaboration of Health Board providers to deliver improvements in diagnosis and treatment. In Northern Ireland, work is being co-ordinated by the PHA and Hepatitis B and C clinical network to increase testing and case finding in a range of settings, with a focus on prisons, homelessness, and addiction services. This includes work on awareness raising, tackling stigma and peer support, as well increasing access to DBS testing.

In contrast to the improvements in liver related mortality, data from UK surveys of PWID\(^{(2),(3)}\) do not yet provide any convincing evidence of a fall in HCV incidence over the last 5 years. Prevalence of infection in recent initiates to drug use in the UK, a proxy measure of incidence, was similar in 2019 (28%) to levels in 2015 (25%). These same surveys suggest the incidence of infection remained relatively stable in the range 10 to 16 per 100 person-years over the last 5 years. While it is expected that DAA treatment in PWID, and its associated reduction in HCV prevalence, will lead to a reduction in incident infections, reductions in chronic prevalence have so far been modest and only observed in the last year or two. Therefore, evidence of a reduction in incidence in this population will likely take another year or so to establish. When taken together with the information that only an estimated 3 out of every 5 (61%) PWID in the UK reported having adequate needle or syringe provision for their needs in 2019, these data suggest that the WHO GHSS target to reduce new cases of chronic HCV by 30% by 2020 will be missed in the UK and the target of an 80% reduction by 2030\(^{(1)}\) remains a significant challenge for UK HCV prevention and treatment services.

The COVID-19 pandemic poses a serious threat to our ability to meet WHO HCV elimination goals. Delivering WHO goals depends on effective primary prevention, case ascertainment, treatment, linkage to and retention in care; monitoring progress in meeting these objectives also requires high-quality surveillance data. Any reduction in service capacity or access to prevention, testing, diagnosis and treatment for key vulnerable groups will delay progress towards delivering these goals.

Latest data suggest that the availability of HCV testing and the initiation of treatment for HCV have varied throughout the UK but have largely reduced during the first few months of the COVID-19 pandemic. In April 2020, new diagnoses of HCV and HCV treatment initiations in the UK were down 82% and 63% respectively on April 2019 figures. Whilst levels of both have been rising steadily since, they had not recovered to pre-COVID-19 levels by September 2020. For PWID, the availability and accessibility of needle and syringe programmes (NSP) is also known to have reduced throughout most of the UK. While the pandemic has led to a number of innovative models of service delivery, like accelerated development of reporting systems and telemedicine, it will be important to
ensure that comprehensive prevention, testing and treatment services are fully restored and that any changes to existing models are fully evaluated to assess their impact on clinical and public health outcomes and inequalities.

Overall, data suggest significant reductions in the prevalence of chronic HCV infection by 2019 in the UK. With unrestricted availability of new DAA drugs, and the expansion of initiatives to increase diagnosis and referral into care, the UK is well-placed to meet the WHO GHSS 2030 goal to reduce HCV-related morbidity and mortality by 65%, provided case-finding and diagnosis can keep pace with planned treatment scale-up. At the other end of the spectrum, there is little evidence to support a fall in the number of new HCV infections. Sub-optimal harm reduction among PWID represents a threat to achieving and sustaining HCV elimination goals as elimination not only relies on scaling up of testing and treatment, but also upon adequate harm reduction provision to prevent infection and re-infection following treatment. Care will need to be taken to ensure that services are adequately reinstated following the COVID-19 pandemic if systematic underdiagnosis that could lead to increased inequalities are to be avoided.

We are interested in receiving your feedback on this report and would be grateful if you could take 2 minutes to complete a short survey (closing date: 31 May 2021):

https://surveys.phe.org.uk/TakeSurvey.aspx?SurveyID=m8KM9n552

Thank you.
Introduction

Hepatitis C is a bloodborne virus that infects and damages the liver. Persistent infection over time can lead to cirrhosis, liver failure or cancer as well as extrahepatic manifestations of the disease. As most infections are asymptomatic for many years, or result in non-specific symptoms, people are often unaware of their infection until the symptoms of severe liver damage are experienced. As a result, many individuals with chronic HCV infection remain undiagnosed and fail to access treatment. These individuals can present later with complications of HCV-related ESLD and primary liver cancer, which have poor survival rates.

HCV disproportionately affects populations who are marginalised and under-served, with reduced engagement in healthcare and poorer health outcomes. HCV is most prevalent in individuals with a current or past history of injecting drug use, those in contact with the criminal justice system, people experiencing homelessness, and also in populations who have close links to countries where HCV is endemic.(7) Other groups at increased risk of HCV include: recipients of blood or blood products prior to the introduction of routine blood screening in the UK, healthcare workers, infants born to HCV-positive mothers and individuals engaging in high-risk sexual behaviours.(8)

Chronic HCV is a curable infection however, and it is our aspiration to support the WHO in its goal to eliminate HCV as a major public health threat by 2030 at the latest.(1) This can be achieved via the collective action of all partner organisations involved in the prevention, diagnosis, treatment and care of those living with, or at risk of acquiring, HCV infection.

In the UK, action to tackle HCV is already well underway, and being further developed across the 4 nations.(9-13) In Wales, a circular from the Chief Medical Officer for Wales was issued in 2017 outlining measures to support elimination of viral hepatitis, including improved access to DAAs,(13) and the NHS and its partners are working to a Liver Disease Delivery Plan to 2020.(9) In Scotland, action is guided by their Sexual Health and BBV Framework, 2015 to 2020(10) and their Hepatitis C Elimination Strategy.(6) In England, the NHS have used a partnership approach to elimination when procuring antiviral drug treatments, with the pharmaceutical industry contributing their expertise and support in a series of elimination initiatives.(14) PHE captures wider public health activities in their annual Hepatitis C report for England(15) and their cross-agency National Strategic Group on Viral Hepatitis (NSGVH) continues to provide strategic direction and advice around the prevention and control of viral hepatitis in England. In Northern Ireland, work in the Department of Health to develop a hepatitis C elimination action plan, is at an advanced stage, and it is hoped the plan will be agreed during the tax year 2020 to 2021.
With the GHSS elimination goals and targets as a benchmark (see Appendix 1), this report summarises UK progress tackling HCV in 2019 and provides a preliminary assessment of the early impact of the COVID-19 pandemic on hepatitis services and monitoring.

To track our progress, the impact of key interventions in the following 2 impact areas are monitored:

- reducing transmission of HCV
- reducing morbidity and mortality due to HCV and its complications

To support this, it is also important to monitor the coverage of those interventions that are critical in driving down the levels of HCV infection and HCV-related mortality in the UK, namely:

- the adequacy of harm reduction in PWID
- the proportion of infected people who are diagnosed or aware of their infections
- the numbers, and ultimately the proportion, of infected people accessing treatment

The UK indicators (see Appendix 2), reported in the sections that follow, describe our progress so far and set out the scale of the challenge ahead. In this way, we hope to help support focused action in the UK countries to eliminate HCV as a major public health threat by 2030 at the latest.
Burden of HCV infection

Latest estimates suggest that in 2015 around 174,000 people (95% credible interval 161,000, 188,000) in the UK were living with chronic HCV infection (Figure 1). The prevalence is estimated to have fallen in recent years and was predicted to have declined by one-third to around 118,000 in 2019 (95% CrI: 104,000, 133,000, Figure 1).

Figure 1. Estimated chronic prevalence of HCV infection in the UK (with 95% Credible Intervals), 2009 to 2019

Notes to Figure 1. Estimated chronic prevalence of HCV infection in the UK (with 95% Credible Intervals), 2009 to 2019

Data source: Estimates are based on available data in each nation on: the size of at-risk populations (such as PWID), HCV prevalence and incidence data among risk groups, HCV diagnoses, treatment data and incidence of severe liver disease (from hospital data). See (16, 19-24) for approaches used to generate estimates.
The modelling approach used to estimate prevalence in England, Northern Ireland and Wales is under continued development and makes use of multiple sources of routine surveillance data to track progress over time.\(^{(22)}\) The UAM survey of PWID now includes RNA testing (retrospectively from 2011 to 2015, and onwards) which is used to provide direct information on chronic prevalence in PWID. Previous modelling used adjusted antibody prevalence, and the new data has resulted in a slightly lower estimated chronic prevalence – either due to greater numbers successfully treated with interferon-based treatment, or higher rates of spontaneous clearance. Prevalence estimates for 2018, based on the new model, are 132,000 chronic infections (95% CrI: 118,000, 146,000) and thus the estimated fall in chronic prevalence from 2018 to 2019 is around 14,000 (around 10%).

Injecting drug use continues to be the most important risk factor for HCV infection in the UK, being cited as the risk in more than 90% of all laboratory reports where risk factors have been disclosed\(^{(14),(23)}\) (59% in Northern Ireland\(^{(24)}\)). While injection of drugs in the UK, largely driven by heroin use, is thought to be declining generally, there have been increases in the injection of specific drugs in some parts of the country, especially stimulants and primarily cocaine or crack.\(^{(25),(3)}\) These drugs are associated with more frequent injection, more damage at the injection site and with the spread of viral and bacterial infection.

Data from UK surveys of PWID (UAM Survey\(^{(2)}\) in England, Northern Ireland and Wales, and the Needle Exchange Surveillance Initiative (NESI) Survey\(^{(3)}\) in Scotland) show that in 2019, just over half of PWID (54% in the England, Wales and Northern Ireland, Figure 2a; 55% in 2019 to 2020 in Scotland, Figure 2b) had evidence of ever being infected with HCV, and just less than a quarter had evidence of current (HCV RNA positive) infection (23% in England, Wales and Northern Ireland, Figure 2a; 19% in Scotland, Figure 2b).
Figure 2a. Trend in HCV prevalence among people injecting psychoactive drugs (with 95% Confidence Intervals): 2011 to 2019-20 (England, Northern Ireland and Wales*, **, ***)

- **Antibody negative**
- **Cleared Infection (Antibody +ve, RNA-ve)**
- **Chronic Infection (Antibody +ve, RNA+ve)**
Notes to Figure 2a. Trend in HCV prevalence among people injecting psychoactive drugs (with 95% Confidence Intervals): 2011 to 2019-20 (England, Northern Ireland and Wales*,**,***)

* For 2016 to 2018, laboratory testing data may differ from those provided previously as information on DBS sample quality has been used to exclude insufficient DBS samples collected between 2016 and 2019 from analyses.

** Retrospective analysis of HCV RNA (2011 to 2016) was performed as part of the EPIToPE study, funded by the National Institute for Health Research Programme Grants for Applied Research programme (Grant Reference Number RP-PG-0616-20008). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

*** Estimates for chronic and cleared HCV infection have been adjusted to take into account antibody-positive samples with missing RNA status. The ratio of chronic/cleared infection was applied to the antibody-positive samples with missing RNA status by year and by geography (English regions, Wales, Northern Ireland).

Data sources: Unlinked Anonymous Monitoring survey of people who inject psychoactive drugs(2) conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland
Figure 2b. Trend in HCV prevalence among people injecting psychoactive drugs (with 95% Confidence Intervals): 2011 to 2019-20 (Scotland†,††,‡)

- Antibody negative
- Cleared Infection (Antibody +ve, RNA-ve)
- Chronic Infection (Antibody +ve, RNA+ve)
Notes to Figure 2b. Trend in HCV prevalence among people injecting psychoactive drugs (with 95% Confidence Intervals): 2011 to 2019-20 (Scotland†,††,‡)

†Data are shown for those years where HCV RNA testing data are available.
†† Estimates for chronic and cleared HCV infection have been adjusted to take into account antibody-positive samples with missing RNA status. The ratio of chronic to cleared infection was applied to the antibody positive samples with missing RNA status by year and health board (GGC/Tayside/rest of Scotland).
†††Antibody prevalence for 2015 to 2016 is different to that reported previously (58%) as a result of recently updated laboratory data.
‡NESI 2019 to 2020 was suspended before completion due to the COVID-19 pandemic. As a result, the sample includes data from 8/11 mainland NHS Boards originally included in the sampling framework. The 3 missing NHS Boards in 2019 to 2020 account for just 10% of the total NESI sampling framework. Data are provisional.

Data sources: Needle Exchange Surveillance Initiative, Glasgow Caledonian University, University of West of Scotland and Public Health Scotland.
Monitoring service coverage

A comprehensive response to HCV requires the implementation of effective, high-impact interventions along the full continuum of hepatitis services, including interventions for prevention, testing, treatment and care, as well as therapeutic and harm reduction services for PWID. Mathematical modelling(26) suggests that HCV could be eliminated as a major public health threat by 2030 if the response reaches the service coverage targets set out in the GHSS on viral hepatitis(1) (see Appendix 1).

In the UK, eliminating HCV as a major public health threat by driving down HCV-related mortality and preventing new infections from occurring is potentially feasible with the tools currently available. Throughout the UK investment is variable in the 3 core intervention areas: (i) ensuring adequate harm reduction for PWID, (ii) increasing the proportion of infected individuals who are diagnosed/aware of their infections, and (iii) increasing the proportion of infected individuals who access and complete treatment, achieving a SVR.

Adequate harm reduction

Harm reduction interventions for PWID, including access to sterile injecting equipment and effective drug dependence treatment, can prevent and control HCV among PWID.(27-32). Optimal access to clean injecting equipment and opioid substitution treatment (OST) are crucial in curbing the spread of HCV, particularly given that they also have the potential to reduce the risk of reinfection after treatment. Recent evidence also suggests that the provision of low dead space syringes (which retain less blood than traditional syringes with a higher dead space), as an alternative to traditional needles, is likely to be a cost-saving strategy for reducing the transmission of HCV.(33)

Globally, harm reduction for PWID falls far short of the 2030 GHSS target of 300 sterile needles and syringes provided per PWID per year(1) with, on average, only 27 syringe and needle sets distributed per PWID each year.(34) However, these inevitably somewhat arbitrary figures do not make any allowance for individual differences in need or secondary distribution. Therefore, in order to better reflect the adequacy of needle or syringe provision, data from UK surveys of PWID (UAM Survey(2) and NESI Survey(3)) are presented here on self-reported adequacy of needle/syringe provision (Figure 3). In this metric, needle/syringe provision is considered ‘adequate’ when the reported number of needles received, met or exceeded the number of times the individual injected.

Figure 3 shows that in 2019 around 3 out of every 5 PWID in the UK (61%) reported having adequate needle or syringe provision for their needs, a figure that has not improved over the last 3 years (63% in 2017).
Figure 3. Estimated UK-wide proportion of PWID reporting adequate* needle and syringe provision, 2011 to 2019**

A new UAM indicator was introduced in 2017 meaning that data from 2017 onwards cannot be directly compared with that from earlier years (bars for 2017 to 2019 are shown in a different colour).
Notes to figure 3. Estimated UK-wide proportion of PWID reporting adequate needle and syringe provision, 2011 to 2019

* Needle and syringe provision is defined as ‘adequate’ when the reported number of needles received or number of times injected is greater than one. This was assessed amongst those who had injected in the previous 28 days in England, Northern Ireland and Wales and in those who had injected in the previous 6 months in Scotland and were attending harm reduction services for reasons other than their injecting equipment.

** This figure uses data from 2 ongoing survey programmes, which together cover the whole of the UK. Data from these 2 surveys have been weighted by the size of the adult (16 to 64) population (2011, 2013, 2015, 2017 and 2019 UK figures weighted on mid-year population estimates for each respective year) and then combined (represented by the blue line). The survey covering Scotland is not annual, so full UK data are only presented for those years where both surveys are conducted.

†UAM data for 2011 to 2018 may differ from those provided previously as questionnaires completed between 2011 and 2019 with no accompanying biological specimen have now been included in analyses.


††† 2019 data for Scotland are provisional. NESI 2019-20 was suspended before completion due to the COVID-19 pandemic. As a result, the sample includes data from 8/11 mainland NHS Boards originally included in the sampling framework. The 3 missing NHS Boards in 2019 to 2020 account for just 10% of the total NESI sampling framework.

**Data sources:** (i) Needle Exchange Surveillance Initiative, Glasgow Caledonian University, University of West of Scotland and Public Health Scotland, and (ii) Unlinked Anonymous Monitoring survey of people who inject psychoactive drugs,(2) conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland.
In the 2019 UAM survey, 20% of people currently injecting psychoactive drugs reported direct sharing of needles and syringes; this is comparable with levels seen in 2010 (21%) but an increase from 14% in 2012 when direct sharing was at its lowest (P<0.001). When including the sharing of spoons, mixing containers or filters (indirect sharing) as well as needles and syringes, the proportion of those reporting sharing is higher at 37%, again similar to that reported in 2010 (39%). In NESI in 2017 to 2018, levels of reported needle and syringe sharing in the past 6 months remained low (10%), and reported sharing of associated injecting equipment (that is, spoons or cookers, filters, water) in the past 6 months in 2017 to 2018 (26%) was almost half the proportion reported in 2008 to 2009 (48%).

The absence of any significant fall in direct or indirect sharing over the last 5 years across most of the UK is concerning if elimination targets are to be met. Achieving and sustaining HCV elimination not only relies upon scaling up testing and treatment, but also upon adequate harm reduction provision. In order to achieve this, these data suggest that the scale of equipment provided needs to be increased, access improved, and innovative action taken to raise awareness of transmission risks and protective behaviours.

**Increasing the proportion diagnosed**

Early diagnosis of HCV infection is important for the most effective treatment and care, yet globally only 19% (13.1 million) of people living with hepatitis C know their status.(35) In the UK, levels of awareness of infection are well above the 19% global average, but are still suboptimal, and positive test results do not always successfully link individuals into treatment and care services.(36)

Data from the latest UAM survey suggests that around half of PWID sampled (51%) were aware of their HCV antibody positive status (Figure 4). In the UK overall, surveys suggest that around one third (32%) of PWID were aware of their chronic (HCV RNA positive) infection in 2019, significantly lower than in 2017 (51%, p<0.001; Figure 4). However, it is likely that those knowing their status are more likely to have been treated, and so as more people access treatment, those remaining are more likely to be unaware of their infection. The causes of this fall are also likely to be multifactorial and could be influenced by sampling methods and the geographical spread of participants in 2019.
Figure 4. Estimated UK-wide proportion of PWID testing positive for HCV* who are aware of their infection, 2011 to 2019**

A new UAM indicator was introduced in 2017 meaning that data from 2017 onwards cannot be directly compared with that from earlier years (bars for 2017 to 2019 are shown in a different colour).†

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†

NESI (Scotland)***Proportion aware of HCV chronic infection (HCV RNA positive)
NESI (Scotland)***Proportion aware of HCV ever infection (HCV antibody positive)
UAM (England, Northern Ireland and Wales)†† Proportion aware of HCV ever infection (HCV antibody positive)
UAM Proportion aware of HCV chronic infection (HCV RNA positive)
UK Proportion aware of HCV ever infection (HCV antibody positive)
UK Proportion aware of HCV chronic infection (HCV RNA positive)
Notes for Figure 4. Estimated UK-wide proportion of PWID testing positive for HCV who are aware of their infection, 2011 to 2019

* Figures for England, Northern Ireland and Wales are for PWID who had injected during last year; figures for Scotland are for PWID who injected in the past 6 months.
** This figure uses data from 2 ongoing survey programmes, which together cover the whole of the UK. Data from these 2 surveys have been weighted by the size of the adult (16-64) population (2011, 2013, 2015, 2017 and 2019. UK figures weighted on mid-year population estimates for each respective year) and then combined (represented by the blue and green lines). The survey covering Scotland is not annual, so full UK data are only presented for those years where both surveys are conducted.
*** Data for Scotland are available by survey year so 2011 refers to 2011 to 2012, 2013 refers to 2013 to 2014, 2015 refers to 2015 to 2016, 2017 refers to 2017 to 2018 and 2019 refers to 2019 to 2020. NESI 2019 to 2020 was suspended before completion due to the COVID-19 pandemic. As a result, the sample includes data from 8/11 mainland NHS Boards originally included in the sampling framework. The 3 missing NHS Boards in 2019-20 account for just 10% of the total NESI sampling framework.
† UAM data regarding awareness of HCV RNA result, and therefore chronic infection status, are available for 2017 onwards due to changes in the UAM survey questionnaire.
†† For UAM survey, 2016-18 laboratory testing data may differ from those provided previously as information on DBS sample quality has been used to exclude insufficient DBS samples collected between 2016 and 2019 from analyses. Behavioural data for 2011-18 may differ from those provided previously as questionnaires completed between 2011 and 2019 with no accompanying biological specimen have been now included in analyses.
Data sources: (i) Needle Exchange Surveillance Initiative , Glasgow Caledonian University, University of West of Scotland and Public Health Scotland, and (ii) Unlinked Anonymous Monitoring survey of people who inject psychoactive drugs,(2) conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland
The GHSS on viral hepatitis and the draft action plan for the health sector response to viral hepatitis in the WHO European region call for a major increase in the diagnosis of chronic HCV infection, with 50% of ever infected people in the WHO European region knowing their status by 2020 and 90% by 2030 (see Appendix 1). While the first target has already been reached in the UK, it is recognised that more needs to be done if we are to reach the 90% target by 2030.

In England, resources have been developed by PHE including a HCV testing quiz, posters, risk videos and banners for social media in different languages co-branded by the World Hepatitis Alliance, The British Liver Trust and The Hepatitis C Trust. These free resources help people to recognise any risk for infection and encourage those at risk to seek testing. In England, local authorities continue to play a central role in testing for viral hepatitis in people accessing community drug treatment services, and the new NHS procurement agreements allow additional testing in socially excluded communities, including people who are experiencing homelessness and those who do not currently access addiction services. This increased testing and treatment activity is supported by peer workers and helps vulnerable people to access testing and care. The NHS procurement deal in England also includes very significant investment in testing and treatment services for those in secure and detained settings, and provides a welcome boost to gains already achieved following the introduction of opt-out testing across the prison estate; point of care testing approaches are being used to provide a rapid diagnosis of infection, which when combined with access to pan-genotypic treatments can allow immediate initiation of treatment within the prison setting. Support for people in prisons is being provided by The Hepatitis C Trust, who have developed information leaflets and poster campaigns to inform people of the options available to them. To improve access to testing for PWID, HCV testing in community pharmacies launched in September this year as well as outreach testing initiatives targeting PWID in temporary accommodation during the 2020 COVID-19 pandemic response. It is also critical to find and engage those exposed to HCV during past episodes of injecting drug use (who are no longer in contact with services for people with addictive disorders) or who acquired their infections via other routes. Thus, it is key to raise awareness among GPs so they can recognise and ask about the risks for infection and offer testing. To help with this, the elimination programme includes a new testing initiative in primary care which uses a software programmes installed in participating general practice systems to identify and provide testing to those who may be at risk of infection. Free online training resources and an e-learning module on hepatitis C (and hepatitis B) are also available for GPs, from the Royal College of General Practitioners (RCGP), to help with this, and other downloadable resources like those accessible via the International Network on Hepatitis in Substance Users have also been developed. In addition, PHE is working alongside NHS England to develop a data dashboard to provide epidemiological data on testing, diagnosis and treatment at ODN level. This dashboard helps ODNs with case finding and resource allocation and highlights areas that would benefit from targeted testing initiatives. To support commissioners and health care
providers in making decisions on prioritisation of resources and the commissioning of services, PHE has published an evidence review highlighting interventions that are effective in increasing case-finding and linkage to care for people with HCV.(4)

In Scotland, a Short-Life Working Group on behalf of the Scottish Health Protection Network (SHPN), has published recommendations on HCV case-finding and access to care.(5) The purpose of these recommendations is to support ambitious new HCV treatment targets set by Scottish Government, with the aim of eliminating HCV as a major public health concern in Scotland by 2024.(6) The recommendations offer practical guidance for Health Boards in Scotland to improve HCV testing, diagnosis, and treatment uptake in a variety of settings, including drug use services, community pharmacies, injecting equipment providers, and prisons.

In Wales, work is being supported by the Liver Disease Delivery Plan to increase diagnosis in a range of settings. Work has been undertaken in some health boards to pilot HCV case finding using electronic GP patient records and point of care testing has been piloted in various settings, including prisons. In addition, the national microbiology service is now undertaking reflex PCR testing on antibody positive DBS samples and diagnostic testing is being developed in pharmacies. A key performance indicator related to diagnostic HCV testing, reported to Welsh Government, has also been introduced in substance misuse services (Indicator: All clients who are in contact with substance misuse services to be routinely tested on site, or tested by a third party if not available on site, for BBV infection (hepatitis B, hepatitis C and HIV) on at least an annual basis). All BBV testing and outcome activity is measured via the Welsh Harm Reduction Database BBV module, which is now live in all service provider agencies. This will inform targets in future years in line with WHO elimination goals.

In Northern Ireland, increasing the proportion of people diagnosed is a key priority. Work is being co-ordinated by the PHA and Hepatitis B and C clinical network to increase testing and case finding in a range of settings, with a focus on prisons, homelessness, and addiction services. This includes work on awareness raising, tackling stigma and peer support, as well increasing access to DBS testing.

Increasing the numbers accessing hepatitis C treatment

Among people diagnosed with chronic HCV infection globally, an estimated 7% started treatment in 2015 (1.1 million people).(34) By the end of 2017, just 5 million people diagnosed with HCV infection had been treated with DAA drugs.(35) The GHSS on viral hepatitis(1) and the draft action plan for the health sector response to viral hepatitis in
the WHO European region (37) call for treatment coverage of people diagnosed with chronic HCV in the European region to reach 75% in 2020 and 80% by 2030. (see Appendix 1)

In the UK, DAA drugs have revolutionised the HCV treatment landscape, providing a finite well-tolerated and effective orally administered cure with fewer side effects than previously experienced with interferon-based treatment regimens. (40) While prevention activities are key in reducing the rate of new infections, numbers already infected would remain high for many years without effective HCV treatment, which has already begun to reduce the number of HCV-related deaths and transplants in the UK. (14, 21)

While the high price of new drugs remains a barrier to access in many countries worldwide, negotiations in the UK have led to reduced prices and these medicines are being rolled out, without restriction, in accordance with national recommendations, (41-46), (47), (48), (49) (50) in all UK countries. In England, NHS procurement deals for antiviral treatments have involved a partnership approach to elimination with the pharmaceutical industry and have involved substantial investment from both the manufacturers of antiviral agents and NHS England to accelerate elimination. PHE have also provided data to support the NHS in England to identify people, registered with a GP, who have been diagnosed with HCV in the past but who may not have cleared their infections, to ensure that as many eligible people as possible are re-engaged, have confirmatory testing and are treated with the new more effective treatments. (51) While this re-engagement process is still ongoing, to-date over 200 patients have been treated as a result of this exercise. Public Health Wales are undertaking a similar re-engagement exercise, and the first phase of this work, contacting individuals with evidence of chronic HCV, has been completed and has resulted in successful re-engagement and treatment of patients. Whilst the process has been stalled by the COVID-19 pandemic, it is hoped the second phase, contacting those not reached in the first phase, and those with evidence of antibody positive results, will recommence in 2021.

In Scotland, National Procurement has also secured substantial reductions in drug prices. In line with these price reductions, Scottish Government has set new targets for treatment, increasing the number of people treated to 3,000 per year going forward, to help achieve their goal of elimination by the end of 2024. (6)

In Northern Ireland, outreach clinics for underserved populations have been introduced across Northern Ireland, including clinics in prisons, as well as in homelessness and addiction services. In February 2019, a database of patients known to have HCV was used to identify those who would benefit from treatment but who may have been lost to follow-up. A ‘call back’ process was commenced to trace and treat patients who were previously diagnosed and referred with chronic HCV infection but who never attended
clinic. Patients have been contacted and offered testing to confirm whether they still have chronic HCV infection and those with a positive result have been offered treatment.

Figure 5 summarises estimates of the numbers initiating HCV treatment in the UK since 2007. Between 2009 and 2014, estimates suggest that numbers initiating HCV treatment in the UK remained relatively stable at around 6,400 initiations per year (6,390; Range: 6,130-6,808). Since 2014 however, numbers accessing treatment have increased dramatically, more than doubling pre-2015 levels to reach an all-time high of 15,449 treatment initiations in the tax year 2019 to 2020 (Figure 5). This is the result of improved access to DAA drugs that have been made available since tax year 2014 to 2015, (41-50). While the success of national programmes to help find and treat individuals has led to increases in the numbers accessing treatment, the recent reduced rate of increase in the UK (just 1.6% increase between tax year 2018 to 2019 and tax year 2019 to 2020; the net result of continued increases in England and falls in all other UK countries), suggests that it is becoming harder to find and engage those relatively fewer people who remain untreated. By 2019, around 38% of individuals who had been infected with HCV are estimated to have been successfully treated.
Figure 5. UK-wide estimates of numbers initiating HCV treatment, calendar years 2007 to 2014 and from tax year 2015 to 2016 to tax year 2019 to 2020
Notes to Figure 5. UK-wide estimates of numbers initiating HCV treatment, calendar years 2007 to 2014 and from tax year 2015 to 2016 to tax year 2019 to 2020

*Data for Scotland are only available by tax year between 2007 and 2014 so these have been grouped with calendar years. For example, data for calendar year 2011 are grouped with data for the tax year from 2011 to 2012.
†Data for Wales not available for 2007 to 2010; one Health Board is missing in 2014 and data, where available, are subject to data quality issues.
††Data for tax year 2019 to 2020 are provisional for Scotland.

Data Sources: (i) Regional Hepatology Unit for Northern Ireland; (ii) Public Health Scotland, using data supplied by NHS Boards/hepatitis C treatment centres; (iii) Public Health Wales using data from treatment services in the Health Boards; (iv) NHS England for 2015/16, 2016/17 and 2017/18; provisional estimates for England based on new DDA drug treatments only, and on commissioning data which includes clinician intention to treat and invoicing, rather than patient level treatment registry data: these data are subject to data quality issues and contract adjustments; (v) Sentinel surveillance of hepatitis bloodborne virus testing for scaled estimates for 2012-2014 for England; (vi) Estimates from Roche sales, IMS supply chain manager, and Pharmex data for England for 2007 to 2011 (Harris et al. Journal of Hepatology 2014 vol. 61 j 530–53)
In the 2019 UAM survey (England, Northern Ireland and Wales), among those participants testing positive for HCV antibodies who were aware of their infection and had data available on treatment status, 39% had seen a specialist nurse or hepatologist for their HCV infection and been offered and accepted treatment; this is an increase from 20% in 2011 when the question was first asked in the survey. In the 2017 to 2018 NESI survey (Scotland), 50% of those who self-reported as eligible for treatment (those that answered they have HCV or had cleared HCV through treatment) reported ever having received therapy for their HCV infection, which is a marked increase from 28% in 2015 to 2016. Of those who had ever received therapy, 44% had received it in the last year; this compares to 36% in 2015 to 2016.
Monitoring impact

Reducing HCV-related morbidity and mortality

Up until 2014, mortality associated with HCV has been on the increase in the UK (14, 21) as people who acquired their infections decades earlier progressed to advanced liver disease and access to less effective and poorly tolerated treatments had been inadequate. (9), (8), (20) Current DAA drugs however, can be administered to patients with cirrhosis and even decompensated cirrhosis and it is apparent from the data that these drugs are already having an impact across the UK, with premature HCV-related liver mortality declining. (14, 21, 52)

Reducing the incidence of HCV-related ESLD/HCC

In England, new cases of HCV-related ESLD/HCC are monitored using HES, the Patient Episode Database in Wales (PEDW) and the Hospital Inpatient System (HIS) in Northern Ireland. In England, new cases are identified by first linking all episodes of ESLD or HCC for an individual using their unique patient identifier and then linking these to hospital records with a diagnosis of HCV since 2004. Once these are linked, a case of HCV-related ESLD or HCC is classified as ‘new’ if no previous episodes of ESLD or HCC for that individual are found in at least the previous 5 years (In England, less than 1% of ESLD/HCC episodes are estimated to have had a previous episode more than 5 years earlier). In Northern Ireland, the first incidence of ESLD and/or HCC in hospital episodes is identified for individuals who have a previous (since 2004), current or future diagnosis of HCV between 2004 to 2019; an individual who has previously been recorded as a new case may also be counted again if a new HCV-related HCC or ESLD episode takes place 5 or more years after the preceding HCV-related HCC or ESLD episode. In Scotland, data on new ESLD/HCC hospitalisations are obtained via record-linkage of Scotland’s National Hepatitis C Diagnoses Database to the national database on hospital admissions, as well as laboratory HCV PCR test data; thus, first-time ESLD/HCC hospitalisations for all individuals diagnosed with HCV infection in Scotland, and last known to be HCV RNA positive at time of admission, are reported (including those with, but also those without, HCV recorded on their hospital admission/discharge record). (53), (54), (55) Together these analyses have enabled us to produce UK-wide preliminary estimates of new cases (incidence) of HCV-related ESLD/HCC. (56)

However, it is important to recognise the limitations of these estimates since different datasets are utilised in different UK countries, HCV may be unreported in HES, and patient episodes can only successfully be linked when identifiers exist in HES/PEDW/HIS to allow this.
This year updated estimates of new cases of HCV-related ESLD/HCC are available for Wales, Scotland and Northern Ireland (Figures 6 and 7). For England/the UK, problems with HES data have prevented cases in England being linked across years, so these data have not been available since 2017 (described previously (56)). This has now been partially resolved, and preliminary estimates of incidence for England/the UK for 2017 to 2019 have been produced using available data (Figures 6 and 7).

Data for England are incomplete for 2017 to 2019 but have been corrected for 69 of the larger providers, covering a large proportion of HCV-related ESLD/HCC episodes. Incidence figures for the subset of complete providers were scaled up to obtain overall incidence for England, based on the average proportions of ESLD/HCC observed in these providers in the 2013 to 2016 period; these were 63.2% for HCC, 53.6% for ESLD and 56.1% for ESLD/HCC. These new data indicate a continued increase of ESLD and HCC in 2017 for England but falling in 2018 and 2019 to less than 2015 levels (Figure 6). Further work is planned to ascertain the reliability of this scaling-up approach, and the extent to which the original data issue (56) will continue to have an impact on observed trends over time.

Figure 6 shows the incidence of HCV-related ESLD/HCC to have fallen by 69% in Scotland between 2013 and 2018, however, provisional data indicate that the downward trend has not been sustained in 2019 (Figure 6). In Wales, the incidence of HCV-related ESLD/HCC decreased by 34.4% since 2013.

Overall, preliminary data suggest that the incidence of HCV-related ESLD and HCC in the UK continued to rise until 2017, after which it fell to levels below the 2015 baseline (24% below for HCV-related ESLD/HCC, 23% below for HCV-related ESLD, and 23% below for HCV-related HCC by 2019; Figure 7).
Figure 6. Preliminary estimates of incidence* of HCV-related ESLD**/HCC in UK countries: 2010-2019†,††
Notes to Figure 6. Preliminary estimates of incidence* of HCV-related ESLD**/HCC in UK countries: 2010 to 2019†,††

* For England, Wales and Northern Ireland, an episode of HCV-related ESLD/HCC is defined as the FIRST if there have been no previous episodes of HCV-related ESLD or HCV-related HCC for that individual in the previous 5 years (0.4% in England are estimated to have had a previous episode more than 5 years earlier). However, in Northern Ireland an individual who has previously been recorded as a new case may also be counted again if a new HCV-related HCC or ESLD episode takes place 5 or more years after the preceding HCV-related HCC or ESLD episode. For Scotland, these data refer to first-time hospital admissions for ESLD and/or HCC among individuals with chronic HCV infection at time of admission, derived based on linkage of records on individuals diagnosed with anti-HCV to hospital data and exclusion of those who have cleared their infection (either spontaneously or from therapy) prior to admission based on HCV PCR test and SVR status data in laboratory and clinical surveillance databases.

** Defined by codes for ascites, bleeding oesophageal varices, hepato-renal syndrome, hepatic encephalopathy or hepatic failure.

† 2019 figures are provisional for Scotland.

†† Data for England are incomplete for 2017 to 2019 but have been corrected for 69 of the larger providers, covering a large proportion of HCV-related ESLD/HCC episodes. Incidence figures for the subset of complete providers were scaled up to obtain overall incidence for England during 2017 to 2019, based on the average proportions of ESLD/HCC observed in these providers in the 2013 to 2016 period; these were 63.2% for HCC, 53.6% for ESLD and 56.1% for ESLD/HCC. Figures for 2017 to 2019 for England are provisional.

Data source Hospital Episode Statistics (HES), NHS Digital for England. Produced by Public Health England; Hospital Inpatient System, Hospital Information Branch, Information and Analysis Directorate, Department of Health, Northern Ireland; Patient Episode Database for Wales (PEDW). NHS Wales Informatics Service for Wales; Public Health Scotland, in association with the Information Services Division.
Figure 7. Preliminary estimates of incidence* of HCV-related ESLD**/HCC in the UK: 2010 to 2019†,††
Notes to Figure 7. Preliminary estimates of incidence* of HCV-related ESLD**/HCC in the UK: 2010 to 2019†,††

* For England, Wales and Northern Ireland, an episode of HCV-related ESLD/HCC is defined as the FIRST if there have been no previous episodes of HCV-related ESLD or HCV-related HCC for that individual in the previous 5 years (0.4% in England are estimated to have had a previous episode more than 5 years earlier). However, in Northern Ireland an individual who has previously been recorded as a new case may be also be counted again if a new HCV-related HCC or ESLD episode takes place 5 or more years after the preceding HCV-related HCC or ESLD episode. For Scotland, these data refer to first-time hospital admissions for ESLD and/or HCC among individuals with chronic HCV infection at time of admission, derived based on linkage of records on individuals diagnosed with anti-HCV to hospital data and exclusion of those who have cleared their infection (either spontaneously or from therapy) prior to admission based on HCV PCR test and SVR status data in laboratory and clinical surveillance databases.

** Defined by codes for ascites, bleeding oesophageal varices, hepato-renal syndrome, hepatic encephalopathy or hepatic failure.
† 2019 figures are provisional for Scotland.
†† Data for England are incomplete for 2017-2019 but have been corrected for 69 of the larger providers, covering a large proportion of HCV-related ESLD/HCC episodes. Incidence figures for the subset of complete providers were scaled up to obtain overall incidence for England during 2017 to 2019, based on the average proportions of ESLD/HCC observed in these providers in the 2013-2016 period; these were 63.2% for HCC, 53.6% for ESLD and 56.1% for ESLD/HCC. Figures for 2017 to 2019 for England are provisional.

Data source Hospital Episode Statistics (HES), NHS Digital for England. Produced by Public Health England; Hospital Inpatient System, Hospital Information Branch, Information and Analysis Directorate, Department of Health, Northern Ireland; Patient Episode Database for Wales (PEDW). NHS Wales Informatics Service for Wales; Public Health Scotland, in association with the Information Services Division.
Reducing deaths from HCV-related ESLD/HCC

Between 2005 and 2015, deaths registrations from HCV-related ESLD and HCC more than doubled in the UK, rising from 209 in 2005 to a peak of 468 in 2015 (Figure 8). After 2015, deaths from HCV-related ESLD and HCC have decreased, falling by 18% (18.4%) between 2015 and 2018 (Figure 8). Over the last year, provisional data suggest a further fall of 8% (8.1%), although these data are provisional so should be interpreted with caution.

The fall in deaths of 25% by 2019, from a 2015 baseline, indicates that the WHO target to reduce HCV-related mortality by 10% by 2020 (see Appendix 1) has been exceeded more than twofold in the UK. The fall in registered deaths is likely to be the result of increased access to DAA drugs that were introduced from 2014 to 2015 (Figure 5), particularly for those individuals with more advanced disease. (57) Because HCV is not always reported on the death certificates of those who die with ESLD/HCC and are HCV infected, (58) actual numbers of deaths may be higher and reporting of HCV infection may vary over time. (58)
Figure 8. Death registrations* for HCV-related ESLD** and HCC in the UK: 2005 to 2019
Notes to Figure 8. Death registrations* for HCV-related ESLD** and HCC in the UK: 2005 to 2019

* Death registrations for England, Northern Ireland and Wales are those where HCV is mentioned on the death certificate. Data for Scotland are based on year of death and obtained via record linkage. In Scotland, data on deaths from ESLD/HCC are obtained via record-linkage of Scotland’s National Hepatitis C Diagnoses Database to the national deaths register; thus, ESLD/HCC deaths for all individuals diagnosed with HCV (antibody positive) infection in Scotland are reported (including those with, but also those without, hepatitis C recorded on their death record).

** Defined by codes or text entries for ascites, bleeding oesophageal varices, hepato-renal syndrome, hepatic encephalopathy or hepatic failure.

† 2019 data are provisional for Scotland and Northern Ireland.

Data source: Office for National Statistics for England and Wales; Deaths registration data as supplied by Hospital Information Branch in the Department of Health, Public Health Agency (Health Intelligence) and NI Statistics and Research Agency; Public Health Scotland in association with the Information Services Division
While death registrations for HCV-related ESLD/HCC in the UK have fallen overall in recent years, this is largely accounted for by a fall in HCV-related ESLD up until 2018 (Figures 8 and 9). As observed elsewhere, current evidence suggests that while de novo HCC risk is reduced after a SVR, the risk of HCC may persist even after successful clearance of the virus, particularly amongst those with added risk factors for HCC including cirrhosis, diabetes mellitus, hepatitis B co-infection, hepatic steatosis, genotype 3 infection, high alcohol consumption, advanced age, lower platelet counts, male gender and possibly genetic factors.(59),(60),(61),(62) It is important to note that whilst HCC risk may persist post SVR, recent evidence does not support any increase in risk of HCC associated with interferon-free regimens when compared with interferon-based regimens.(63) Although data for 2019 are provisional, falls in deaths over the last year are largely accounted for by falls in HCV-related HCC in England, rather than falls in ESLD, and it remains to be seen whether this is sustained in the coming years.

As more infected individuals access new therapies in the UK (Figure 5), the GHSS on viral hepatitis’ call for a 65% reduction in HCV deaths by 2030(1) (see Appendix 1) seems within reach, provided numbers accessing treatment can be sustained.
Figure 9: Death registrations* for HCV-related ESLD** and HCC in UK countries: 2005 to 2019

<table>
<thead>
<tr>
<th>Year</th>
<th>England HCV-related ESLD**</th>
<th>England HCV-related HCC</th>
<th>Scotland HCV ESLD**</th>
<th>Scotland† HCV-related ESLD**/HCC</th>
<th>Wales HCV-related ESLD**/HCC</th>
<th>Wales HCV-related HCC</th>
<th>Northern Ireland HCV-related ESLD**</th>
<th>Northern Ireland HCV-related HCC</th>
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*Death registrations include deaths certified to have been due to HCV-related ESLD** or HCC.

**ESLD: End-stage liver disease.
Notes to Figure 9: Death registrations* for HCV-related ESLD** and HCC in UK countries: 2005 to 2019

* Death registrations for England, Northern Ireland and Wales are those where HCV is mentioned on the death certificate. Data for Scotland are based on year of death and obtained via record linkage. In Scotland, data on deaths from ESLD/HCC are obtained via record-linkage of Scotland’s National Hepatitis C Diagnoses Database to the national deaths register; thus, ESLD/HCC deaths for all individuals diagnosed with HCV (antibody positive) infection in Scotland are reported (including those with, but also those without, hepatitis C recorded on their death record).

** Defined by codes or text entries for ascites, bleeding oesophageal varices, hepato-renal syndrome, hepatic encephalopathy or hepatic failure.

† Data are provisional for Scotland and Northern Ireland

Data source: Office for National Statistics for England and Wales; Deaths registration data as supplied by Public Health Agency (Health Intelligence) and NI Statistics and Research Agency; Public Health Scotland in association with the Information Services Division
Reducing the number of new (incident) infections

Monitoring the impact of prevention measures on the incidence of infection remains a challenge as incident infection is difficult to measure directly. Ideally, we would monitor the actual or estimated number of new chronic HCV infections that arise annually in PWID as well as any that result from net migration and other sources, over time. However, the former is difficult to estimate because most acute infection is asymptomatic and undiagnosed and there is considerable uncertainty around the number of people in the UK who are injecting drugs.(18, 64-66) Added to this, it is also difficult to select a sentinel population of PWID for monitoring that is representative of PWID as a whole. As a result, a number of methods are used in the UK to generate information to provide insight into likely trends in incidence over time.(67)

In England, Wales and Northern Ireland, recent transmission of HCV among those who had injected psychoactive drugs has been explored among participants in the UAM survey of PWID,(25) the methods for which have been described elsewhere.(68) In Scotland, this has also been explored among participants in the NESI Survey of PWID.(3) For those years where incidence estimates are available from both surveys, data are combined after weighting them by the sizes of the adult (16 to 64 years) populations for the countries they cover (blue line, Figure 10). In the NESI Survey, incidence of infection among previously uninfected (that is, antibody negative) PWID remains relatively stable at 12.4 per 100 person-years (95% CI 8.7, 22.0) in 2019 (Figure 10).

In the UAM survey, incidence of HCV infection among PWID participants was 9.4 per 100 person-years (95% CI 4.7, 16.7) in 2019, similar to levels in 2018 (16.3 per 100 person-years (95% CI 9.3, 26.2; p=0.107 Figure 10). While it is expected that DAA treatment among PWID, and its associated reduction in HCV prevalence, will lead to a reduction in incident infections, reductions in chronic prevalence have so far been modest and only observed in the last year or two. Therefore, evidence of a reduction in incidence in this population will likely take another year or two to establish.

Overall in the UK, these data suggest that the incidence of infection has remained relatively stable in the range 10 to 16 per 100 person-years over the last 5 years.
Figure 10. Estimated UK-wide incidence of HCV among PWID, 2011-2019*,
†

Estimated incidence (rate/100 person years)

Year

2011
2012
2013
2014†
2015†
2016
2017
2018
2019

UAM (England, Northern Ireland and Wales)***, ****  NESI (Scotland)**  UK
Notes to Figure 10. Estimated UK-wide incidence of HCV among PWID, 2011 to 2019*.††

*This figure uses data from 2 ongoing survey programmes, which together cover the whole of the UK. Data from these 2 surveys have been weighted by the size of the adult (16-64) population (2011, 2013, 2017 and 2019 UK figures weighted on mid-year population estimates for each respective year) and then combined (represented by the blue line). UK data are only presented for those years where both surveys are conducted. Confidence Intervals (95%) have been shown for both UAM (England, Northern Ireland, and Wales) and NESI (Scotland) data. **The NESI (Scotland) data are available by survey year so 2011 refers to 2011 to 2012, 2013 refers to 2013 to 2014, 2015 refers to 2015 to 2016, 2017 refers to 2017 to 2018 and 2019 refers to 2019 to 2020. NESI 2019 to 2020 was suspended before completion due to the COVID-19 pandemic. As a result, the sample includes data from 8/11 mainland NHS Boards originally included in the sampling framework. The 3 missing NHS Boards in 2019 to 2020 account for just 10% of the total NESI sampling framework. *** In the UAM survey, incidence is calculated among those anti-HCV negative. Those with HIV are excluded because they can have sub-optimal antibody responses as a result of their HIV infection. ****Laboratory testing data for 2016 to 2018 in the UAM survey may differ from those provided previously as information on DBS sample quality has been used to exclude insufficient DBS samples collected between 2016 and 2019 from analyses. † Estimates in 2014 and 2015 for the UAM survey are not available as RNA testing was not conducted on anti-HCV negative samples. †† Incidence rate was calculated using the formula I = ((365/T)n) / ((N – n) + (365/T)n) * 100 were n is the number of incident infections, N is the total number of susceptible (anti-HCV-negatives), and T is the window period. For the incidence calculations using RNA testing a fixed window period of 51 days was used and there is some uncertainty regarding the use of this measure. Incident infections were detected as those antibody-negative, RNA-positive (NESI: all years, UAM: 2017 onwards). Data sources: (i) Needle Exchange Surveillance Initiative, Glasgow Caledonian University, University of West of Scotland and Public Health Scotland, and (ii) Unlinked Anonymous Monitoring survey of people who inject psychoactive drugs,(2) conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland.
Because most new infections are acquired via injecting drug use, the prevalence of infection among recent initiates to injecting drug use can be used as a proxy measure of incidence. When taken together, data from UK surveys of PWID in contact with services (UAM(2) and NESI(3)) suggest that the prevalence of antibodies to HCV among recent initiates to injecting drug use have remained relatively stable over recent years, with the prevalence of HCV antibody at 28% in 2019 and 25% in 2015. In the UAM survey, HCV antibody prevalence among recent initiates has not changed significantly over the last 10 years (p=0.257); in 2019, the prevalence was 28% (95% CI 22, 33; Figure 11). Confidence intervals are wide however, due to the relatively small (and declining) numbers of recent initiates in the sample; the power to detect a reduction is therefore low.
Figure 11. Estimated UK-wide prevalence of antibodies to HCV among recent initiates to injecting, 2010 to 2019*,**,***
Notes to Figure 11. Estimated UK-wide prevalence of antibodies to HCV among recent initiates to injecting, 2010 to 2019*,***

*This figure uses data from 2 ongoing survey programmes, which together cover the whole of the UK. Data from these 2 surveys have been weighted by the size of the adult (16 to 64) population (2011, 2013, 2015, 2017 and 2019 UK figures weighted on mid-year population estimates for each respective year) and then combined (represented by the blue line). UK data are only presented for those years where both surveys are conducted. Confidence Intervals (95%) have been shown and are fairly wide due to the relatively small (and declining) numbers of recent initiates in the sample. Therefore, the power to detect a reduction is low (if prevalence decreased by 50% then this would be detected with 80% power in the UAM study, comparing samples of 152 recent initiates from one year to another (within that currently sampled). However, to detect a 25% reduction would require a sample size of over 600 in each group (over 1,200 in total).

**The NESI (Scotland) are available by survey year so 2011 refers to 2011 to 2012, 2013 refers to 2013 to 2014, 2015 refers to 2015 to 2016, 2017 refers to 2017 to 2018 and 2019 refers to 2019 to 2020. NESI 2019 to 2020 was suspended before completion due to the COVID-19 pandemic. As a result, the sample includes data from 8/11 mainland NHS Boards originally included in the sampling framework. The 3 missing NHS Boards in 2019-20 account for just 10% of the total NESI sampling framework.

*** Recent initiates are defined as PWID who commenced injecting drugs within the 3 years prior to their participation in UAM and NESI Surveys.

†In the UAM Survey, laboratory testing data for 2016 to 2018 may differ from those provided previously as information on DBS sample quality has been used to exclude insufficient DBS samples collected between 2016 and 2019 from analyses. Behavioural data for 2010 to 2018 may differ from those provided previously as questionnaires completed between 2010 and 2019 with no accompanying biological specimen have been now included in analyses.

†† UAM anti-HCV prevalence data for 2010 were calculated using the following equation to ensure comparability of the oral fluid and DBS samples received during this year = [(number of oral fluids anti-HCV positive/0.92) + number of DBS anti-HCV positive]/(number of oral fluids + number of DBS)x100.

Data sources: (i) Needle Exchange Surveillance Initiative, Glasgow Caledonian University, University of West of Scotland and Public Health Scotland, and (ii) Unlinked Anonymous Monitoring survey of people who inject psychoactive drugs,(2) conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland.
Overall, data from UAM and NESI surveys do not yet provide any convincing evidence of a fall in HCV incidence over the last 5 years, and it is difficult to assess progress towards targets to reduce new cases of chronic HCV infection. Currently though, available data suggest that the GHSS target to reduce new cases by 30% by 2020(1) (see Appendix 1) will not be met in the UK.
The impact of COVID-19 on HCV elimination

While many aspects of how COVID-19 affects the liver remain poorly understood, it has become increasingly evident that pre-existing liver diseases and liver injury during the course of the disease have to be kept in mind when caring for patients with COVID-19.(69) Reviews of the impact of COVID-19 on the care of patients with liver disease are becoming available, and address areas including: pre-existing liver disease as a risk factor for COVID-19, liver injury secondary to COVID-19, recommendations for the management of patients with chronic liver disease, liver-related diagnostic procedures, and liver specific considerations in the pharmacological management of COVID-19.(69-71)

The COVID-19 pandemic poses a serious threat to our ability to meet WHO HCV elimination goals. Delivering WHO goals depends on effective primary prevention, case ascertainment, treatment, linkage to and retention in care; monitoring progress in meeting these objectives also requires high-quality surveillance data. Any reduction in service capacity or access to prevention, testing, diagnosis and treatment for key vulnerable groups will delay progress towards delivery of these goals. Likewise, any reduction in the quality and timeliness of surveillance data will hamper our ability to monitor progress towards delivery of WHO goals, and to monitor the impact of changes in service capacity and effectiveness. This chapter summarises preliminary data and intelligence on the impact of the pandemic on service provision and access, surveillance, and wider behaviours in 2020 in the UK. Further detail for England is available in other reports.(72,73)

Changes to service provision and access.

The availability of HCV testing and initiation of HCV treatment has varied throughout the UK but has largely reduced during the first few months of the COVID-19 pandemic. For PWID, the availability and accessibility of NSP is also known to have reduced throughout most of the UK and COVID-19 guidance for commissioners and providers of services involved in assisting people who use drugs or alcohol has been developed.(74)

HCV testing

In the UK by April 2020, HCV testing declined by 84% from the levels observed in January 2020 but has been recovering gradually since (Figure 12). While the testing levels recorded in August and September 2020 have the potential to rise further as a result of delays in reporting, levels in July 2020 remain substantially down on those reported in July 2019 (58% lower; Figure 12).
Figure 12. Number of new diagnoses of HCV in the UK, January to September 2020 compared to those in 2019*
Notes to Figure 12. Number of new diagnoses of HCV in the UK, January to September 2020 compared to those in 2019*

*All figures for 2020 are provisional and data for the latest months are usually affected by late reporting.
** In England, laboratory reports include positive test results for HCV antibody and/or HCV RNA. Figures for previous years are subject to change as a result of late reporting and the associated de-duplication procedure. The nature of laboratory reporting and the associated de-duplication procedure is such that re-infections are not captured. In addition, patient identifiable data submitted by NHS laboratories is variable, particularly from sexual health and drug and alcohol services, which limits the ability to deduplicate. Results for children <1 year of age are excluded to rule out the likelihood of simply detecting maternal antibody.
***For Northern Ireland these figures are for new HCV RNA positive diagnoses.

**Data source:** CoSurv/SGSS for England; Regional virology laboratory for Northern Ireland; Scottish HCV Diagnoses Database for Scotland(16); Public Health Wales; HCV laboratory database Wales (Data correct as of 9 November 2020).
In England, since January 2020 the number of new diagnoses of HCV has been lower than the same period in 2019. Between January and April 2020, the number of new HCV diagnoses declined each month. The largest month-on-month decline was seen from March 2020 to April 2020, where the number of new diagnoses fell by 74%. April 2020 saw the lowest number of new diagnoses of HCV in 2020, with an 82% fall in new diagnoses in April 2020 compared to April 2019 and an 85% fall compared to January 2020. The number of new diagnoses of HCV increased steadily between April 2020 and July 2020 but remained 58% lower in July 2020 compared to July 2019 and 56% lower in July 2020 compared to January 2020. Numbers of new diagnoses in August and September 2020 are lower than those observed in July 2020, however this may simply reflect delays in reporting.

In Wales, since March 2020 the number of new diagnoses of HCV has been lower than the same period in 2019. Between January and May 2020, the number of new HCV diagnoses declined each month. The largest month-on-month decline was seen from March 2020 to April 2020, where the number of new diagnoses fell by 65%. May 2020 saw the lowest number of new diagnoses of HCV in 2020, with an 83% fall in new diagnoses in May 2020 compared to May 2019 and an 84% fall compared to January 2020. The number of new diagnoses of HCV increased steadily from May 2020 but remained 64% lower in June 2020 compared to June 2019 and 70% lower in July 2020 compared to July 2020.

In Scotland, since March 2020 the number of new diagnoses of HCV has been lower than the same period in 2019. Between January and April 2020, the number of new HCV diagnoses declined each month. The largest month-on-month decline was seen from March 2020 to April 2020, where the number of new diagnoses fell by 77%. April 2020 saw the lowest number of new diagnoses of HCV in 2020, with an 85% fall in new diagnoses in April 2020 compared to April 2019 and an 86% fall compared to January 2020. The number of new diagnoses of HCV increased steadily between April 2020 and July 2020 but remained 41% lower in July 2020 compared to July 2019 and 40% lower in July 2020 compared to January 2020. Numbers of new diagnoses in August and September 2020 were similar to those observed in July 2020, however these numbers may rise as a result of delays in reporting.

In Northern Ireland, between March and August 2020, there was a reduction in the number of new diagnoses of HCV, compared with the same period in 2019 (45 versus 62). March 2020 saw the lowest number of new diagnoses of HCV in 2020, with a 50% fall in new diagnoses compared to March 2019 and a 57% fall compared to January 2020. By June 2020 the number of new diagnoses of HCV had almost recovered to levels seen in 2019, with a greater number of new diagnoses recorded in July 2020 than in July 2019.
Harm reduction services for people who inject drugs

Data from mainland Scotland suggest that, since the UK lockdown on 23 March, both the number of registered clients attending, and the number of transactions occurring, at services providing injecting equipment fell sharply and have only partially recovered. Specifically, the average number of registered clients attending injection equipment provision (IEP) sites fell from approximately 3,100 before lockdown to around 1,900 per week in the period immediately following lockdown and has been in the range of approximately 2,400 to 2,800 per week since June 2020. The average number of transactions also fell, from around 4,500 before lockdown to less than 3,000 per week after lockdown but has since increased to between 3,500 and 4,000 per week since June 2020. When compared to the same period in 2019, the number of registered clients was 49% lower in the week lockdown was implemented (week beginning 16th March) and 16% lower by the week beginning 12th October. Similarly, the number of transactions was 54% lower than in 2019 and remained 21% lower when compared across the same weeks.

In England, Wales and Northern Ireland, staff at UAM survey sites (drug and alcohol services) were surveyed in September 2020 to understand service provision during lockdown. When asked about current provision of NSP and OST services compared to the previous year, respondents did not report a significant drop in provision, and two-thirds of sites (67%; 22/33) said they had adopted novel approaches to NSP delivery (for example, home delivery, provision by post, and peer supported distribution) during lockdown. Preliminary data on client perspectives of service access during lockdown, collected via an enhanced questionnaire included in the 2020 UAM survey, will be reported in the next Shooting Up report to be released in the coming months. National data on number of registered NSP clients and transactions for England are not available. However, data from regional monitoring of NSP provision in Cheshire and Merseyside indicate a decrease in NSP clients of 36% and a decrease in number of needles distributed of 29% since March 2020.(75)

In Wales, there has been a decrease in NSP activity including the number of regular clients attending, interactions in NSP services and syringes provided compared to the previous year, dropping by 8%, 4% and 4% respectively. There was a substantial reduction in activity in NSP services in the month of March compared to previous years.(76)

In Northern Ireland, needle exchange services remained operational throughout the pandemic to meet the needs of service users, despite the additional challenges in ensuring compliance with government guidance. There are currently 20 community pharmacies and 4 Health and Social Care Trust based services that deliver the needle exchange service across Northern Ireland. A community-based harm reduction hub is
being piloted in Belfast as well as low threshold services that provide this service on an outreach basis across Northern Ireland.

**Initiatives in prisons**

In England, prison HCV elimination initiatives were paused unless clinical need was identified. Consequently, high-intensity testing initiatives were put ‘on hold’ and all prisons were closed to external visitors, including The Hepatitis C Trust peers and hepatology specialist nurses. In response, health and justice teams made access changes in order to continue protecting the health of people in prison, whilst still facilitating some treatment initiations where clinical need was identified. Data from PHE’s sentinel surveillance of blood borne virus testing (SSBBV) suggest that the number of HCV tests declined between January 2020 and April 2020 by 80% (from 4,386 to 879) in prisons. HCV testing in June compared to January 2020 remained 61% lower (1,694 tests in June) in prisons. HCV positivity in prisons increased by 26% between January and April 2020 (from 3.7% to 4.7%) and, except for a decrease in May, remained at around 4.8% until June. HCV positivity in prison settings in January to June 2020 was roughly comparable to the equivalent period in 2019; June 2020 was comparable to positivity in June 2019 (4.9% in both June 2020 and June 2019). While these preliminary data should be interpreted with caution, the observation that HCV positivity was sustained in prison services, while dropping in drug services, may reflect continued provision of testing to those at higher risk in prisons which was not possible in drug services.

In Northern Ireland, testing activity continued in prisons during lockdown. Treatment services were affected when prisons were closed to external visitors during lockdown, but this activity has since returned to normal levels.

**Treatment**

Provisional data suggest that over 4,000 (n= 4,033) people commenced treatment in the first 6 months of the tax year 2020 to 2021 in the UK; around 26% of the number treated in the previous year (15,449 in the 12-month period, tax year 2019 to 2020).

In the UK by April 2020, HCV treatment initiations declined by 68% from the levels observed in January 2020 but have been recovering gradually since (Figure 13). While the treatment initiations recorded in August and September 2020 have the potential to rise further as a result of delays in reporting, levels in July 2020 remain down on those reported in July 2019 (50% lower; Figure 13).
Figure 13. Number of hepatitis C patients initiating treatment in the UK*, January 2020 to September 2020** compared to those in 2019
Notes to Figure 13. Number of hepatitis C patients initiating treatment in the UK*, January 2020 to September 2020** compared to those in 2019

* UK data excludes data for August 2020 and September 2020 for Scotland.
** All figures for 2020 are provisional and data for the most recent months are subject to change as a result of late reporting.

Data Sources: (i) Regional Hepatology Unit for Northern Ireland; (ii) Public Health Scotland, using data supplied by NHS Boards/hepatitis C treatment centres; (iii) Public Health Wales using data from treatment services in the Health Boards; (iv) Hepatitis C patient registry and treatment outcome system for England.
In England, since March 2020, there has been a decrease in hepatitis C treatment initiations compared to the same period in 2019. April 2020 and May 2020 saw the lowest number of treatment initiations recorded since January 2019 with a decrease of 59% in April 2020 compared to April 2019 and a decrease of 63% in May 2020 compared to May 2019. Treatment initiations fell by 63% from March 2020 to April 2020 and by 68% from January 2020 to April 2020. Treatment initiations subsequently increased from May 2020 to June 2020 by 78% and remained approximately 40% lower in June (37% lower) and July (42% lower) 2020 compared to the same period in 2019. Numbers of treatment initiations in August and September 2020 are lower than those observed in June and July 2020, however this may simply reflect delays in reporting.

In Wales, since April 2020, there has been a decrease in hepatitis C treatment initiations compared to the same period in 2019. April 2020 saw the lowest number of initiations recorded since January 2019 with a decrease of 81% in April 2020 compared to April 2019. Treatment initiations fell by 77% from March 2020 to April 2020 and by 70% from January 2020 to April 2020. Treatment initiations increased subsequently by 131% from August 2020 to September 2020. Treatment initiations remained low in May to August with a decrease of 80% in May 2020 compared to May 2019, a decrease of 76% in June 2020 compared to June 2019, a decrease of 79% in July 2020 compared to July 2019 and a decrease of 71% in August 2020 compared to August 2019.

In Scotland, since April 2020, there has been a decrease in hepatitis C treatment initiations compared to the same period in 2019. May 2020 saw the lowest number of initiations recorded since January 2019 with a decrease of 87% in May 2020 compared to May 2019. Treatment initiations fell by 69% from March 2020 to April 2020, by 70% from January 2020 to April 2020 and by 85% from January 2020 to May 2020. Treatment initiations remained low in June and July with a decrease of 71% in June 2020 compared to June 2019 and a decrease of 75% in July 2020 compared to July 2019.

In Northern Ireland, since March 2020, there has been a decrease in hepatitis C treatment initiations compared to the same period in 2019. There were no treatment initiations in April and May 2020. Treatment initiations resumed in June 2020 but were 73% lower than in June 2019, however, numbers doubled between June 2020 and July 2020. By September 2020, numbers initiating treatment were similar to those in September 2019.
Impact on data collection, surveillance, monitoring and evaluation

It is anticipated that service providers and laboratories will experience a loss of capacity to code, enter, validate and report data submissions for routine surveillance, thereby leading to reporting delay, and that this will inevitably cause a delay in the analysis of surveillance data to monitor trends, evaluate interventions, and produce surveillance reports. For example, in England since April 2020 there has been a decrease in SVR reporting compared to the same period in 2019 with 41 reports in April, 5 in May, and one report in both June and July 2020, compared to 2,071 for the same period (April-July) in 2019. A decrease of 92% was seen in April 2020 compared to April 2019 and a decrease of 99% in May 2020 compared to May 2019. Reported SVR fell by 86% from January 2020 to April 2020 and by 79% from March 2020 to April 2020.

There has been a loss of capacity across all Public Health agencies in the UK as staff have been diverted to the COVID-19 response, which further compounds the delay in production and publication of surveillance reports. In Wales, laboratory capacity has been stretched resulting in reduced testing and longer test turn-around times, and disruption to community services has also resulted in reduced testing. However, the COVID-19 response has also accelerated the development of laboratory reporting systems to PHE, such as unified reporting of negative and positive laboratory tests through PHE’s Second Generation Surveillance System (SGSS), which will leave a lasting positive legacy for reporting of notifiable organisms, including hepatitis.

A reduction in HCV testing across the UK will lead to a reduction in diagnoses and a potential skewing of the case mix away from more vulnerable populations who may be less able to access venue-based services or those that rely on digital access; this will further challenge the interpretation of trends that must also account for anticipated changes in incidence related to the adoption of social distancing measures and the continuation, either partial or comprehensive, of selected interventions like HCV testing.

Impact on drug use behaviours, public health outcomes and longer-term service provision

The effect of social distancing on drug use behaviours and the provision of, and need for, drug and alcohol services are not yet known. When social distancing measures are relaxed, any sustain in, or ‘rebound’ of, higher risk drug use behaviour risks may lead to a rapid increase in infection transmission and outbreaks.
For PWID, including people who are homeless, changing social mixing patterns and the development of new networks in temporary accommodation during this period of social distancing may influence drug use and practice as well as other risk behaviours and BBV transmission. Any reduction in street drug supply and purity will also lead to adverse health outcomes in PWID due to cutting with dangerous substances, wide variation in potency, or forcing people to switch to riskier alternatives (in the drug itself or administration route). Alongside increases in the street sale of OST, these changes would increase overdoses and drug-related hospital admissions. Any reduction in BBV testing will lead to delays in diagnosis and linkage to care, increasing the risk of poor health outcomes and onward transmission of HCV.

As the response to COVID-19 settles, there is a risk that comprehensive BBV testing is not fully restored as ‘business as usual’, leading to a permanent reduction in service provision, or changes to standard delivery models, for example from predominantly face-to-face to online or telemedicine models, which have not been evaluated for impact on clinical and public health outcomes and inequalities. Overall, while COVID-19 may drive innovative models of service delivery, if services are not adequately re-instated, systematic under-diagnosis could lead to increased disparities in service access and health outcomes. People who are already disproportionately affected by HCV are often those who may find it more challenging to access healthcare; if models of access to services change, there is a risk of widening health inequalities.
Data sources

Health Protection Scotland: www.hps.scot.nhs.uk/

Hospital Episode Statistics, NHS Digital: www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=53


MSD: www.msd-uk.com

Needle Exchange Surveillance Initiative in Scotland (Health Protection Scotland, University of West of Scotland, Glasgow Caledonian University and West of Scotland Specialist Virology Centre): https://www.hps.scot.nhs.uk/a-to-z-of-topics/needle-exchange-surveillance-initiative-nesi/

NHS National Services Scotland (Health Protection Scotland and Information Services Division): https://nhsnss.org/


Northern Ireland Hepatitis B and C Managed Clinical Network: http://www.hepbandcni.net/

Northern Ireland Statistics and Research Agency: www.nisra.gov.uk

Office for National Statistics mortality data: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths

Patient Episode Database for Wales, NHS Wales Informatics Service: http://www.wales.nhs.uk/nwis/page/52490

Pharmex: https://www.gov.uk/government/collections/commercial-medicines-unit-cmu


Public Health Agency: www.publichealth.hscni.net

Public Health Wales: www.publichealthwales.wales.nhs.uk/

Roche: www.roche.co.uk/

### Appendices

Appendix 1.* WHO GHSS targets(1) for viral hepatitis, relevant to HCV in the UK context, with 2020 targets updated to reflect the draft action plan for the health sector response to viral hepatitis in the WHO European Region.(37)

<table>
<thead>
<tr>
<th>TARGET AREA</th>
<th>2020 TARGETS(37)</th>
<th>2030 TARGETS(1)</th>
</tr>
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<tr>
<td>Impact targets</td>
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<td></td>
</tr>
<tr>
<td>Incidence: New cases of chronic viral HCV infection</td>
<td>30% reduction</td>
<td>80% reduction</td>
</tr>
<tr>
<td>Mortality: Viral hepatitis C deaths</td>
<td>10% reduction</td>
<td>65% reduction</td>
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<tr>
<td>Service coverage targets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood safety:**Proportion of donations screened in a quality-assured manner</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Safe injections:** Percentage of injections administered with safety engineered devices in and out of health facilities</td>
<td>50%</td>
<td>90%</td>
</tr>
<tr>
<td>Harm reduction: A comprehensive package of harm reduction services to all PWID(77) including:</td>
<td>At least 200 sterile needles and syringes provided per person who injects drugs per year. At least 40% of opioid dependent PWID receive OST 90% of PWID receiving targeted HCV information, education and communication</td>
<td>At least 300 sterile needles and syringes provided per person who injects drugs per year</td>
</tr>
<tr>
<td>Proportion of people with chronic HCV diagnosed and aware of their infection</td>
<td>50% [75% of estimated number of patients at late stage of viral hepatitis-related liver disease (cirrhosis or HCC) diagnosed]</td>
<td>90%</td>
</tr>
<tr>
<td>Treatment coverage of people diagnosed with chronic HCV who are eligible for treatment</td>
<td>75% (&gt;90% cured) [90% of diagnosed patients with chronic HCV are linked to care and adequately monitored]</td>
<td>80%</td>
</tr>
</tbody>
</table>

* Abstracted from the WHO Global Health Sector Strategy for Viral Hepatitis(1) and modified to reflect the draft action plan for the health sector response to viral hepatitis in the WHO European Region(37)

** In England, 2020 and 2030 targets are already met.(78)

***In England, 2020 and 2030 targets are already met in the health care setting as the UK follows the EU Directive for the prevention of sharps injuries in the health care setting,(79) by using safety engineered devices.
## Appendix 2. Preliminary UK indicators to monitor the impact of key interventions to tackle hepatitis C virus

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<th>Impact and Service Coverage Monitoring Areas</th>
<th>• Preliminary UK Indicator</th>
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<td></td>
<td>• Estimated prevalence of chronic HCV among PWID</td>
</tr>
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<td><strong>Impact</strong></td>
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<tr>
<td></td>
<td>• Estimated incidence of HCV-related ESLD/HCC</td>
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<tr>
<td></td>
<td>• Deaths from HCV-related ESLD/HCC</td>
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<tr>
<td></td>
<td>2. Reducing the number of new (incident) infections</td>
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<td>• Estimated incidence of HCV among PWID</td>
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<td></td>
<td>• Estimated prevalence of anti-HCV among recent initiates to drug use</td>
</tr>
<tr>
<td><strong>Service coverage</strong></td>
<td>1. Adequate harm reduction</td>
</tr>
<tr>
<td></td>
<td>• Estimated proportion of PWID reporting adequate needle or syringe provision</td>
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<tr>
<td></td>
<td>2. Increasing the proportion diagnosed</td>
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<tr>
<td></td>
<td>• Estimated proportion of PWID testing positive for HCV, who are aware of their infection</td>
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<tr>
<td></td>
<td>• Modelled estimates of the proportion diagnosed</td>
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<td></td>
<td>3. Increasing numbers accessing treatment</td>
</tr>
<tr>
<td></td>
<td>• Number initiating HCV treatment</td>
</tr>
</tbody>
</table>
References


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