


DRUG & ALCOHOL FINDINGS *Research analysis*

This entry is our analysis of a study considered particularly relevant to improving outcomes from drug or alcohol interventions in the UK. The original study was not published by Findings; click [Title](#) to order a copy. Free reprints may be available from the authors – click [prepared e-mail](#). The summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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► Increased diagnosis and treatment of hepatitis C in prison by universal offer of testing and use of telemedicine.

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Journal of Viral Hepatitis: 2019, 26, p. 101–108.

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How can testing and treatment for hepatitis C be optimised in custodial settings? Prisons in the North East of England trialled new care pathways including a universal offer of testing using less invasive procedures and treatment facilitated by digital technology.

SUMMARY Hepatitis C is common among people in prison. Estimates of the UK prison population suggest that approximately 7% have been exposed to the hepatitis C virus, while studies from Europe, Australia and the United States indicate that the prevalence in prison populations may be even higher than this, ranging from 8% to 57% (1 2). Injecting drug use is the primary risk factor for acquiring hepatitis C, [accounting for](#) approximately 85% of cases in the UK, and [roughly](#) 60% of people who inject drugs have been in prison.

The featured study aimed to assess whether a universal offer of blood-borne virus testing for prisoners at admission would increase the diagnosis of hepatitis C, and whether treatment facilitated by digital technology in a telemedicine clinic would increase rates of treatment.

The prison estate in the North East of England comprises seven facilities. The new testing pathway was piloted in Her Majesty's Prison (HMP) Durham, a large prison for local people on remand (known as a 'category B' facility) taking approximately 7,000 awaiting trial annually, and the new treatment pathway was piloted in HMP Northumberland, a large training and resettlement men's prison ('category C') with a fairly stable population of 1,354. HMP Northumberland housed a more stable prison population than other facilities in the region, with many prisoners serving medium-length sentences. It was therefore judged to be an ideal prison to test the treatment pathway, as most prisoners would be able to complete treatment while in custody.

The new testing pathway. Routine practice before the intervention was to test for blood-borne viruses by drawing blood from a vein (known as 'venepuncture'). However, this was both unpopular with prisoners and proved difficult among some of those most at risk of hepatitis C due to a history of injecting drug use. From March 2016 in HMP Durham, a policy of offering 'dry blood spot testing' to all new prisoners was implemented. The procedure for this involved puncturing the tip of a finger and putting samples of blood in circles on a filter card for laboratory testing. Dry blood spot testing has proven to be a cost-effective screening tool in prisons, and is less resource-intensive as it does not require the level of specialism as venepuncture (1 2 3 4 5). Rates of testing for blood-borne viruses prior to the initiation of the new testing pathway were [assessed](#) at HMP Durham (and all other prisons across the North East of England) over 2013 and 2014. This was used as a baseline against which to assess the impact of the new testing pathway. Following implementation, data collected included the number of new prisoners who were offered dry blood spot testing, the number who declined testing, the number who tested positive for antibodies indicating exposure to the hepatitis C virus at some point (but not necessarily current infection), and the number who tested positive for an active infection. In addition, data was collected on the total number of blood-borne virus tests conducted anywhere in the prison.

The new treatment pathway. Previously, prisoners had to visit a hospital outside prison to see a consultant physician prior to receiving treatment for hepatitis C. This was notoriously inefficient with limited numbers of clinic slots and the need for expensive prisoner transportation (estimated at £250–£500 per hospital visit), meaning that relatively few patients ever commenced treatment. Under the new pathway, prisoners found to have an active hepatitis C infection were offered an assessment for treatment with a specialist nurse in prison. At this initial consultation, the nurse took the prisoners' medical histories and conducted various tests including a physical exam, blood tests, and liver ultrasound. Once the results were available, a second consultation was conducted via video link with a hepatology consultant – with appointments available fortnightly or monthly depending on demand – and a decision made whether to proceed with treatment. All cases were discussed in a regional hepatitis C multidisciplinary meeting. If appropriate, patients were prescribed direct-acting antiviral medications, which directly target the virus to stop it from reproducing. An audit of hepatitis C treatment was [conducted](#) in HMP Northumberland in 2013–2014. This provided a baseline in order to compare rates of treatment before and after the new treatment pathway had been implemented. Following introduction of the prison telemedicine clinic, data was collected on rates of referral for people with an active hepatitis C infection, attendance rates, and antiviral treatment rates. Patients accessing the clinic were also invited to complete a short satisfaction questionnaire.



Key points From summary and commentary

Prisons in the North East of England provided the setting for evaluating new testing and treatment pathways for hepatitis C, including a universal offer of testing using less invasive procedures and treatment facilitated by digital technology.

The study found that these methods could substantially increase rates of testing, diagnosis and treatment of hepatitis C in this high-prevalence population.

However, the rate of prisoners declining testing remained high, emphasising the importance of creating opportunities at other times within the prison to ask.

Main findings

HMP Durham

Under the new testing regimen between March 2016 and February 2017, 2,831 of 4,280 (66%) new prisoners were offered testing for blood-borne viruses. Of these, 1,495 (53%) accepted testing.

In total, 95 (6%) tested positive for hepatitis C antibodies, with 47 of those 95 (50%) testing positive for an active infection, suggesting a prevalence of active hepatitis C infection in the tested population of 3%.

Of the 47 prisoners diagnosed with active hepatitis C, 11 (23%) completed antiviral treatment, three (6%) were reviewed in the multidisciplinary team meeting but at the time of data collection had not yet commenced treatment, five (11%) declined to engage with treatment, one (2%) died and one (2%) was at the time ineligible for re-treatment, having previously not responded to direct-acting antiviral medication. For 26 patients (55%) the outcome was unknown as these individuals were released prior to commencing antiviral treatment.

There was a substantial increase in testing during the pilot period, from only 164 of the circa 7,000 new admissions (2%) agreeing to be tested in 2013–2014, to 479 (35%) agreeing to dry blood spot testing in 2016–2017, suggesting that prisoners may decide to accept blood-borne virus testing after the initial contact of the reception stage. Common reasons given by prisoners for not accepting dry blood spot testing were that they did not want it (54%) or had already been tested (37%).

The relatively low rate of facilitating treatment persisted after the pilot, with only 15% (six of the 41 people with active hepatitis C) commencing treatment between March 2017 and May 2017, despite there being a fortnightly assessment/treatment clinic in the prison.

Although there were patients diagnosed with hepatitis C who did not access treatment in the prison, all were given harm reduction advice that may reduce their risk of transmitting the virus and information about services they could access on release.

HMP Northumberland

Prior to full implementation of the telemedicine clinic, testing and treatment rates were low. An [audit](#) of activity for 2013–2014 illustrated that only 102 (8%) prisoners were tested for hepatitis C. Of these, 44 (43%) tested positive for antibodies, with 29 (29%) having an active hepatitis C infection, though only four (14%) started treatment in that year.

Between August 2015 and October 2017, 80 people were seen in the telemedicine clinics and 57 (71%) started antiviral therapy. Among the 29 where the outcome was known, all achieved sustained virological response, indicating that the virus was no longer being reproduced in the body. In the year prior to implementation, only four patients received treatment for hepatitis C. Attendance rates at the telemedicine clinics were good at 83%. Overall, satisfaction with the telemedicine clinics among the prisoners was very high (80% good or excellent).

The authors' conclusions

A universal offer of blood-borne virus testing to people on entry to prison substantially increased testing rates and led to many new diagnoses of hepatitis C. However, the rate of prisoners declining the offer remained high. Reasons for this need further exploration. Admission to prison can be a stressful time, and therefore it is important to understand how this can factor into people's decisions, and to provide opportunities for testing at other times.

A successful testing programme should be followed by linking patients who test positive for a blood-borne virus to treatment. The hepatitis C testing pilot in HMP Durham showed that linkage to treatment for those testing positive for hepatitis C was low (under 20%). Likely explanations include HMP Durham accommodating many prisoners with a very short stay or unclear length of stay as they await court appearances and sentencing, potentially leaving insufficient time in prison to enter the treatment pathway.

Telemedicine clinics led by nurses in prison offered a cost-effective method of treating hepatitis C in the prison environment. The approach was also an efficient use of consultant physician time, allowing consultants to work from their hospital base. Following the successful introduction of the telemedicine clinic in HMP Northumberland, the treatment pathway was rolled out across other prisons in the region. In the year prior to publication of the paper, 159 patients across the North East prison estate commenced antiviral treatment, representing a large increase from 54 in the previous year. However, the increase in activity was unlikely to be due to the new treatment pathway alone. Availability of new medication options was likely to have contributed to more patients being willing to accept treatment (1 2).

FINDINGS COMMENTARY The study found that new testing and treatment pathways could substantially improve upon existing practice for the testing, diagnosis and treatment of hepatitis C:

- Universal testing piloted in HMP Durham did not translate into an offer for every new prisoner, but the offer did reach two-thirds of new prisoners, and led to 35% of all new prisoners between March 2016 and February 2017 accepting testing, compared with 2% agreeing to be tested in 2013–2014.
- In the year prior to implementation of the telemedicine clinics, only four prisoners received treatment for hepatitis C. After implementation, between August 2015 and October 2017, 80 people were seen in the clinics and 57 started antiviral therapy.

NHS England, the National Offender Management Service and Public Health England, made a commitment in

HEPATITIS C

A positive test for hepatitis C antibodies indicates exposure to the hepatitis C virus at some point, but cannot confirm current infection.

During the period when [hepatitis C](#) is first contracted, most people either do not experience any noticeable symptoms, or experience symptoms that are similar to many other short-term infections. This means that they are unlikely to seek medical attention, and if they do, doctors would not necessarily suspect or test for hepatitis C.

A [small proportion](#) of those infected with hepatitis C will naturally clear the virus from their body in the first six months. However, [estimates](#) from Public Health England suggest that 3 in 4 people will develop a chronic infection, a primary cause of cirrhosis and liver cancer.

2014, and have since maintained this, to implement an 'opt out' policy of testing for blood-borne viruses (1 2). In practice, this means that every new prisoner should be offered a test at or near admission, and at several points thereafter. Guidance from the Hepatitis C Trust [states that](#), in line with [Public Health England guidance](#), testing should be offered to all prisoners who can consent within seven days of entering the prison – not just limited to prisoners who screen as high risk for blood-borne viruses – and continuously re-offered throughout their prison stay when appropriate. As per the featured study, dry blood spot testing is the [recommended](#) method for testing as it is easier and less invasive than venepuncture. The opt-out method puts the onus on the prison system to create the opportunities to ask everyone, but of course leaves the possibility that prisoners will say 'no'.

Treatment for hepatitis C continues to evolve, though it cannot be assumed that people eligible for treatment would know this and may have reservations based on their knowledge or perceptions of older types of treatment. Since the World Health Organization issued its first guidelines for the screening, care and treatment of people with hepatitis C infection in 2014, [several new](#) medicines have been approved. Compared with interferon-based treatments, direct-acting antiviral medications can be taken orally (as opposed to injected), are taken over a shorter period of time, are associated with fewer side effects, and have a higher rate of effectiveness.

How can we eradicate hepatitis C?

A UK study [determined that](#) an approach combining hepatitis C treatment with harm reduction is needed to reduce hepatitis C incidence to the low levels [advocated by](#) the World Health Organization. The featured study exemplified efforts in custodial settings to strengthen the first pillar, while access to harm reduction (including sterile needles and syringes, opioid substitution therapy, and naloxone) remained compromised.

Prisons are [high-risk environments](#) for the transmission of blood-borne diseases. Factors including overcrowding, poor sanitation, inadequate health care, and a greater likelihood of sharing injecting equipment (with more people) raise the need for the provision of harm reduction resources as well as advice. Outside of prison settings, current levels of harm reduction (specifically, high-coverage needle and syringe provision and opioid substitution therapy) in the United Kingdom are [averting](#) considerable numbers of hepatitis C infections. In its [guidance](#), the Hepatitis C Trust acknowledged that "harm reduction is key" to minimising the transmission of blood-borne viruses, yet said the "nature of the intra prison setting" has prevented the full range of harm reduction approaches from being implemented. The guidance [advocated](#) harm reduction advice in prisons, but did not challenge the premise that interventions such as needle exchanges were incompatible with prisons.

The [European Union Drugs Strategy 2013–2020](#) advocates "[scaling] up the development, availability and coverage of drug demand reduction measures in prison settings, as appropriate and based on a proper assessment of the health situation and the needs of prisoners, with the aim of achieving a quality of care equivalent to that provided in the community and in accordance with the right to health care and human dignity as enshrined in the European Convention on Human Rights and the EU Charter of Fundamental Rights". Under their definition, this would include "a range of equally important and mutually reinforcing measures, including prevention (environmental, universal, selective and indicated), early detection and intervention, risk and harm reduction, treatment, rehabilitation, social reintegration and recovery".

An overview of harm reduction in prisons in seven European countries (not including the UK) [found that](#) provision of harm reduction in prisons continues to be largely inadequate compared to the progress achieved outside prisons. All of the countries reviewed provide a wide range of harm reduction services in the broader community, but most failed to provide these same services, or the same quality of these services, in prison settings, in clear violation of international human rights law and minimum standards on the treatment of prisoners. Where harm reduction services have been available and easily accessible in prison settings for some time, better health outcomes were observed, including significantly reduced prevalence and incidence of both HIV and hepatitis C.

Much like the UK drug strategy before it, harm reduction was [all but absent](#) in the text of the [Prison Drugs Strategy](#) for prison and probation services in England and Wales. The terms 'hepatitis', 'HIV' and 'blood-borne viruses' were not mentioned, and although one of the aims of the strategy was to reduce the number of drug-related deaths in custody, the methods advocated for achieving this did not include [evidence-based](#) harm reduction.

In 2015, the Scottish Prison Service published a [framework](#) for the management of substance use in custody. This included a pledge to "take all reasonable measures to reduce the availability of illicit substances and provide services broadly equivalent to those available in the community, whilst recognising that prisoners require different routes to recovery". Ensuring parity of services with the community echoes the [European drug strategy](#) as well as [UK treatment guidelines](#), and in Scotland [includes](#) "offering a range of harm reduction measures to reduce the transmission of blood borne viruses".

Another consideration for reducing hepatitis C in prisons is sending fewer people who use drugs to prison. For this, a relevant resource is a [2019 report](#) by the UK House of Commons Health and Social Care Committee, which stated:

We support consultation on decriminalisation of drug possession for personal use, by changing it from a criminal offence to a civil matter. We recommend that the Government should look closely at how decriminalisation has been underpinned by a strong system of monitoring and referral for those who use illegal drugs through the Dissuasion Committees in Portugal, as well as the experience of police diversion schemes in England. Decriminalisation must only be introduced as one part of a full, comprehensive approach to drugs, the central plank of which is improving treatment and harm reduction services, underpinned by better education, prevention and social support.

The committee heard evidence that a "radical change in UK drugs policy from a criminal justice to a health approach ... would not only benefit those who are using drugs but reduce harm to and the

costs for their wider communities”, and recommended that the Government consult on the decriminalisation of drug possession for personal use from a criminal offence to a civil matter, in tandem with investment in holistic harm reduction, support, and treatment services for substance use problems.

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