


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](#). [Links](#) to other documents. [Hover over](#) for notes. [Click to](#) highlight passage referred to. [Unfold extra text](#)  The Summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

Send email for updates

SEND[About updates](#)
[Copy title and link](#) | [Comment/query](#) | [Tweet](#)

► **Impact of current and scaled-up levels of hepatitis C prevention and treatment interventions for people who inject drugs in three UK settings – what is required to achieve the WHO's HCV elimination targets?**

Ward Z., Platt L., Sweeney S. et al.

Addiction: 2018, 113, p. 1727–1738.

Unable to obtain a copy by clicking title? Try asking the author for a reprint by adapting this [prepared e-mail](#) or by writing to Dr Ward at zoe.ward@bristol.ac.uk.

What would it take for the UK to meet the World Health Organization's target of a 90% reduction in hepatitis C by 2030? According to projections in three diverse areas, current levels of harm reduction services are averting a great deal of transmission, and adding only moderate rates of treatment for hepatitis C would put Britain on course to achieve the elimination target.

SUMMARY Two strategies to reduce injecting-related harms among people who use drugs – opioid substitution therapy (prescribing opiate-type medications to substitute for illegal drugs like heroin) and 'high-coverage' needle and syringe provision (the provision of more than one sterile needle and syringe per injection) – are having a substantial impact on hepatitis C, reducing the overall risk of acquiring the virus by 40–80% ([1](#) [2](#) [3](#) [4](#) [5](#) [6](#)). However, there is uncertainty about what scale and combination of strategies (including treatment for hepatitis C) would be needed not just to moderate rates of hepatitis C, but achieve the World Health Organization's [target](#) of (almost) eliminating the spread of the virus by 2030.

Projecting whether the UK is on course to meet this target of a 90% reduction in new chronic infections, and if not what it would take to correct course, the featured paper evaluated the impact of current levels of opioid substitution therapy and high-coverage needle and syringe provision on cumulative numbers of newly-diagnosed hepatitis C infections (referred to as 'incident infections') in three UK settings, as well as the required scale-up of these interventions in combination with hepatitis C treatment to see a 90% reduction by 2030.

Three UK cities were selected with varying levels of coverage of opioid substitution therapy (72–81% of people injecting drugs) and high-coverage needle and syringe provision (28–56%), and rates of chronic hepatitis C: 45% in Bristol (South West England); 26% in Dundee (east of Scotland); and 19% in Walsall (West Midlands of England).

Hepatitis C transmission was modelled using principles outlined by recent guidelines for HIV and other infectious diseases ([1](#) [2](#)). This method simulated the movement of people injecting drugs in the three areas in 2016 through different stages of [injecting duration](#), intervention coverage, risk of hepatitis C transmission, and status of hepatitis C infection.

Various assumptions were built into the model about populations at risk of hepatitis C, including the following:

- That people who inject drugs were eligible for opioid substitution therapy, despite a [growing proportion](#) (4% in 2004 and 12% in 2014) injecting non-opioids for which opioid substitution therapy is not an appropriate treatment.
- That people with advanced liver disease were not eligible for hepatitis C treatment, despite [recent treatment guidelines](#) allowing it.

Main findings

[The following also takes in information from the paper's supporting information, which is available to [download](#).]



Key points

From summary and commentary

The featured study evaluated the impact of opioid substitution therapy and high-coverage needle and syringe provision on newly-diagnosed hepatitis C infections in the UK, and to what extent coverage would need to be 'scaled-up' to achieve a 90% reduction in new chronic hepatitis C infections by 2030.

Projections highlight the considerable impact of existing harm reduction interventions in high-coverage settings, and the importance of treatment.

It is important to maintain current levels of funding for prevention, and resist any further shift in drug treatment policy towards abstinence if this entails disinvestment in harm reduction.

Between 2016 and 2030, the *prevalence* of hepatitis C (ie, the number of cases of hepatitis C within the population) is predicted to decrease slightly in Bristol (by 5%) and Walsall (by 0.4%) due to the introduction of new treatments from 2015, but to reduce markedly in Dundee (by 99%) because of the higher coverage of treatment for hepatitis C infection (reaching 47–58 per 1000 people who inject drugs). Similarly, *incidence* (ie, the rate of new cases of hepatitis C occurring in a population) is expected to decrease slightly in Walsall (by 1%) and Bristol (by 11%) over this time period, and to decrease by more than 90% in Dundee.

Removing existing harm reduction strategies would lead to a large increase in prevalence and incidence by 2030. Across the three settings, this impact would be greatest if opioid substitution therapy were withdrawn (92–483% increase in incident infections), and less but still substantial if instead high-coverage needle and syringe provision were withdrawn (23–64% increase):

- In Walsall, the number of incident infections would increase by 129% if opioid substitution therapy was removed compared with 23% if high-coverage needle and syringe provision was removed, 176% if both interventions were removed, and 3% if treatment for hepatitis C was removed.
- In Dundee, a far greater increase (380%) would result from removing treatment of hepatitis C infection because at the start of the period a much higher proportion of people injecting drugs were in opioid substitution treatment. The number of incident infections would increase by 483% if opioid substitution therapy was removed compared with 64% if high-coverage needle and syringe provision was removed, and 878% if both interventions were removed.
- In Bristol, the increase would be 92% for opioid substitution therapy compared with 32% for high-coverage needle and syringe provision, 132% for both interventions, and 2% for treatment.

By scaling-up high-coverage needle and syringe provision and opioid substitution therapy to reach 80% of people injecting drugs ([unfold !\[\]\(339a16584d5da0f0a3ca4e9ec17bf6a1_img.jpg\) supplementary text](#) to read why this level was chosen) it would be possible to reduce the incidence of hepatitis C by 29% in Bristol, 49% in Walsall, and 100% in Dundee. In all settings, more than 80% of impact would be achieved by scaling-up high-coverage needle and syringe provision due to its lower baseline coverage (28–56%).

[Close supplementary text](#)

The 80% coverage level was not arbitrary, it was rooted in several factors:

- 85% of people who inject drugs [inject opioids](#), and therefore could be expected to derive a benefit from opioid substitution therapy.
- Anything higher than 80% coverage [would likely be](#) unsustainable.
- Anecdotal information indicates that 80% coverage is the current target of needle and syringe providers.

[Close supplementary text](#)

If instead current levels of high-coverage needle and syringe provision and opioid substitution therapy were simply maintained, the treatment of hepatitis C infections would become the main way to reduce the spread of infection. The annual number of hepatitis C treatments needed to reduce incidence by 90% would be 43 per 1000 people who inject drugs for Bristol, 29 per 1000 for Dundee, and 18 per 1000 for Walsall, which translates to 7.5–13.2% of infected people who inject drugs in the first year. This would require considerable scale-up of hepatitis C treatment in Bristol (fivefold from 9 annual treatments per 1000 people who inject drugs) and Walsall (ninefold from 2 annual treatments per 1000 people who inject drugs), while treatment numbers could be reduced by 45% in Dundee and still achieve this target.

Concurrent scale-up of high-coverage needle and syringe provision and opioid substitution therapy to 80% coverage would decrease the yearly rate of hepatitis C treatments required to reach the World Health Organization target from 43 to 40 per 1000 people who inject drugs in Bristol, 29 to 22 per 1000 in Dundee, and 18 to 14 per 1000 in Walsall. If, additionally, the transmission risk associated with 'high-risk injecting' (indicated by homelessness and injecting crack cocaine) was halved, then the required number of treatments would reduce further by one-fifth in each setting.

The authors' conclusions

Current levels of high-coverage needle and syringe provision and opioid substitution therapy in the United Kingdom are averting considerable numbers of hepatitis C infections:

- If these interventions were removed, it would probably double the number of new hepatitis C infections over the next 15 years.
- If levels of high-coverage needle and syringe provision and opioid substitution therapy were maintained, only moderate rates of hepatitis C treatment (18–43 per 1000 people who inject drugs annually) would be needed to reduce hepatitis C incidence by 90%, thereby achieving the World Health Organization's 2030 elimination target.

These projections highlight the considerable impact of existing harm reduction interventions in high-coverage settings, and emphasise the need to maintain current levels of coverage and resist any further shift in drug treatment policy towards abstinence if this entails disinvestment in harm reduction.

Further benefits could come from scaling-up opioid substitution therapy and high-coverage needle and syringe provision, especially in lower-coverage settings. Ways of increasing coverage include use of [vending machines](#), extending [opening hours](#), and promoting secondary distribution via peers ([1](#) [2](#)).

To reduce hepatitis C incidence to the low levels advocated by the World Health Organization, a combined approach involving hepatitis C treatment would be needed. This will require policy-driven expansion of interventions targeting groups at risk of hepatitis C in settings such as drug treatment centres and needle and syringe programmes – as has already taken place in Dundee.

FINDINGS COMMENTARY What would it take for the UK to meet the World Health Organization's [target](#) of significantly reducing the rate of new chronic hepatitis C infections by 2030? According to the above projections in three diverse areas, current levels of harm reduction services are averting a great deal of transmission, and the introduction of moderate rates of treatment for hepatitis C would put Britain on course to achieve the elimination target. For policy-makers, the findings suggest that opioid substitution therapy and high-coverage needle and syringe provision are the [cornerstones](#) of hepatitis C control, although treating chronic infection is [also vital](#) to protect people from harm and help prevent the further spread of the virus.

As with any study using a method that predicts or projects what will happen in the future, its estimates were imperfect – limited by the quality of data used to inform the model, and assumptions made about what may change or stay the same in subsequent years. The authors identified that their own estimates could be improved by better monitoring of people using needle and syringe programmes, and further data on injecting frequency, real-life syringe provision, and the current infection status of people injecting drugs.

One of the main challenges in monitoring the impact of interventions on hepatitis C incidence is the difficulty of measuring incident infections directly. [While ideally](#) the actual number of new chronic hepatitis C infections that arise annually in people who inject drugs would be captured and monitored over time, it is "difficult to estimate because much of the acute infection is asymptomatic and undiagnosed and there is considerable uncertainty around the number of people in the UK who are injecting drugs".

The 'elimination target' in the UK context

The buoyant conclusions of the featured study diverged from Public Health England's recent [warning](#) that the call to reduce new cases of chronic hepatitis C represent a "significant challenge for UK [hepatitis C] prevention and treatment services", and that "if these goals are to be achieved, a radical change in the response to [hepatitis C] among [people who inject drugs] is required". What seems like a [clear pathway](#) to eliminating hepatitis C, with global momentum to realise this goal, is not a given and [requires sustained not just](#) increased investment in services.

The need for a similar 'radical change' was alluded to when the Hepatitis C Elimination Inquiry, held by the cross-party Scottish Hepatitis C Parliamentary Champions group and The Hepatitis C Trust, [cautioned that](#) Scotland is still "pursuing a clinical approach (treating those with the most advanced health problems) rather than a public health approach (treating those most likely to spread the virus)".

Estimating the [costs](#) of existing needle and syringe programmes in Bristol, Dundee, and Walsall, researchers involved in the featured study found cost and quality of life savings over a 50-year time span:

- In all three areas, current needle and syringe programmes were estimated to result in lower healthcare and treatment costs compared with a scenario where the programmes were stopped. The cost-savings were calculated to be £159,712 in Bristol and £2.5 million in Dundee.
- There were also projected reductions in the number of infections of 8% in Bristol and Walsall, and 40% in Dundee.
- Compared to the withdrawal of needle and syringe programmes, maintaining these services would also generate gains in quality adjusted life years (QALYs) – a measure of life years saved and their quality of life – of 502 in Bristol, 195 in Dundee, and 192 in Walsall.

The researchers [also found](#) that needle and syringe programmes would continue to be [cost-](#)

The course of hepatitis C

In the UK [around 90%](#) of diagnosed hepatitis C infections have been acquired through injecting drug use.

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.

[Estimates](#) from Public Health England suggest that 3 in 4 people infected with hepatitis C will develop a chronic infection, a primary cause of cirrhosis and liver cancer. Treating hepatitis C not only saves individuals from these potentially fatal diseases, but by clearing the infection, also helps prevent further spread of the virus.

In addition to harm reduction interventions for people who inject drugs, and testing, diagnosis, and treatment for hepatitis C, [advice](#) for people already living with hepatitis C includes avoiding drinking alcohol as this can exacerbate liver damage among people with chronic hepatitis C.

effective if rates of hepatitis C treatment increased or treatment costs reduced because of their effectiveness in preventing re-infection.

Walsall, Bristol, and Dundee had different levels of coverage of opioid substitution therapy (72%, 81%, 72%) and high-coverage needle and syringe provision (28%, 56%, 48%), that were all equal to or higher than average **UK coverage levels** (70% opioid substitution therapy, 48% high-coverage needle and syringe provision), with the exception of needle and syringe provision in Walsall.

While these primary forms of prevention **can reduce** the rate of new chronic infections ('incidence', the key barometer for success in the featured study), the World Health Organization advises that the number of people already infected ('prevalence') and mortality could remain high for a generation without treating those already infected.

Dundee was exceptional with respect to treatment, having higher baseline levels (40 treatments per year) than Bristol (18) and Walsall (2), which tipped the area over the estimated annual number of hepatitis C treatments needed to reduce incidence by 2030 if current levels of opioid substitution therapy and high-coverage needle and syringe provision were maintained (provision of 29 per 1000) or scaled-up (22 per 1000). These treatment levels were associated with the findings that there would be a marked reduction in estimated prevalence and incidence of hepatitis C between 2016 and 2030, and a far greater increase in number of incident infections resulting from removing treatment (380%) compared with Bristol (2%) and Walsall (3%).

However, Dundee may also have been an atypical setting in its approach to testing. The city of Dundee falls within the NHS region of Tayside, which has **undertaken** considerable work to:

- Encourage peers to engage with at-risk groups.
- Implement dry blood-spot testing for hepatitis C infection in all key community settings, including needle exchanges, substance use services, and prisons; the greatest uptake was in services providing needle and syringe programmes.
- Roll out testing in community pharmacies for those receiving opioid substitution therapy.
- Implement a programme of proactive case-finding in general practice where any people previously tested but lost to follow-up or unaware of their status were contacted and recalled.

Furthermore, there has been significant outreach to ethnic minority groups, in particular the South Asian community (which has a high prevalence of hepatitis C), and GPs have agreed to review their entire practice populations to identify people at high risk based on their past medical history, and invite them in for testing.

Making hepatitis C a national priority

The featured study took a snapshot of service provision and asked what would happen if this was withdrawn, maintained or scaled-up. However, service provision especially in the treatment of infections is a moving target, and national action to tackle hepatitis C is already **underway**. In Wales, this includes work towards a **Liver Disease Delivery Plan**; in Scotland, action has been guided by the updated **Sexual Health and Blood Borne Virus Framework** (2015–2020); in England, the NHS has been progressively rolling out treatment to priority patients, Public Health England has continued to publish an annual hepatitis C report (see **2018 report**), and the cross-agency National Strategic Group on Viral Hepatitis has continued to provide strategic direction and advice around viral hepatitis in England; and in Northern Ireland, the Hepatitis B and C Managed Clinical Network has published an **annual report** containing information on the epidemiology of hepatitis C, as well as public health and clinical activities related to hepatitis C disease prevention and control.

The pillars of British drug and alcohol policy, each appraised in the Effectiveness Bank, are:

- **UK Government alcohol strategy (2012, now lapsed)**: This made no reference to hepatitis C. However, it did note that excessive drinking is a major contributing factor to liver disease. In early May 2018 the UK government committed to developing a new national strategy on alcohol for England.
- **UK Government drug strategy (2017)**: Improving health among drug users in this strategy included action to prevent blood-borne infections by regular and repeated offers of testing, treatment, vaccination, and by maintaining the availability of injecting equipment through needle and syringe programmes. Opioid substitution therapy was acknowledged only as a legitimate life-saving tool for people transitioning from custody to the community, and as a method of addressing the spread of HIV in low- and middle-income countries.
- **UK Government Modern Crime Prevention Strategy (2016)**: In this strategy which identified alcohol and drugs as two key drivers of crime and disorder, harm reduction was considered only to the extent that "For a small cohort of entrenched, long-term opiate users who have not achieved recovery through optimised oral substitution treatment, there is evidence that heroin assisted treatment (supervised injectable heroin) reduces crime."

- [Scottish Government's strategy to improve health by preventing and reducing alcohol and drug use, harm and related deaths \(2018\)](#): A key focus of the strategy was on reducing the spread of blood-borne viruses and other infections. This included support for the forthcoming hepatitis C elimination strategy which, [according to](#) The Hepatitis C Trust, will include "ambitious targets to decrease national incidence and mortality".

An Effectiveness Bank [hot topic](#) goes more in-depth into the scale and urgency of the task of eliminating hepatitis C, which in 1993 was described as the invisible "sleeping giant".

Last revised 08 February 2019. First uploaded 11 January 2019

- ▶ [Comment/query](#)
- ▶ [Give us your feedback on the site \(two-minute survey\)](#)
- ▶ [Open Effectiveness Bank home page](#)
- ▶ [Add your name to the mailing list](#) to be alerted to new studies and other site updates

Top 10 most closely related documents on this site. For more try a subject or free text search

DOCUMENT 2011 [Prevention and control of infectious diseases among people who inject drugs](#)

HOT TOPIC 2017 [Hepatitis C 'giant' still growing](#)

STUDY 2011 [Hepatitis C infection among recent initiates to injecting in England 2000–2008: Is a national hepatitis C action plan making a difference?](#)

STUDY 2012 [Can needle and syringe programmes and opiate substitution therapy achieve substantial reductions in hepatitis C virus prevalence?](#)

STUDY 2012 [Association between harm reduction intervention uptake and recent hepatitis C infection among people who inject drugs attending sites that provide sterile injecting equipment in Scotland](#)

DOCUMENT 2014 [Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations](#)

REVIEW ABSTRACT 2009 [The primary prevention of hepatitis C among injecting drug users](#)

REVIEW 2017 [An evidence review of the outcomes that can be expected of drug misuse treatment in England](#)

STUDY 2015 [Randomized controlled trial of motivational interviewing for reducing injection risk behaviours among people who inject drugs](#)

DOCUMENT 2014 [Needle and syringe programmes](#)