STOP-C Implementation Toolkit

A scaleable approach to prevention and elimination of hepatitis C in prisons.

Refer to the website:
www.stopc.org for more content

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Introduction

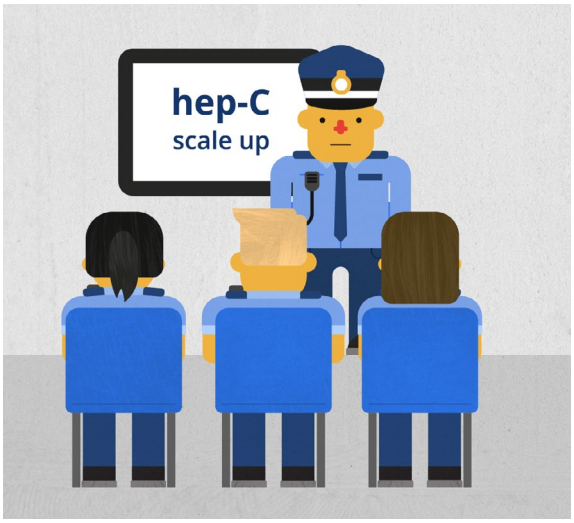
Together we can reduce the spread of hepatitis C in the prisons.
Hepatitis C infection is common in the prisons and is being spread in the prisons. Existing harm reduction measures to control the spread have not been adequately effective.

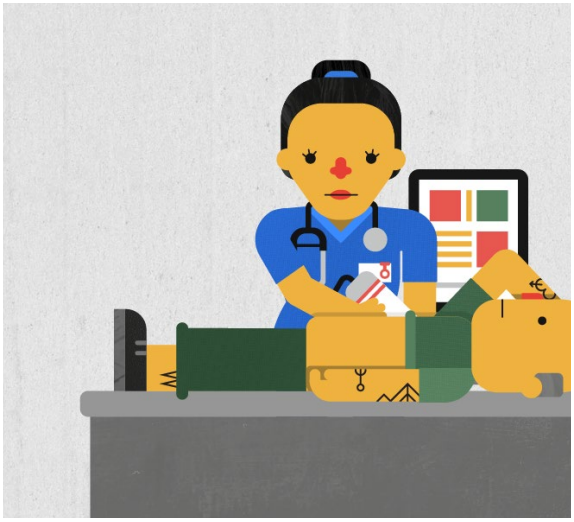
The SToP-C project aimed to ensure that all individuals in the prisoner population were tested for hepatitis C and those infected promptly treated and cured, effectively removing the source of infection in the prisoner population and preventing ongoing transmissions – that is treatment as prevention (TasP) (see Terminology p62).

SToP-C for correctional authorities.

Correctional authorities are critical stakeholders in facilitating the scale-up of hepatitis C treatment in partnership with health authorities.

A reduced pool of hepatitis C infections in the prison setting will benefit all those who work in the prisons by producing a safer working environment and positive outcomes for prisoners and for the community as a whole.





SToP-C for health care providers.

Health services are pivotal to successful implementation of treatment scale-up. It is important to ensure effective partnerships between health and corrective services, where the same goals are shared.

Toolkit

Hepatitis C treatment scale-up as prevention in the prisons - Implementation toolkit.

This toolkit describes the rationale and outlines the steps of planning, implementation and evaluation of programs designed to scale-up hepatitis C testing and treatment amongst individuals who are held by law in correctional centres (referred to here as prisoners and prisons respectively).

The toolkit was developed by clinicians, researchers, healthcare providers and correctional authorities, as well people from the affected communities (people in prison and people who use drugs) who were partners in the Surveillance and Treatment of Prisoners with hepatitis C (SToP-C) project.

The SToP-C study was a five-year research project conducted in four publically-operated prisons in New South Wales (NSW), Australia. SToP-C examined the effectiveness of increased testing and antiviral treatment for hepatitis C to reduce transmissions – that is 'treatment-as-prevention' (TasP), an approach shown to be effective against HIV infection.

The success of SToP-C argues for scale-up of testing and treatment more broadly in the correctional sector, both in Australia and internationally. This will both improve the health of individual prisoners, and contribute to national and international elimination of hepatitis C as a public health threat.

"Everyone who has done the program [SToP-C} and been cured of it were speaking highly of it. That's with the inmates who've done it. I've actually heard inmates who have done it, tell other inmates, "get on it, it's alright, you just have to take a tablet in the morning and it fixes it".

Prisoner

Overview

There are close associations between injecting drug use, hepatitis C infection and imprisonment. The prisons carry a large burden of disease due to chronic hepatitis C and are an important venue for spread of the infection, as harm reduction measures are often limited in scope and only partially effective. The prisons also provide an opportunity for health care provision.

The SToP-C project demonstrated that scale-up of direct-acting antiviral (DAA) treatments in the prison setting can successfully reduce the incidence of transmissions, make an important contribution to national efforts to achieve hepatitis C elimination as an ongoing public health threat, and also provide improved health outcomes for the individuals receiving curative treatment. This toolkit describes the steps necessary to achieve those outcomes.

In this section:

About hepatitis C

Hepatitis C, sometimes also called hep C or HCV, is a virus that causes damage to the liver. It is transmitted by blood-to-blood contact, most commonly by sharing of needles and syringes in injecting drug use, but also in other bloody events in the prison setting such as tattooing and fights. Hep C can cause an acute illness ('hepatitis') when someone first becomes infected, but is more commonly acquired without any apparent illness. In about three of four individuals who become infected the virus is not cleared by the immune system and the infection becomes chronic, which means it will stay for life unless antiviral treatment is provided. Chronic hep C infection is also typically silent – that is most individuals are unaware that they have it unless the infection is identified in blood tests looking for antibodies against the virus (which means they have been infected at some time) and for the genetic material of the virus (RNA – which means ongoing infection) detected by a PCR test. The infection causes inflammation in the liver which is reflected in abnormalities in a set of blood tests called liver function tests. Over many years or decades, the ongoing inflammation in the liver caused by the virus, causes build-up of scarring (also called 'fibrosis').

When the build-up of scar tissue is very advanced and there is very little normal liver remaining this is called cirrhosis. In this stage, the liver stops being able to do its key jobs: making new proteins such as blood clotting factors; clearing out waste materials from the day-to-day processes of all cells in the body; warehousing energy stores; and breaking down ('metabolising') foods and drugs. When this happens it is called 'liver failure' and it is fatal unless a liver transplant is provided.

In the last few years, almost miraculous drug treatments for hep C have been developed – these are called direct acting antivirals (DAAs). The DAAs can cure essentially everyone with chronic hep C (and stop the progression of liver scarring). The drugs are also equally effective if someone becomes re-infected and is treated for the second or third time. With these drugs the World Health Organisation hopes to eliminate hep C as a public health concern worldwide.

> **"I was like, "They've got their hepatitis pretty much from their own stupid behaviour, they don't deserve it. Yeah, that money should be spent on people in the community that aren't in jail", but now I realise why they've picked the jail and that it will have a good flow-on effect and that there's the opportunity to eradicate it completely."**
>
> **Correctional Officer**

About prisons and prisoners

Prisons and prisoners

Across the globe there are around 10 million people in prison at any one time, including over 2 million in the USA, which has the highest rate of imprisonment worldwide, with more than one in 200 individuals imprisoned each year.

Prisoner populations are growing globally. In Australia, which has a population of more than 25 million, almost one in 500 are imprisoned each year. Crimes relating to illicit drug use are the primary drivers of incarceration in most high income countries.

As people who inject drugs are at high risk of acquiring hepatitis C infection and there are high rates of incarceration of people who inject drugs, approximately 15% of all prisoners worldwide have hepatitis C antibodies with the majority having chronic infection. Prisons therefore provide a unique opportunity to act as a potential access point for testing and treatment of hepatitis C.

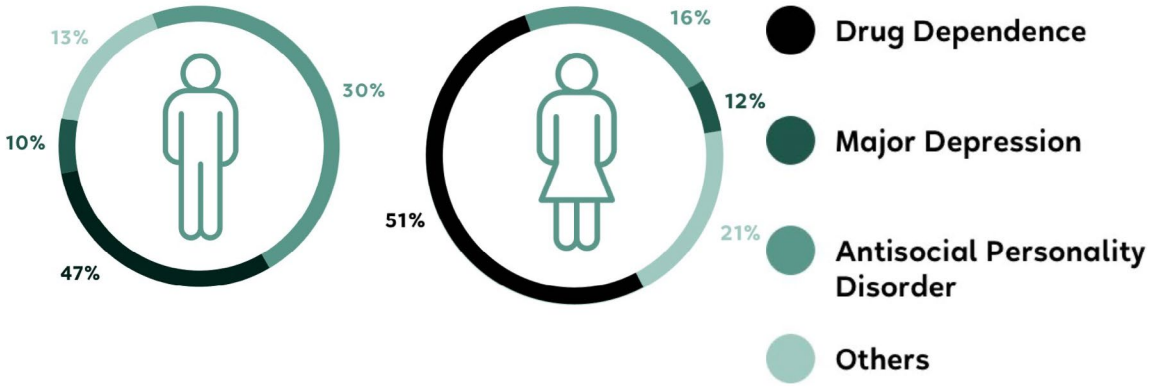
The sole intent of imprisonment is to punish individuals who have committed a crime by depriving them of liberty and, in turn, remove them as a risk from society. It is not possible to achieve this without also imposing a loss of relationships, personal security, and autonomy.

Prison environments are typically overcrowded and subject to the extremes of heat and cold. In general, illicit substance use, violence, and isolation leading to emotional deprivation are common amongst prisoners.

Prisoner populations worldwide are heavily over-represented with those from socially and economically disadvantaged backgrounds, including ethnic minorities. Prisons are not truly 'closed' environments as prisoner populations are typically transient, moving frequently between individual prisons, and between prisons and the community.

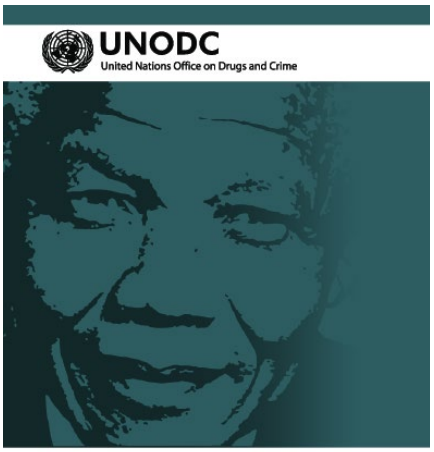
Health of prisoners

Prisoners generally have a high burden of both physical and psychiatric diseases. This is due to both behavioural and socio-economic factors, including high rates of mental health problems, substance abuse, and low literacy levels.



In both male and female prisoner populations worldwide, the rates of depression, psychosis, and personality disorder are striking. In addition, infectious diseases are far more common amongst prisoners than in the community, particularly the blood-borne virus infections, HIV, hepatitis B and hepatitis C. Of these, hepatitis C infection is particularly common.

Surveys in Australia indicate that more than one in five of those newly incarcerated are hepatitis C antibody positive, with almost half of prisoners in the NSW prisons testing positive. In addition, each year over one in 10 of those who entered the NSW prisons without hepatitis C become infected whilst in prison. Hepatitis C transmissions during incarceration increase the prevalence of infection both amongst prisoners and in the wider community, due to the highly mobile nature of the prisoner population.



"It is said that no one truly knows a nation until one has been inside its jails. A nation should not be judged by how it treats its highest citizens, but its lowest ones."

Nelson Mandela

Healthcare in prison

Provision of health services in the correctional environment is challenging as security is prioritised over healthcare, and the health infrastructure is often limited in both physical resources and personnel. Negative attitudes toward the provision of healthcare to prisoners are common amongst prison staff. Also, most prisoners are only incarcerated for periods of weeks-to-months, despite the common misbelief that incarceration periods are commonly very long.

Despite these challenges, a period of imprisonment offers a potentially unique opportunity for healthcare intervention for marginalised members of society. Meeting the health care needs of prisoners is a responsibility for society under the 'Mandela Rules', also known as the United Nations Standard Minimum Rules for the Treatment of Prisoners, which were adopted by the United Nations General Assembly in 2015. At the core of these rules is the belief that prisoners should have access to quality healthcare equivalent to that available to members of the broader community.

"I was like, "They've got their hepatitis pretty much from their own stupid behaviour, they don't deserve it. Yeah, that money should be spent on people in the community that aren't in jail", but now I realise why they've picked the jail and that it will have a good flow-on effect and that there's the opportunity to eradicate it completely."

Correctional Officer

Hepatitis C treatment and prevention in prisons

Prevention of hepatitis C transmission in the prisons

The key strategies for prevention of hepatitis C transmission amongst people who inject drugs (PWID) in the wider community, include opiate agonist therapy (OAT) and needle-syringe programs (NSP). These prevention approaches can approximately halve the rate of new infections in the community.

Injecting drug use in prison has been associated with a high probability of sharing, as injecting equipment is sparse and often heavily re-used. There are very few prison-based NSPs worldwide (none in Australia), thereby driving repeated use of injecting equipment.

In addition, OAT, which is only variably available in prison settings, has not been shown to reduce transmissions within correctional centres.

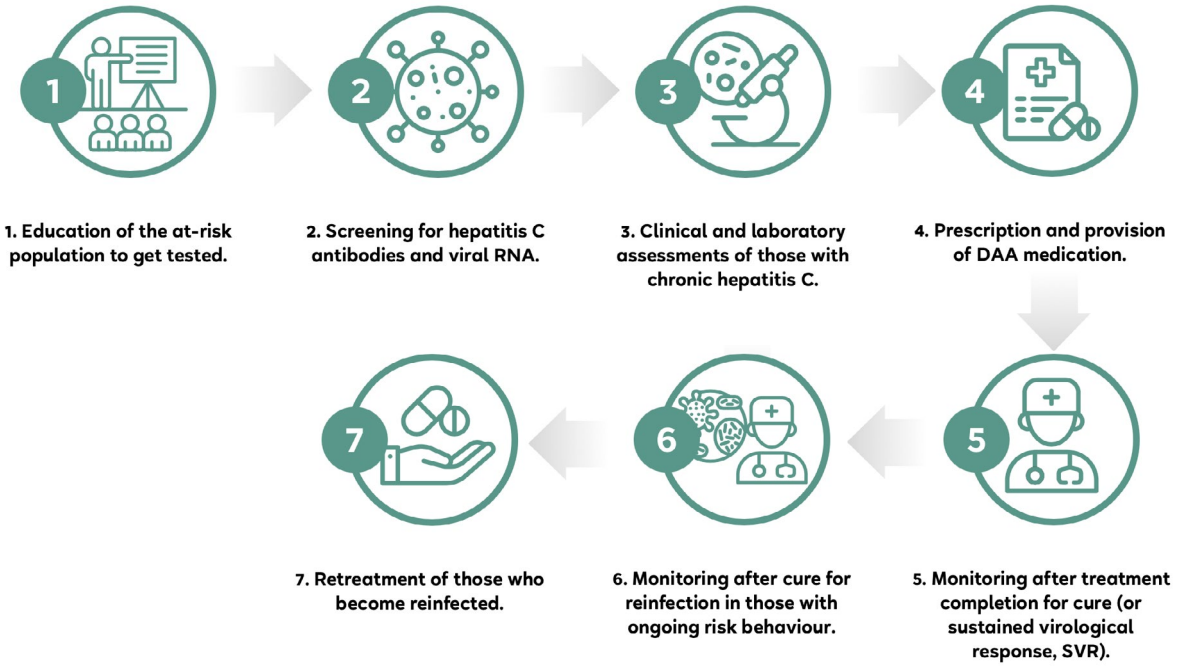
> **"Can we treat our way out of this epidemic in the prison setting? Whether it's successful or sub-optimal in its efficacy, I would still maintain that provision of clean injecting equipment makes public health sense."**
>
> **Policymaker**

Testing and treatment of hepatitis C infection in prisons

With the growing availability of direct acting antivirals (DAAs) to cure hepatitis C, testing and treatment services are increasingly being developed outside specialist hospital clinics, in favour of primary care settings where the majority of those infected are found, including in prisons.

The pathway for hepatitis C care is often referred to as the care cascade, and includes the following steps:

Hepatitis C care cascade:



Provision of each of the elements of this hepatitis care cascade in the prison sector varies widely, ranging from no screening to universal testing of all prisoners, and from no treatment to individual correctional centres offering ready provision of DAA treatment, as well as screening for reinfection and retreatment.

The SToP-C study

A hepatitis C treatment as prevention (TasP) approach was evaluated in the Surveillance and Treatment of Prisoners with hepatitis C (SToP-C) study which was conducted in four prisons in New South Wales (NSW), Australia between 2014 and 2019.

The factors contributing to the rationale for the study included:

- Community wide scale-up of antiviral therapy for HIV was shown in some studies in Africa to reduce incidence (Brault 2019).
- A high prevalence of chronic hepatitis C infection in the NSW prisons, which was estimated to be above 20% of all prisoners at the time of protocol development (JH&FMHN, Network Patient Health Survey 2015).
- A high incidence of hepatitis C transmission in the NSW prisons, which was estimated to be above 10% per annum amongst those who reported injecting drug use at some time in their life (Cunningham, 2017).
- Each injecting/sharing event in the NSW prisons was estimated to carry a one in 200 chance of transmitting hepatitis C (Boelen, 2014).
- Limited evidence of effectiveness of existing harm reduction measures against hepatitis C transmissions in the NSW prisons, which included widespread distribution of a quaternary amine disinfectant to cleanse injecting devices, and moderate coverage of opioid agonist therapy (OAT) of approximately 50 recipients per 100 people who inject drugs (PWID) whilst incarcerated (Bretana, 2020).

References are listed on p63.

- Government-funded DAA treatment became widely available in the prisons in March 2016, with an estimated 10% of all prisoners with chronic hepatitis C infection being treated in that year (Papaluca, 2019).

Against this backdrop, the SToP-C study involved ensuring that the majority of individuals in the prisoner population in the selected centres were tested for hepatitis C, and those found to be infected promptly treated with DAA therapy and cured in order to prevent new transmissions.

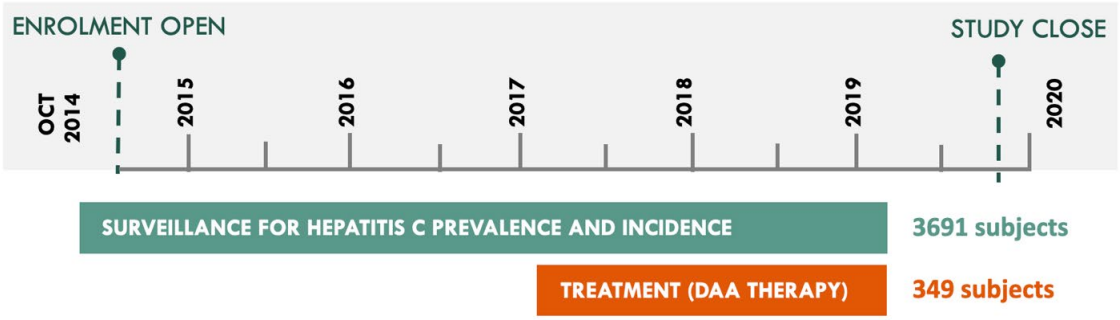
The study was commenced in late 2014 with funding from the Australian National Health and Medical Research Council (NHMRC) and Gilead Sciences Pty Ltd, in partnership with the Justice Health and Forensic Mental Health Network (JH&FMHN), Corrective Services NSW, and key consumer organisations.

The study was conducted over five years in four prisons in NSW, Australia, with the primary objective of demonstrating the effectiveness of rapid scale-up of testing and DAA treatment in reducing hepatitis C incidence (i.e. TasP).

> **"The advantage of hepatitis C treatment in the context of treatment-as-prevention is that, while trying to achieve population-level control of an infectious disease and its spread, you're providing individual benefit… it's amazing."**
>
> **Advocate**

The study initially enrolled prisoners aged 18 years or older with adequate English and mental health status to consent, complete interviews regarding risk behaviour, and provide blood samples.

These participants were followed up at six monthly intervals in the Surveillance phase over the first two to three years of the study to resolve the prevalence of hepatitis C antibody and viraemia with referral of those found to be chronically infected to the existing Hepatitis Service. Scale-up of DAA therapy, supported by SToP-C, was introduced in the Treatment scale-up phase to maximise access to treatment for all those found to be infected or re-infected, with ongoing surveillance for all participants until study closure.



Study results (Hajarizadeh 2021)

There were 3691 individuals enrolled in the study. These participants represented a coverage of approximately 60% of all prisoners who spent one month or more in one of the four correctional centers over the five year study period.

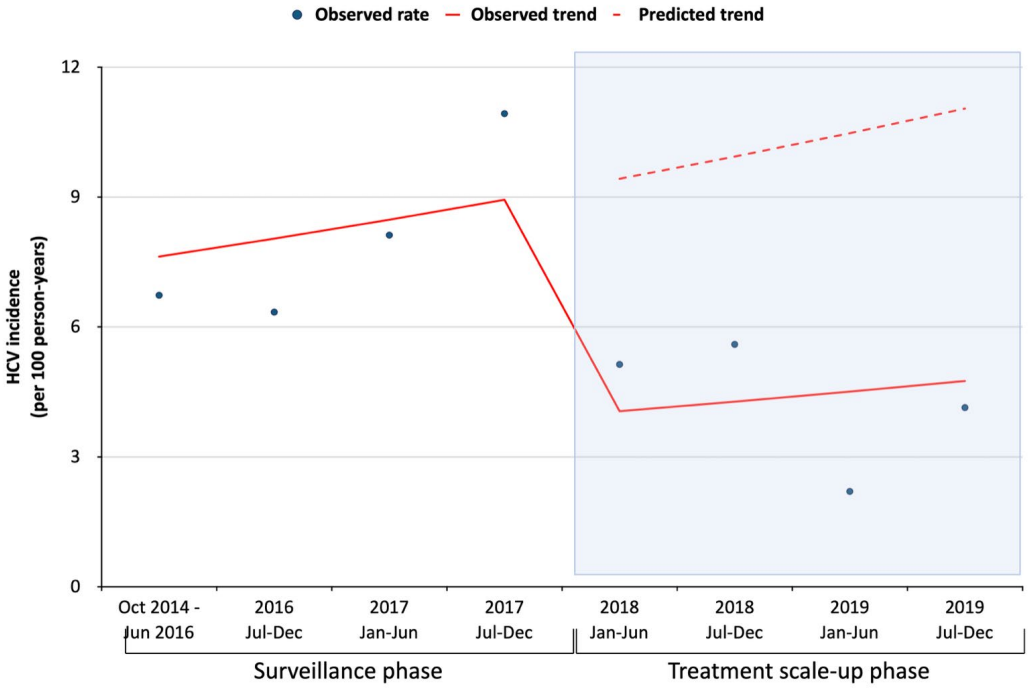
At enrolment, there were 719 individuals with hepatitis C RNA detected (19%), leaving 2,965 who were at-risk of primary hepatitis C infection (n=2,240 who were hepatitis C antibody negative) or hepatitis C reinfection (n=725 who were HCV antibody positive but HCV RNA negative).

Among the at-risk population with longitudinal follow-up (n=1,643; median age 33 years; 82% male), 31% reported injecting drug use in prison. In the Surveillance phase, 39/416 (9%) eligible participants received DAA treatment through the Hepatitis Service, whereas during the Treatment scale-up period DAA treatment was initiated in 349/499 (70%) of eligible participants.

The hepatitis C incidence declined by 48%, from 8.31 to 4.35 per 100 person-years between Surveillance and Treatment scale-up periods. The incidence of primary infection declined from 6.64 to 2.85 per 100 person-years (incident rate ratio -IRR: 0.43, 95%CI: 0.25, 0.74), while the incidence of re-infection declined from 12.36 to 7.27 per 100 person-years (IRR: 0.59, 95%CI: 0.35-1.00). Adjusted analysis indicated a 50% reduction in the risk of HCV transmission between Surveillance and Treatment scale-up periods (adjusted Hazard Ratio: 0.50, 95% CI: 0.33, 0.76).

These findings indicate that DAA treatment scale-up was associated with a reduced hepatitis C incidence in the prisons, indicative of hepatitis C treatment-as-prevention (TasP). The findings support broad DAA treatment scale-up among incarcerated populations. The findings also suggest improved harm reduction remains a priority to minimise re-infection.

An evaluation of the cost-effectiveness of the SToP-C intervention is underway.



Hepatitis C Incidence before and following DAA treatment scale-up in SToP-C. The red solid line represents the trend in HCV incidence observed during the Surveillance phase and then in the Treatment scale-up phase. The red dashed line represents the predicted incidence if the effect of treatment scale-up is removed.

Development of this toolkit

Over the five years of the SToP-C study, numerous implementation challenges in scaling up testing and treatment were faced and resolved.

An Implementation Committee met regularly over the course of the study to advise on, and contribute to, the development of the SToP-C toolkit (the Toolkit).

Four methods were used to inform the Toolkit:

1. An Issues Register was established at study commencement in which barriers were identified, and the ways in which these barriers were resolved were systematically gathered in real time from a variety of stakeholders including sub-committee members, health and custodial management, and staff working in the correctional centres.
2. A qualitative study was conducted with interviews of: prisoners living with or without current HCV infection before Treatment scale-up, prisoners treated for HCV infection during the Treatment scale-up period, families of prisoners, correctional officers and senior administrators, correctional health staff, policy makers at local and state levels, and consumer advocates. These interviews covered several relevant topics including prevention programs, and the acceptability of DAA treatment scale-up for prevention (Rance 2021).
3. A review of policy frameworks across Australian prison jurisdictions was conducted in order to identify the organisational policies and procedures that impact on the implementation of DAA treatment scale-up. This review was intended to inform recommendations on how to frame service delivery to policymakers in scenarios both of strong policy support as well as a weak policy environment (Lafferty 2018).
4. Mathematical modeling was undertaken to understand the epidemiological impact of HCV treatment as prevention in the prison setting, the implications for the custodial and health workforce and other infrastructure implications, and health economic analyses of the impact of HCV treatment-as-prevention in the prison setting and on the wider community.

This Toolkit provides insights into these lessons learnt in SToP-C to assist policy makers anproviders in the custodial and health sectors to undertake similar prison-based scale-up of testing and direct-acting antiviral (DAA) therapy, including to achieve TasP in the prison setting.

Step 1: Planning

When planning scale-up, a comprehensive understanding of the prison context is needed, including the barriers and facilitators of hepatitis C care.

Planning should involve all stakeholder groups – correctional authorities, health services, prisoners, as well as prisoner support services and advocacy organisations – both to secure support, and to ensure all perspectives are considered. This may be best achieved with a formal scoping exercise.

In addition, legislative and organisational factors, as well as the prison environment itself, all impact on the planning for effective and efficient scale-up of hepatitis C testing and treatment services.

Please refer to the Planning Checklist on the Resources page of the website www.stopc.org for a summary of the issues which should be considered during the planning phase.

In this section:

Understanding the legislative and policy framework

Timely access to both testing and treatment is a cornerstone of hepatitis care for prisoners.

The capacity for scale-up is determined in part by the relevant legislation and organisational policies, as well as the available funding for the hepatitis C tests and DAA treatments. In addition, the capacity of correctional and health services, as well as the philosophical approach of senior administrators towards provision of hepatitis services in the correctional setting, is key.

As prisoners lose autonomy in most aspects of daily decision-making, their participation in hepatitis C testing and treatment is largely determined by the system – which may actively support such care, passively allow some restricted access, or actively obstruct service provision.

Particularly if planning scale-up in a complex or multi-prison jurisdiction, it is critical to identify the existing policies that impact on hepatitis C care for prisoners, and the existing implementation of these policies (Lafferty et al, 2018).

If the legislative, policy, or funding environment does not support hepatitis services, advocacy to change this circumstance is essential before planning testing and treatment scale-up.

> **"You've got to look at organisational appetite and culture against a backdrop of the legal landscape. That's the challenge: understanding what you're operating with and understanding that seeing the world through a healthcare lens is only going to get you so far within a custodial environment."**
>
> **Policymaker**

Issues

Policy constraints

Context	Recommendation
No hepatitis C policy for prisons.	Advocacy to support public health benefit of treatment of prisoners.

Financial limits on testing

Context	Recommendation
What budget constraints are there on scale-up of antibody and PCR testing.	Estimate scale-up potential within available budget; Advocate for increased budget.

Financial limits on treatment

Context	Recommendation
What budget constraints are there on treatment.	Estimate scale-up potential within available budget; Advocate for increased budget.

Local prison authorities unsupportive

Context	Recommendation
Individual leaders or groups unsupportive.	Highlight comparable centres with successful scale-up programs; Targeted education and advocacy.

Understanding the prison environment

Multiple factors arising from the physical prison structure, as well as the health and correctional workforce capacity, and the prisoner population, impose potential constraints on the logistics of scale-up of hepatitis C testing and treatment.

Issues

Access restrictions

Context	Recommendation
Segregation of prisoner groups may limit access.	Ensure planned access considers segregated prisoner populations.
Work or training programs may limit access.	Ensure planned access considers work or training constraints.
How is the daily schedule organised including 'let-go', meals, etc, and what are the 'access windows' – i.e. time periods for health service delivery.	Ensure planned access considers daily access windows.
How frequent are events that restrict access ('lock-downs', 'visits', 'training days')?	Ensure overall scale-up plans accounts for restricted access days.

The constraints within the core day can be a challenge, particularly if you've got a prison with limited time out of cell…"

Nurse

"Yeah, well, actually yesterday, there was a lock-down, so I thought "here we go, I'm not going to see anyone"

Nurse

Health clinic space

Context	Recommendation
What space and facilities within the prison are available to health services?	Ensure scale-up plans consider the capacity and competing demands for health clinic spaces.

> **"Having access to space in the clinic can be a real nightmare, cause there are lots of competing health care priorities..."**
>
> Nurse

Movements

Context	Recommendation
Are prisoners escorted individually by a correctional officer to/from the health clinic?	Ensure the impact of scale-up plans on both custodial and health service personnel are considered.
What is the turnover of prisoners in the centre?	Resolve what proportion of prisoners stay in the centre for a sufficient period to complete testing and treatment initiation.

The prisoner population

Key data to inform the scale-up plan should include the prisoner population size and demographic characteristics, sentence duration, and turnover (numbers of new prison entrants, transfers, and those released to freedom).

In addition, surveillance estimates of the proportion of prisoners with chronic hepatitis C infection, including major sub-populations (men/women, ethnic minorities) should be sought to inform approaches targeted to these groups.

Existing custodial and health data collection systems and ways in which to access data should be identified during the planning phase to facilitate ongoing monitoring and evaluation of scale-up.

Issues

Prisoner custodial data

Context	Recommendation
How many prisoners are in the centre? **What are their security classifications?** **What is the distribution of length of stay in the centre?**	Ensure existing custodial data collection systems can provide recent historical data to inform planning.

"The problem you have with the female offenders is that they don't get the long sentences like the men, so they may be here and they might start something, but then they get released".

Prison Governor

Prisoner health data

Context	Recommendation
What proportion of the prisoner population have chronic hepatitis C (i.e. hepatitis C antibody and PCR positive)? **What proportion of the prisoner population are at risk of new hepatitis C infection (either primary infection or reinfection)?** **What is the prevalence of risk behaviour (injecting drug use, sharing, unsafe tattooing) in the prison?**	Identify existing epidemiological datasets to provide estimates, including from comparable centres; extract data from health datasets; or conduct a prevalence survey.

Understanding the existing hepatitis C testing and treatment services

It is important to develop the plan with a good understanding of the existing hepatitis C testing and treatment services in the prison, and their strengths and weaknesses.

Issues

Organisational structure

Context	Recommendation
What organisation is responsible for hepatitis C testing and treatment of prisoners (correction or health authority or independent agency?	Ensure engagement and support of all relevant providers in the plan.

Hepatitis C education

Context	Recommendation
What hepatitis C education and training is provided to healthcare providers, correctional staff, prisoners? **What is the level of knowledge regarding hepatitis C and its treatment amongst healthcare providers, correctional staff, prisoners?** **What are the attitudes of healthcare providers, correctional staff, prisoners towards hepatitis C testing and treatment of prisoners?**	Ascertain the knowledge, attitudes and behaviours of healthcare providers, correctional staff, and prisoners regarding hepatitis C testing and treatment of prisoners; consider gathering such information if not available to inform the education component of the implementation plan.

> **"I'm pretty sure I have hep C, but I'm not sure about the treatment – I've got lots of stuff going on at the moment..."**
>
> Prisoner

Health service model

Context	Recommendation
What is the model of care for hepatitis C, including all of the elements (education, screening, clinical and laboratory assessments, prescription and provision of DAA medication; monitoring post-treatment; monitoring after cure for reinfection, retreatment)? **Who provides each element of the model?** **How efficient is the model?**	Ensure a good understanding of the existing model of care, all of all relevant providers, and the service capacity and efficiency notably for risk behaviour assessments, venepuncture, fibrosis assessment, approach (fibro-elastography or laboratory algorithm) and clinical assessments; identify points in the care cascade which are rate-limiting (e.g. specialist assessments or prescriptions).

"I've been in and out of prison for years and originally I spent a year or so waiting to be seen by the doctor. Nowadays, the nurses really do most stuff – I think it's great, because they get to know yer pretty well..."

Prisoner

Medication

Context	Recommendation
How is DAA medication managed?	How is medication managed in terms of purchase, distribution, storage, and dispensing? How is medication provided to prisoners self-administered (with weekly or monthly supplies) or daily supervised administration?

"I've been in and out of prison for years and originally I spent a year or so waiting to be seen by the doctor. Nowadays, the nurse really do most stuff – I think it's great, because they get to know yer pretty well..."

Prisoner

Engaging stakeholders and formulating the plan

Once the prison, health service and prisoner context are well understood, including the barriers and facilitators, a project team should be formed to take forward the plan for scale-up.

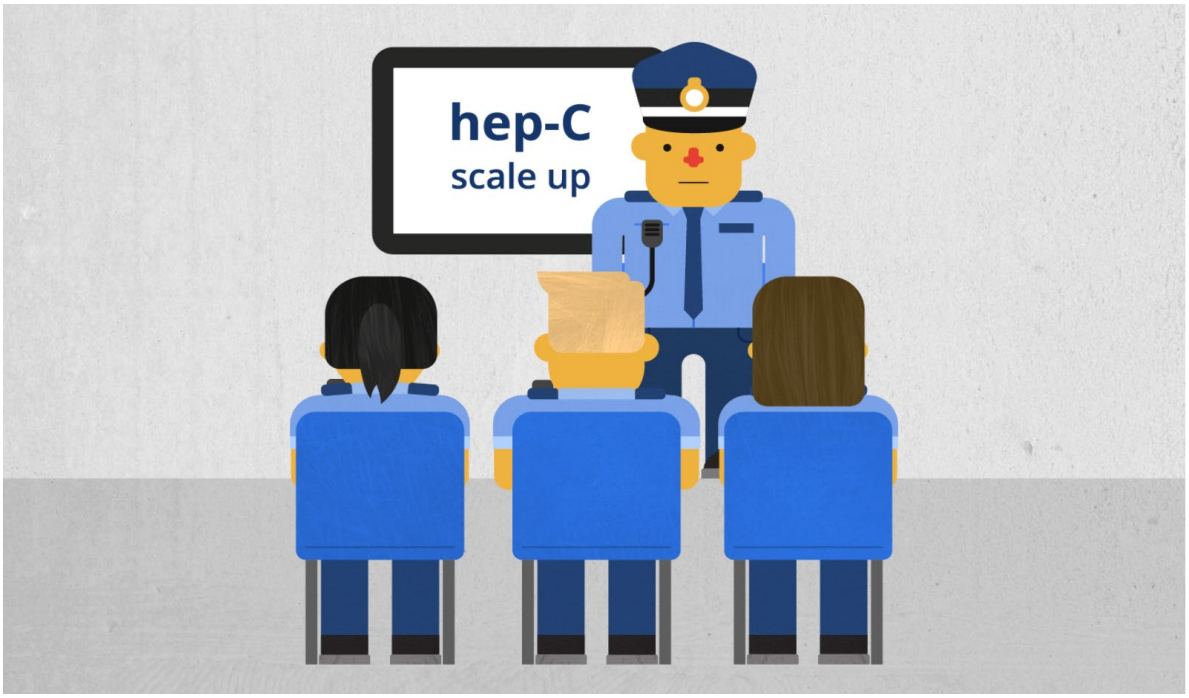
Enlisting influential leaders

Early engagement of the key decision makers and influencers within the correctional and health service authorities is important to establish support for scale-up. Formal influencers such as those in position of authority, identified from the organisational structure, as well as those with informal power (e.g. experienced correctional officers respected amongst peers) should be consulted and engaged as scale-up champions.

Visible displays of support from senior members of staff, such as announcements at staff meetings or in staff newsletters, and attendance at dedicated scale-up meetings, are important in signalling to correctional and health care staff that there is clear organisational support for scale-up.

The correctional authorities should be consulted to assist in identifying prisoners with influence, for example those selected to take part in prisoner delegate committees, to advise on barriers and facilitators to scale-up.

Leaders of community organisations that provide health education or support to prisoners and their families during incarceration, should be engaged to establish partnerships and enhance credibility of the plan to scale-up.



"I think we already know that treatment can clear prisons pretty easily with minimal extra resources but it's how you make that happen. It's the changes… How do you get everyone working together, at least the key players working together, to enable that?"

Policymaker

Forming the project team

A simple governance structure is recommended. This may include a multi-disciplinary steering committee with representation of the following stakeholders: correctional authority, health service authority, community organisations, and the prisoner population (if possible). The nominees should be endorsed by organisational leaders and act as both scale-up champions and conduits. Sub-committees may be established to oversee specific tasks, such as the logistics of pharmacy and drug management, or prisoner education and engagement. The governance plan should outline the communication and reporting mechanisms of the steering committee with sub-committees and existing organisational committees.

The project team is the key group responsible for day-to-day operations and should consist of individuals who are committed to driving the scale-up process, and who have access to the resources and authority to do so. The members should cover skills and expertise in areas needed to plan and implement scale-up, including clinical skills, hepatitis service delivery, budgeting, data management, and consideration of special populations such as ethnic minorities.

Issues

Collaborative partnerships

Context	Recommendation
An agreement between all stakeholders is key to formulation, endorsement and then implementation of the scale-up project plan.	Partnerships should be formalised, for example through a memorandum of understanding, and explicitly describe the joint commitment and shared priority of the scale-up plan.

Shared targets

Context	Recommendation
Shared project goals, targets and key performance indicators are important to inform planning.	The project team should resolve agreed goals, targets and indicators, including the scale-up period and rate, for example the anticipated number of individuals to be tested per quarter, and the number to be initiated on DAA treatment.

Organisational support

Context	Recommendation
The project team should draft the project plan and seek approval of the directors of the correctional and health services, and of other key stakeholder organisations for the plan.	The project plan should include consideration of: workforce, resourcing data and information systems specific consideration of the workforce and other resourcing implications, requirements for data and information systems, a communication plan, consideration of education to overcome lack of awareness and stigma, and specific consideration of the needs of special populations, such as ethnic minorities.

Correctional authority - planning

Correctional authorities are critical stakeholders in facilitating the scale-up of hepatitis C testing and treatment. It is important to ensure that the correctional authority is willing to support the project throughout its lifecycle and is potentially conducive to change.

All necessary approvals and support should be gained in the planning phase to ensure the scale-up plan and subsequent implementation strategies are feasible.

Workforce and other resource requirements

Scale-up of hepatitis C testing and treatment requires movement of large numbers of prisoners to the health clinic (or permitted alternate locations) within the prison.

Alternatively, permission for healthcare staff to provide care in prison wings may be considered to ease logistical constraints. If a correctional officer escort is required for such movements or to supervise health-related interactions outside the clinic, workforce planning should consider: the projected need for additional allocation of correctional officer(s) based on the expected throughput of prisoners for testing and treatment, and whether the existing pool of officers on the roster can accommodate this need, or recruitment of new staff is needed.

Lesson learnt:
Large scale movements of prisoners

Issue

The workload for correctional officers scheduled to escort large numbers of prisoners to the health clinic for hepatitis C testing and treatment was not feasible on top of their existing role demands. Also, in some prisons hepatitis C testing was conducted in alternate locations, where there were no correctional officers available.

Resolution

The employment of a dedicated correctional officer or a small pool of officers on a roster who were dedicated to the task of escorting prisoners for hepatitis C testing and treatment was very effective. This required commitment and funding approval from the correctional authority.

"It works well with a dedicated officer to get the inmates, because then you're not taking away from somebody else who has extra stuff lobbed on them".

Correctional Officer

Resourcing

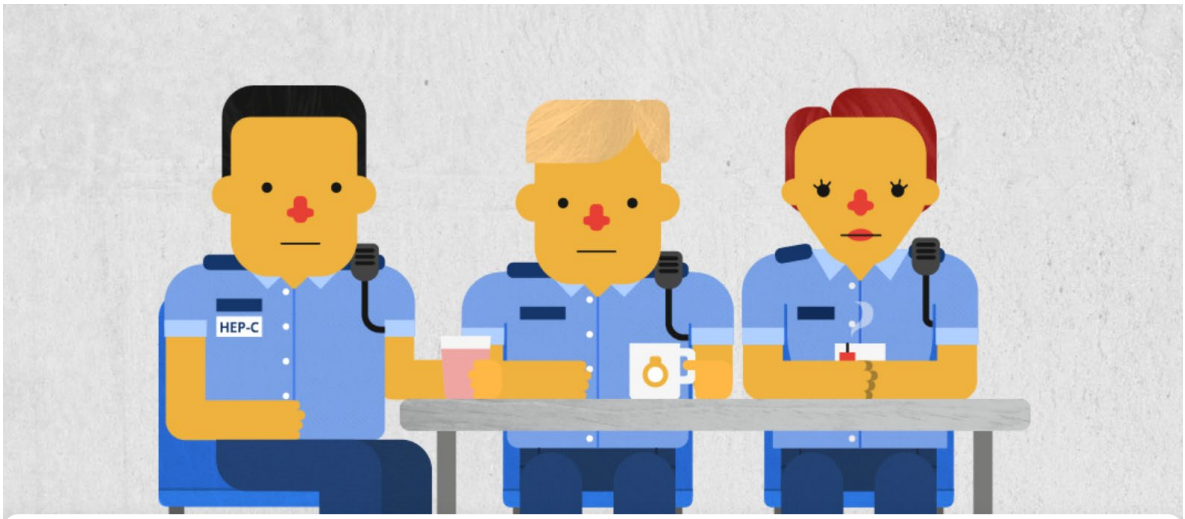
A specific budget allocation to facilitate scale-up is recommended. The primary budget consideration for the correctional authority is the workforce allocation to facilitate prisoner movements.

Other potential budget implications include the physical infrastructure costs associated with use of a suitable room for prisoner appointments, and any associated structural or equipment modification required; the cost of implementing or upgrading information systems, and preparation of the correctional data needed for monitoring and evaluation which may exceed routine data collection and reporting.

The costs associated with the participation by correctional personnel in the scale-up planning and project management committees should also be considered. Prisoners engaged in paid work whilst in prison may be disinclined to attend appointments for hepatitis C testing or treatment during work time. If possible, the correctional authority should absorb these losses within the prison industries budget.

Relatively cheap incentives for prisoners to participate in testing and treatment (such as barbecues for the prisoners on one wing – contingent upon participation) are very effective, along with incentives for correctional officers (such as a cake at morning tea) to gain their support for prisoner participation.

Please refer to the Resources page of the website (www.stopc.org) for examples of the SToP-C incentives for prisoners.



"Because the dedicated officer doesn't take away from our security budget… it does make it easier that it's funded from that because otherwise you're going to restrict things."

Prison Manager of Security

Data collection and information systems

Access to custodial data is critical for planning effective scale-up of treatment, including a regular record of the total population in the centre(s), as well as entry/exit dates.

When combined with testing and treatment datasets from the health service, this information allows regular review of the coverage (i.e. the number and proportion of all prisoners being tested, as well as the number and proportion of all prisoners diagnosed with chronic hepatitis C being treated). If possible this data is best obtained at the individual level with coding to link corrections and health datasets, within jurisdictional privacy regulations.

Lesson learnt:
Access to data

Issue

Testing and treatment scale-up requires regularly updated data regarding the number of individuals incarcerated within each centre (e.g. weekly or monthly) and movements between centres, as well as to/from the community. The most feasible method to collect and access this data should be considered during planning. Requests for site specific data from local centre management (e.g. general managers and managers of security) in the selected SToP-C prisons was unsuccessful.

Resolution

These data were ultimately provided by the centralised data management unit for the corrective service as a whole, after provision of one-off funding from the SToP-C project to cover the costs incurred in setting up automated regular reports from the correctional database

Considerations for communication, education and special populations

A communication plan should be developed as part of the overall scale-up plan. This should include updates about scale-up implementation and progress to correctional staff, correctional authorities, policymakers, community organisations, and managing release of information to the general community (where applicable).

Regular communications with correctional authorities by the project team should be followed by endorsement and dissemination of progress toward targets to all correctional staff by the prison governor or other senior personnel. Methods of dissemination may include newsletters, emails, or announcements during staff meetings, including introducing personnel acting as staff champions.

> **"I just think information is the key….if you're going to educate staff first and bring along whatever you've done in other centres to bolster that information, people are more palatable to a change that way."**
>
> **Correctional Manager of Security**

Knowledge, attitudes and stigma

Correctional staff have widely varied levels of awareness of hepatitis C and the highly effective DAA treatments, as well as the important role of the prison sector in regional and national elimination. Further there are widely varied attitudes towards the merits of hepatitis C testing and treatment of prisoners, amongst the correctional workforce.

Stigma attached to hepatitis C may prevent prisoners coming forward for testing and treatment thereby impeding scale-up. This may include punitive action taken by correctional authorities as a result of a prisoner being recognised to have hepatitis C, and therefore notionally associated with ongoing injecting drug use.

These knowledge gaps and attitudinal barriers may be overcome by provision of hepatitis C education to the correctional workforce. In addition, identifying strong champions within the correctional staff is very effective, as well as engaging supportive officer(s) who are dedicated to the scale-up project.

Stigma should be considered in planning communications with targeted messaging to correct misinformation, emphasise the prison-specific reduction in risks from needle-stick injuries associated with scale-up, the community-wide public health benefits, and the right of prisoners of healthcare equivalent to community standards. In addition, it remains important to maintain systems to ensure confidentiality of the hepatitis C status of individual prisoners, from correctional officers as well as other prisoners, when planning scale-up.

Please refer to the Resources page of the website (www.stopc.org) for examples of staff education and training materials, as well as SToP-C educational resources for prisoners.

"I just think information is the key....if you're going to educate staff first and bring along whatever you've done in other centres to bolster that information, people are more palatable to a change that way."

Correctional Manager of Security

Special populations

The characteristics of particular prisoner sub-populations may impact on the several aspects of planning the logistics of scale-up of hepatitis C testing and treatment, including those with a higher prevalence of risk behaviours such as injecting drug use, cultural sensitivities or stigma within ethnic minorities about hepatitis C infection, and restricted movement of prisoners in protection programs.

> **"If they're like smoking bupe or something and they're using somebody else's tube and that person's got hep C, it can easily be passed on through saliva…but is it faecal matter as well?"**
>
> **Nurse**

Health services - planning

Prison health services should work collaboratively with the correctional authority throughout the planning phase to ensure the proposed model is feasible and is supported by the prison management.

Workforce and other resource requirements

It is challenging and potentially unreliable for the health system to assess risk behaviours, and then ensure this is followed by timely testing and treatment of all positive prisoners.

Efficiencies can be gained by testing all newly incarcerated prisoners via universal opt out testing and initiating DAA treatment as soon as possible, so that transmission risk is reduced. Point-of-care testing, including via finger stick blood sampling, may be a very efficient means of achieving universal testing.

A combination strategy to screen both the existing population and newly incarcerated prisoners is recommended for scale-up.

> **"The project has actually made our job a lot easier because we've been so short-staffed for years and we haven't had a population health nurse here, so it has taken all of those people who want to be tested for hep C off our list."**
>
> **Nurse**

There is strong evidence for simplified models of care, with task transfer away from specialist physicians. The hepatitis C care cascade is very standardised, the assessment is no longer complex, and DAA treatment is both safe and highly effective (Overton, 2019, Papaluca 2019).

Such models typically involve hepatitis-skilled nurses or primary care practitioners managing the majority of prisoners. A small minority of prisoners, notably those with advanced liver disease or complex co-morbidities, may need to be trained for specialist review.

An estimation of the necessary workforce allocation of these providers for treatment scale-up should include:

- The estimated burden of chronic hepatitis C infection in the prison
- The desired rate of scale-up
- The expected patient throughput, including consideration of potential logistical barriers

It is important to note that the need for ancillary staff may increase, for example those responsible for managing drug receipt and storage in the pharmacy, and those providing supervised dispensing to prisoners.

Resourcing

High level organisational support is needed to secure an adequate allocation of the health services budget to hepatitis testing and treatment scale-up activities. In addition, consideration of simplified pathways for testing and treatment should be made – such as use of point-of-care tests for diagnosis, fibro-elastography or laboratory-based fibrosis assessment algorithms, and removal of on-treatment monitoring.

The following costs should be considered:

- Time commitments of primary care practitioners, nurses, and specialist physicians
- Pathology tests including specimen shipment costs
- Pharmacy services
- DAA medication purchase
- Fibro-elastography machines (if planned)
- Staff education and training
- Patient education

The planned mode of medication administration will have a significant impact on resourcing. Self-medication by prisoners is recommended, with weekly or monthly dispensing. This may require advocacy and negotiation with both the health service and correctional authorities.

Preparation of the health data needed for monitoring and evaluation of the scale-up plan may exceed routine data reporting and should be costed. The costs associated with the participation of health personnel in the scale-up planning and management committees should also be considered.

Lesson learnt:
Prisoner self-administered medication

Problem

In SToP-C, the correctional authorities harboured concerns regarding diversion of DAA medications to an illicit market (given their high purchase cost, and misinformation of the DAAs as being psycho-active). This concern was underpinned by a policy which mandated supervised daily administration of all medications. The time and personnel resources involved in such a dispensing approach significantly limited scale-up.

Recommendation

Promoting the need for large scale-up and the lack of psycho-active effects of DAAs to correctional authorities was successful in gaining agreement to allow almost all prisoners to self-medicate. Both rapid rate of scale-up and communication to prisoners that access to DAAs was unrestricted helped to diminish their notional value in covert prison currency. Integration of a nurse-led risk assessment of each prisoner prescribed DAAs ensured that only a small minority of prisoners with significant psychological illness or cognitive impairment, or those vulnerable to standover, continued to have supervised medication.

The large majority of people are now taking their pills on a daily basis in their cells, and not being required to come to the clinic. So that is a huge change and really opens up the overall capacity in terms of treatment.“

Nurse

Data collection and information systems

Understanding the extent and quality of the health information already being collected regarding the hepatitis C care cascade is important to enable monitoring and evaluation of scale-up. Information gaps or issues with access to data should be identified during the planning phase so that the potential to upgrade IT systems, supports and processes can be considered and costed.

IT support for data extraction and preparation of reports is also recommended. An electronic health record which allows identification of each of the events in the care cascade and the outcomes, as well as extraction of such results, is recommended.

Considerations for communication and education

The scale-up plan should include a strategy for communicating with health care staff regularly. Regular communications with health service leaders by the project team should be followed by endorsement and dissemination of progress toward targets to all staff by senior personnel. Methods of dissemination may include newsletters, emails, or announcements during staff meetings, including publicising staff champions (please refer to Resources page for examples of SToP-C newsletters).

Robust procedures for communication between health staff members are required for continuity of care, both across different prisons when prisoners are transferred, or upon release to freedom for those on DAA treatment.

All health staff should be engaged in diminishing the stigma and discrimination associated with hepatitis C infection.

Planning for inclusion of content addressing this in health staff orientation and education programs is recommended.

"Having hep C is bad… straight away people link it to injecting drug use… The stigma of hepatitis, I just want to get rid of it and be done with it… You're like a pariah."

Prisoner

Knowledge, attitudes and stigma

Although healthcare staff in the prison sector are generally aware of hepatitis C, amongst those not routinely participating in hepatitis care, there are widely varied levels of awareness of hepatitis C and the highly effective DAA treatments, as well as the important role of the prison sector in regional and national elimination. In addition, not all health care staff have positive attitudes towards the merits of hepatitis C testing and treatment of prisoners.

These knowledge gaps and attitudinal barriers may be overcome by provision of hepatitis C education. Stigma should be considered in planning communications with targeted messaging to correct misinformation, emphasising the right of prisoners to healthcare equivalent to the community, and endorsing the community-wide public health benefits and the prison-specific reduction in risks from needle-stick injuries associated with scale-up. In addition, it remains important to maintain a system to ensure confidentiality of the hepatitis C status of individual prisoners, from correctional officers as well as other prisoners, when planning scale-up.

Please refer to the Resources page of the website (www.stopc.org) for examples of staff education and training materials, as well as SToP-C educational materials for prisoners.

> **"My thoughts are that it sounds to be the right thing to do to offer these people [in prison] the ability to have treatments for the condition they have because it is treatable. And, and, if you treat them, the lower the likelihood that they'll give it to somebody else."**
>
> **Family Member**

To encourage testing and treatment for hepatitis C, prison-focused hepatitis education for all prisoners is warranted. Targeted campaigns to coincide with the initiation of scale-up, as well as ongoing education for new prisoners should be planned. Information on ways to access the hepatitis services should also be covered. Peer education programs may complement and enhance scale-up efforts by reaching disengaged prisoners. Approval of the correctional authority will be needed for such education programs and should be sought in the planning phase.

Special populations

The characteristics of particular prisoner sub-populations may impact on the several aspects of planning the logistics of scale-up of hepatitis C testing and treatment, including higher prevalence of risk behaviours such as injecting drug use, cultural sensitivities or stigma within ethnic minorities about hepatitis C infection, and restricted movement of prisoners in protection programs.

These issues should be considered in planning education programs, and the logistics of testing and treatment scale-up. Targeting groups (as opposed to individuals) for education, testing, and treatment may assist in reducing the stigma associated with hepatitis C infection.

> **"I've been chatting with my sistas (the Aboriginal women I hang out with) about getting tested, because I knew I was positive… We found out three of us were infected and so now we are all getting treated."**
>
> **Prisoner**

Step2: Implementation

Successful implementation of the scale-up plan for hepatitis C testing and treatment is dependent on sustained commitment from both correctional and health care staff, as well as cohesion between the key stakeholders, particularly including correctional and health service authorities.

Whilst the priorities and considerations for correctional authorities and health services vary, each should resolve requirements for workforce, other resources, data collection and information systems, communication, education, and special considerations, to ensure effective implementation.

Please refer to the Implementation Checklist on the Resources page of the website (www.stopc.org) for a summary of the issues which should be considered when implementing scale-up.

Lesson learnt:

The SToP-C program was successfully implemented sequentially in four correctional centres in New South Wales, Australia. A continuing improvement approach was adopted with successful initiatives from one centre then commenced in other centres (e.g employment of a dedicated correctional officer to support testing and treatment scale-up).

In this section:

Pilot

If the scale-up plan encompasses multiple individual prisons which form an organisational entity, a pilot should be considered in one or a small number of centres before jurisdiction-wide roll-out is considered. A short term pilot over 6-12 months should be undertaken in a centre(s) with characteristics suggesting good feasibility, as described below.

Issues

Choice of prison

Context

Suitable health clinic, existing hepatitis service, and good prisoner access windows.

Engagement of staff

Context

Correctional and health staff well-resourced and supportive.

Feasibility of evaluation

Context

Good correctional and health care data systems.

Prisoner Population

Context

Suitable characteristics including a high hepatitis C prevalence and a sufficient incarceration period for testing and treatment.

Lesson learnt:

The SToP-C program was successfully implemented sequentially in four correctional centres in New South Wales, Australia. A continuing improvement approach was adopted with successful initiatives from one centre then commenced in other centres (e.g. employment of a dedicated correctional officer to support testing and treatment scale-up).

Correctional Authority - Implementation

Approval by the correctional authorities is critical in implementing the local and system changes needed to support scale-up of testing and treatment.

Workforce

Although a dedicated correctional officer(s) to facilitate escort of prisoners to the clinic and to potentially act as a champion of scale-up is recommended, the practical issues associated with this appointment include:

- shortages in the correctional staff roster, such that recruitment must be undertaken to fill the role
- unpredictable incidents and operational priorities that result in the rostered officer being reassigned to other duties and not back-filled
- reluctance of some officers to be posted to this role (reflecting concerns regarding the perception of other officers against such a proactive role supporting the health care of prisoners)

Some of the challenges during implementation may be overcome by ensuring flexibility in the staffing model (e.g. use of casual staff), and targeted educational efforts to facilitate engagement of supportive officer(s). Informal and formal positive recognition of dedicated officers, for example in staff communications, awards or performance and promotion systems, may strengthen the perception of organisational support and foster engagement by correctional officers.

Lesson learnt:
Recruiting to the dedicated officer role

Issue

Difficulty with attracting dedicated officers to the 'escort officer' position was faced during the SToP-C program. This was due to philosophical objections to hepatitis C testing and treatment of prisoners, the potential backlash faced from other staff, and adverse implications for career progression, such as the inability in the role to earn penalty rates available for other evening or weekend shifts.

Resolution

Education regarding the goals of treatment scale-up and the potential benefits of harm minimisation reduced philosophical concerns among correctional officers. Local processes and potential contacts for the dedicated officer were outlined prior to appointment into the role. Wherever possible, officers selected for this dedicated position were recruited from within the prison, so that the designated officer already had well-established trusted relations with other officers and prisoners.

> **We need to identify champions at the correctional-officer level who will support the implementation of hepatitis c treatment in prisons [...] How can we develop correctional officer champions to support a hep-c-free prison?"**
>
> **Policymaker**

Resourcing

Negotiating the appropriate allocation of resources is pivotal to the success of implementation.

Staffing costs of dedicated correctional officer(s) are a significant budget item. As movements of prisoners within a correctional centre generally require an escort, and the scale-up plan involves an increased number of prisoner movements, provision of a dedicated officer to facilitate prisoner transport to and from the clinic enables a significantly higher rate of scale-up compared with reliance on officers already working in the prison.

Other expenses which need to be costed by the correctional authority include: the opportunity cost of using prison space or rooms for the scale up of hepatitis care, and any modifications to these rooms (if needed); staff education and training costs; rewards or recognition programs for staff contributing to the hepatitis service; and costs of preparing and extracting the data needed for the evaluation of the scale-up. A regular review of the budget is recommended to assist in making adjustments to meet performance targets.

Data collection and information

Provision of data on prisoner population sizes, intake of new prisoners, and inter-prison transfers and releases is needed to monitor and evaluate the effectiveness of scale-up. Approval by the central correctional data unit (if applicable) or prison governor for access to regular data reports should be negotiated by the scale-up team. The data specifications and processes for obtaining these data should be approved by the data custodian and documented.

Lesson learnt:
Permission to use electronic data capture

Issue

Permission of the correctional authority to use and store electronic devices for SToP-C data collection was needed given strict rules to avoid theft or misuse of electronic devices by prisoners. There were no standardised procedures or rules across all prisons.

Resolution

High level permission from the correctional authority was secured and documented in a letter signed by the organisational head. Negotiations relating to the conditions of use and storage then had to be undertaken with each prison governor. The ultimate approval often required all networking and camera capabilities to be disabled, and documentation of the serial number of each item to be maintained at entry into each prison.

Rules relating to equipment handling, storage location and access varied across prisons, and it was important that staff involved in data collection were aware of, and followed, these rules. Maintaining documentation of all approvals and processes is recommended given the turnover of prison management staff.

Lesson learnt:
Access to data

Issue

Testing and treatment scale-up requires regularly updated data regarding the number of individuals incarcerated within each centre (e.g. weekly or monthly) and movements between centres, as well as to/from the community. Requesting site specific data from local centre management (e.g. general managers and managers of security) in the selected SToP-C prisons was unsuccessful.

Resolution

These data were ultimately provided by the centralised data management unit for the corrective service as a whole, after provision of one-off funding from the SToP-C project to cover the costs incurred in setting up automated regular reports from the correctional database.

Lesson learnt:
Use of facilities other than the health clinic

Issue

There were inconsistencies in the approvals provided by individual prisons authorities on the constraints in the storage and use of venepuncture equipment. Some centres required dedicated safe and restricted use of equipment only in health care clinics, and others allowed venepuncture in non-traditional areas within the prison such as in work locations (which facilitated testing of large numbers of prisoners during work).

Resolution

A flexible approach to testing and treatment targets, resourcing, and timelines was applied, as a uniform strategy across all correctional centres was not feasible. Meetings with prisoner governors were important to negotiate alternative arrangements, for example after-hours visits for prisoners on day-work release. Support of senior correctional authority personnel was critical in negotiating approvals with individual prison governors. Maintaining records and documentation of approvals was important for continuity of practice when prison management changed.

Communication and education

Efficient movement of prisoners is a critical element of successful scale-up. Slow responses to movement requests are common, sometimes attributable to adversarial attitudes from both prisoners and correctional officers. Support for the testing and treatment scale-up from senior correctional staff and good communication between health and correctional staff are both key to resolving this barrier. Support of correctional staff is encouraged by both hepatitis C education and project-specific updates.

Targeted prison-focused hepatitis C education for correctional officers and for prisoners is a key element underpinning efficient scale-up (see Health services – implementation, Communication and Education). For correctional staff, this may include brief information as part of orientation and on training days, potentially with video resources and print material displayed in staff common rooms. This promotional material should emphasise the direct benefit to staff in terms of reduced occupational risk exposure resulting from reductions in the prevalence of hepatitis C in the prisoner population and hence reduced risk from needlestick injuries.

Please refer to the Resources page of the website (www.stopc.org) for examples of education and training materials.

The education should also emphasise the wider community benefit of prison-based scale-up of DAA treatment in reducing the prevalence of hepatitis C infection in the community. In combination, these messages should seek to resolve negative attitudes. Regular communications with correctional authorities by the project team should be followed by endorsement and dissemination of progress toward targets to all correctional staff in internal communications, such as newsletters via email, or conveyed during staff meetings including publicising staff champions.

Lesson learnt:
Navigating opposition in prison

Issue

The main concerns identified amongst correctional staff during the SToP-C program related to the notion of preferential treatment of prisoners (above community members), the significant cost implications (to Australian taxpayers who subsidise treatment of prisoners), as well as initial fears of the potential mood-altering effects of DAA treatments. These perceptions led to resistance from correctional officers against the project.

Resolution

These concerns were successfully resolved by education sessions for correctional officers. The key points covered in these education sessions included: the fact that treatment of prisoners was not preferential, (as there was broad access to DAA therapy in the Australian community); that DAA treatments had been shown to be cost-effective in reducing the future morbidity and mortality due to hepatitis C (largely via avoiding end-stage liver disease and its complications); and the benefits of reduced occupational risk via needlestick or other blood-to-blood contact. Finally, the lack of mood-altering effects associated with DAAs was emphasized, as well as the potential benefits of improved prisoner health, which may in turn result in a positive impact on behaviour.

"The SToP-C officer was the one who explained it in pretty easy to understand terms about what the goal of the program was."

Corrective Services Officer

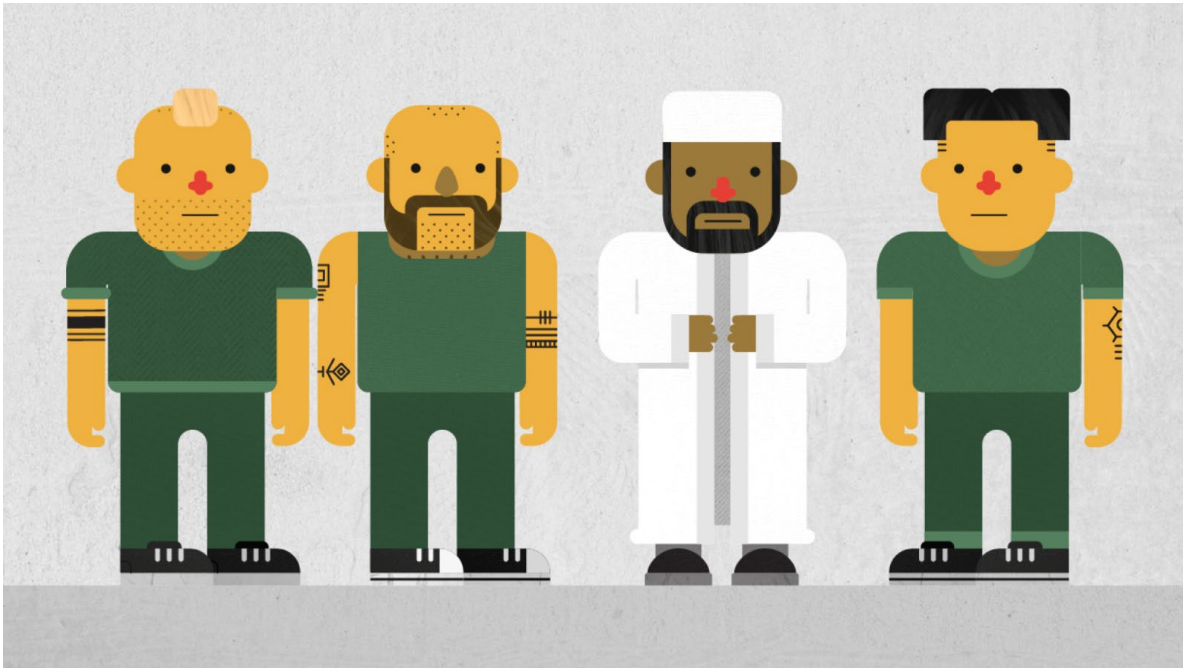
Prisoners often fear repercussions from corrective services, as a result of participating in testing and treatment for hepatitis C and indirect disclosure of their hepatitis C infection status and hence likely injecting drug use. This may be a significant barrier to prisoners presenting for screening and treatment. The location of the health clinic and consultation office should ensure privacy is maintained and attendance is not highly visible.

"We've broadcast it to staff and we've had staff presentations at staff meetings and even at our morning parade at 8 o'clock. I've told them about the results of this project and said, "This is what we've done, you know, the benefit to you is it's less inmates in here that have got hepatitis C, less likelihood of you getting it, you know". So it's what we're doing to help and making the staff aware, "You need to promote this". You need to support it because it wasn't being strongly supported by the whole of the staff in the centre."

Prison Governor

Special Populations

Cultural and ethnic minorities in the prison setting may be strongly influenced by their peers either in favour of treatment or against it. These groups may be engaged by ensuring key influencers from the group come forward for testing and treatment and then potentially act as champions to encourage others. Movement of prisoners within these ethnic or other groups, should ensure privacy is maintained and potential adverse incidents against individuals or groups are monitored by correctional staff.



"Say if they're in the bikie crew [gang member]... no way they'll come in [for testing]... because if it gets around that he's got hep C it will be an embarrassment and he's not going to buy drugs... They care about what people think, they care about their persona or whatever you want to call it..."

Prisoner

Health Services - implementation

The prison-based health services are pivotal to successful implementation as scale-up of testing and treatment is primarily a health intervention.

Workforce

As a health assessment of all newly incarcerated prisoners is typically undertaken in correctional systems, universal opt out screening at this time is recommended (Kronfli 2018). A model of care which maximises opportunities for testing and treatment of all prisoners, with simplified pre-treatment work-up and on-treatment monitoring, will assist in optimising scale-up (Mohamed 2020). Models which transfer tasks away from specialist physicians to primary care practitioners or nurses, who are skilled in hepatitis, offer improved efficiency (Overton, 2019, Papaluca 2019). A triage process can ensure the small minority of complex patients are referred for specialist review. In addition, use of telemedicine for these specialist interactions can further resolve delays associated with transfer to specialist clinics in hospital settings (Neuhaus 2018).

Maintaining skilled health care staff to run the model of care is also an important consideration. Staff availability may be constrained due to part time work arrangements, and a lack of suitably qualified staff in rural correctional centres. This may be overcome by development of standardised operating procedures for the care cascade and training multiple health care staff to manage hepatitis C testing and treatment activities.

Lesson learnt:

Treatment dispensing

Issue

In the initial phase of the SToP-C implementation, the corrections administrators stipulated daily supervised dispensing of the DAA medications. However, the large number of prisoners being treated and the relatively limited number of hours available for escort of individual prisoners to the health clinic for dispensing restricted the number of prisoners being seen, and therefore reduced treatment scale-up.

Resolution

Prisoner self-administration was then implemented following a triage assessment to select suitable prisoners. More than 80% of all prisoners were considered suitable for self-administration (please refer to the Resources page for the patient risk assessment tool used in SToP-C). Nursing staff were thereby freed up to perform other tasks.

Lesson learnt:
Maintaining qualified staff

Issue

A key issue observed during the SToP-C program was maintaining qualified and trained staff at the selected correctional centres, resulting in reduced productivity.

Resolution

Various staffing models were attempted, including nursing teams working together where administrative and clinical care tasks were shared to better manage the workload for greater coverage. This was negotiated with each individual centre, to address whether the clinic space could accommodate the team, as well as the provision of alternate space within the prison as a workaround, reiterating the importance of partnerships between corrections and health services. In addition, job advertisements in local media, and via local hospitals and health districts assisted in recruiting suitably qualified staff for the roles.

Resourcing

Mobilising the resources required for effective testing and treatment scale-up is vital for successful implementation. Ensuring adequate clinic space is allocated to the scale-up project will assist in optimal prisoner throughput, and thence treatment numbers. Non-traditional locations (i.e. outside the health clinic) can be utilised for patient review sessions which do not involve venepuncture, or portable kits for safe and secure handling of venepuncture equipment including sharps disposal may be explored with correctional authorities, ideally with storage nearby to the spacE where clinical interactions take place.

Lesson learnt:
Permission to use clinical equipment and supplies in alternate locations

Issue

As health clinic space was limiting scale-up, options for alternative locations were explored with the correctional authority. This included use of such space for clinical interactions including venepuncture, and secure storage of clinical supplies. No guideline for such approvals was in place across the correctional authority.

Resolution

Agreement with the manager of each prison was reached. There were inconsistencies in the approvals provided on the rules for storage and use of venepuncture equipment across different correctional centres. Some centres required a dedicated safe for medication and restricted use of equipment to health care clinics, and others allowed venepuncture in non-traditional areas within the prison (e.g. in work locations).

As the prisoner population includes many people who inject drugs (PWID), poor venous access is a common problem. The time taken for the health care consultation may be greater in this circumstance, thereby reducing the prisoner throughput. Access to ultrasound-guided phlebotomy, as well as specialist phlebotomists may assist in these circumstances. Alternative strategies may include salivary testing for hepatitis C antibodies and fingerstick blood sampling to test for viraemia (Mohamed 2020).

Self-administration of DAA medications offers an important means to support scale-up. However, if self-administration is associated with poor treatment adherence the individual and population-level benefits may be lost. Such non-adherence may result from the prevalent co-morbidities amongst prisoners including mental health conditions, limited cognitive capacity, as well as diversion as a result of stand-over by other prisoners. Accordingly, triage for self-administration is recommended, taking these factors into account (Please refer to the Resources page of the website (www.stopc.org) for self-medication suitability assessment tool). Optimal adherence may also be supported by provision of targeted education to those on treatment.

Lesson learnt:
Self administration of medication

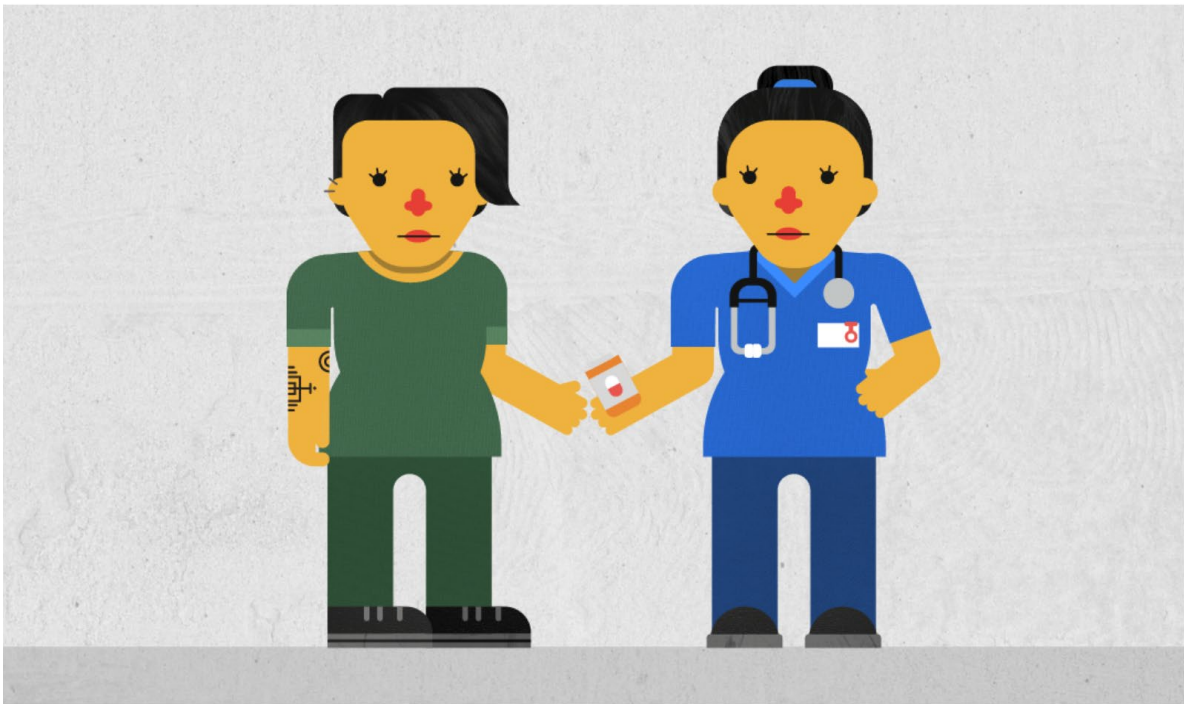
Issue

A requirement for daily supervised dosing is resource intensive impedes the efficient scale-up of treatment. A process was needed to ensure appropriate assessment of prisoners for self-administration of DAAs, so that large numbers of prisoners could be treated but those needing supervision were identified.

Resolution

During the SToP-C program, patient risk assessments were completed prior to allowing self-administration of medication. Education resources provided to the prisoners also included messaging regarding the importance of treatment adherence, as well as tolerability and the low side effect profile of DAA therapy. Dosing instructions were tailored to individuals who were receiving concomitant medications, and viral load was tested at 4 weeks following therapy initiation to evaluate adherence and determine whether supportive counselling was required.

"There was a few boys here that were forgetting. I would just have to remind them. I was that one saying "you take your pill today?"
Prisoner



Frequent movements for transfers between correctional centres or for release to freedom, provide a significant challenge to the continuity of care for those on DAA treatment. For correctional system-wide scale-up efforts all health care staff should be educated about hepatitis C testing and treatment to support continuity of care. For those released to freedom, all of the remaining DAA medication to complete the course should be provided to the prisoner on release, along with arrangements for suitable medical follow-up (e.g. for SVR testing) in the community.

Additional harm minimisation interventions should be encouraged during and after DAA treatment to support scale-up and TasP. In the community, the combination of OAT and NSP at high coverage has been shown to reduce HCV transmissions. In the prisons, the measures include regular use of bleach or disinfectants to cleanse injecting devices, provision of OAT, and NSPs where available.

Data collection and information systems

In addition to the regularly updated correctional data regarding the prisoner population, tracking the scale-up of testing and treatment in the health service is critical. This is best completed with individual level data collected in coded format to allow linkage to the correctional dataset. These data should monitor each milestone in the hepatitis care cascade, including those who have participated in each step and the outcome of that step.

- Education of the at-risk population to get tested
- Screening for hepatitis C antibodies and virus (by PCR)
- Clinical and laboratory assessments of those with chronic hepatitis C
- Prescription and provision of DAA medication
- Monitoring after treatment completion for cure (or sustained virological response, SVR) by PCR
- Monitoring after cure for reinfection in those with ongoing risk behaviour
- Retreatment of those who become reinfected

In addition, access to records of those who discontinue the care cascade due to being released to freedom or transferred (and lost to follow-up) should be obtained if possible.

The use of standard proformas is an essential element of hepatitis testing and treatment scale-up, to ensure uniformity across centres (please refer to Resources page for examples of SToP-C clinical proformas).

Specimen transport systems for timely shipment of blood samples to external laboratories for diagnostic pathology testing should be put into place, or existing systems enhanced to manage the increased throughput during scale-up. Laboratory capacity should also be assessed, to ensure capacity to receive and test samples, and provide laboratory reports in a timely manner.

Information systems to support continuity of care for those who are transferred or released to freedom are important, notably via timely data collection with shared access to systems recording key information regarding all prisoners commenced on treatment.

Communication

Forming and maintaining collaborative relationships with all stakeholders is critical for successful implementation of hepatitis C testing and treatment scale-up. Once the project team has been developed, all relevant internal and external stakeholders should be identified, to ensure support and avoid impediments to the project. The stakeholders should include individuals or groups who are interested in, or may be affected by, the implementation of the testing and treatment scale-up. These would typically include funding bodies, correctional authorities, health authorities, prisoner representatives, as well as key consumer group and ethnic minority group representatives.

A communication strategy should be developed, to address the needs of all stakeholders. This should include regular updates regarding the status of implementation of the testing and treatment scale-up, tailored to suit the various stakeholder groups. Information sheets and other promotional materials, as well as opportunities for face-to-face information provision may assist with maintaining engagement of the stakeholder groups throughout the testing and treatment scale-up. This may include provision of quarterly updates, articles in newsletters, and annual meetings with progress reports (please refer to Resources page for examples of SToP-C newsletters and stakeholder communications).

Regular combined meetings with health and correctional staff directly involved in the scale-up and prison management are important to ensure harmonised implementation. These communications with health service leaders by the scale-up team should be followed by endorsement and dissemination of progress toward targets to all staff in internal communications such as via newsletters, email, or conveyed during staff meetings, including publicising staff champions.

Lesson learnt:
Establishing open communication

Issue

There was a high turnover of prison-based managerial staff in all four SToP-C centres.

Resolution

Regular site visits and phone calls with the managers of security and nurse unit managers at all four sites were arranged during SToP-C. This was undertaken by the project team and the local staff, to ensure continuity of the project. Moreover, these regular methods of communication acted as a forum of discussion to overcome any operational barriers that arose during the study, which assisted in strengthening the relations between corrective services and health care management teams.

Management of prisoners with chronic hepatitis C and with other health conditions mandates open lines of communication between hepatitis service staff and other health care providers, such as mental health and drug and alcohol services, to harmonise health care priorities and interventions and to prevent miscommunication of roles and responsibilities.

A handover mechanism for communication between health care staff on transfer of those on DAA treatment between prisons, to ensure continuity of care, should follow existing health service processes. The impact of frequent prisoner movements such as transfers between centres, and release to freedom should be considered. These instances necessitate protocols and procedures for redirection of medication supplies, as well as arrangements for clinical follow-up. All health care staff should be educated about hepatitis C testing and treatment to ensure continuity of care.

Lesson learnt:

Continuity of care for prisoners transferred to a new prison or released

Issue

Frequent prisoner movements between prisons require systems for the redirection of medication and clinical follow up in real time. Also, a challenge for prisoners commenced on DAA treatment is ensuring continuity of care when released to freedom, particularly when this release occurred 'unexpectedly' immediately following a bail or parole hearing.

Resolution

Close cooperation with correctional authorities was necessary to ensure timely provision of information regarding prisoner transfers. Health staff followed up with hepatitis nurses at new prisons to ensure arrival of remaining medication at the new prison, and made appointments for the transferred prisoner at the receiving prison via the electronic patient administration system. Correctional staff were regularly reminded of the importance of allowing for opened bottles held in the prisoner's cells to be transported with his/her other possessions.

Health staff monitored anticipated court dates indicating possible release, and also asked the prisoner at regular intervals of the anticipated remaining time in custody. If health staff anticipated release, they ensured all residual medication for the treatment course was available to the prisoner and a follow-up referral for health care in the community was provided. A card containing contact information of the project team was also provided, to allow the prisoner or their health care providers in the community to make contact to access the medication and clinical information.

Education

Education of all members of the health care staff, especially those not usually engaged in hepatitis care (such as psychiatrists, psychologists, drug and alcohol clinicians) will improve knowledge, and attitudes towards scale-up of hepatitis C testing and treatment in the prisons. Such education may include information provided as part of orientation, as well as ongoing training days, potentially with video, online and print resources. This will assist in development of a positive environment regarding hepatitis C testing and treatment in which prisoners can easily approach any member of the workforce to access hepatitis services (Please refer to the Resources page of the website (www.stopc.org) for examples of staff education and training materials).

For prisoners, the starting point for engagement with prisoners is education to improve knowledge and to modify attitudes and trust. Education programs should aim to raise awareness of the simplicity, effectiveness, and benefits of prison-based testing and DAA treatment. The education program should be prison-focused and include multiple modalities including print, video, as well as face-to-face campaigns in health promotion days. (Please refer to the Resources page of the website (www.stopc.org) for examples of SToP-C prisoner education materials).

Those who are unaware of hepatitis C, or who place other personal priorities above hepatitis C infection, or are distrustful of health services may remain unlikely to participate in testing or treatment programs. Hence, the education program should include a peer-to-peer approach, recognising that literacy levels are generally low, and that messaging needs to be engaging for prisoners. Peer educators may be selected from amongst the prisoner population on the basis of: correctional authority support for the individual, established peer prisoner recognition, and a suitable anticipated length of stay in the centre.

Both a training and support program for these peer educators, as well as simple graphic-rich resources to support the peer-to-peer interactions in the wings, are key.

Content should include information about:

- Ways to access hepatitis services
- The notion that it is okay to be retreated for those who become re-infected
- Available prevention measures

(Please refer to the Resources page of the website (www.stopc.org) for examples used in SToP-C).

> **"There are still barriers. There's definitely a group of individuals who presumably have chronic hepatitis C who are pretty stand-offish about the health sector, pretty distrustful of whoever it is in that health hierarchy. And that's a big enough disincentive that they won't come forward. Hard for us to know how big that group is but, but I'm pretty sure they're there."**
> **Advocate**

Lesson learnt:
Education resources for prisoner engagement

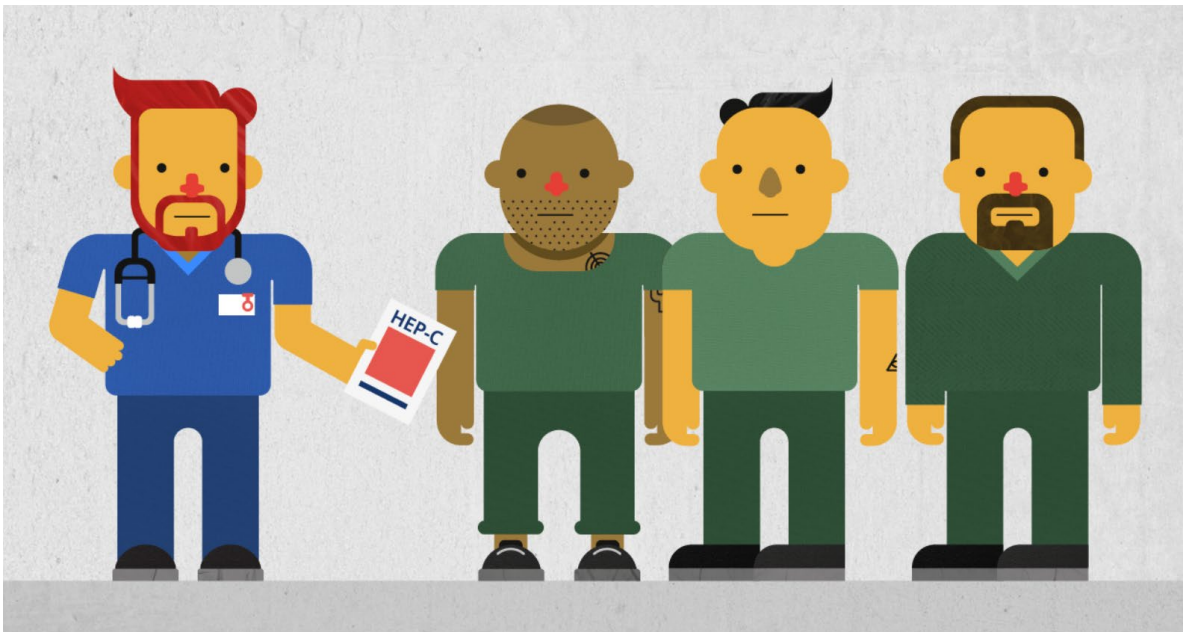
Issue

Low levels of prisoner knowledge about new hepatitis C treatments was identified as a potential barrier to treatment uptake when DAA therapy was first available. Experience or perception of unpleasant side effects, related to the old interferon-based therapy, was a fear held by many prisoners. There was a need for a comprehensive education campaign to inform prisoners about the new, oral, safe, curative, DAA medications.

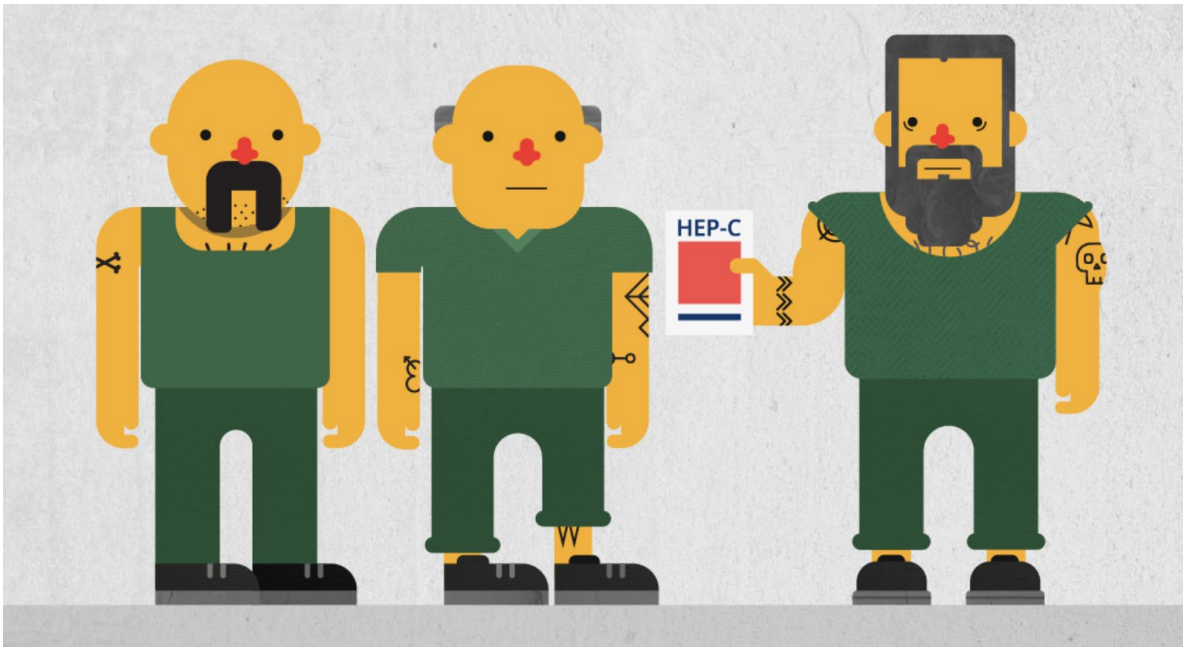
Resolution

During the SToP-C program, prisoner education resources including posters, booklets and videos were developed and approved by the correctional authority. Negotiations with the various prisons was necessary to agree on methods and locations of distribution of these materials, such as in the clinics, wings and educational centres. The video was displayed on loop via the prison-wide audio-visual system so that it could be viewed by prisoners on their cell televisions, or in other common areas. The messaging and graphics in these resources had input from prisoners to ensure suitable language and engaging content. The resources were tailored for low literacy levels and adapted for men and women. Simple messaging and calls to action were used. The need for testing, regardless of risk behaviours, was promoted to encourage all prisoners to get tested and mitigate stigma attached to doing so.

”Well the new ones [the DAAs], it’s just you don’t even know that they’re doing the treatment, because there’s no side effects. It doesn’t make you crook or anything.”
Prisoner



“The wing I was in had a few boys on it [treatment] at the time and I know a few other boys that had got hep C that I was trying to suggest we get in and they get the blood tests. So, yeah, we all talk to each other, see how we’re going on the treatment, you know.”
Prisoner



Furthermore, all staff in contact with prisoners should be capable of providing advice and facilitating referral for testing and treatment. Models of care which integrate hepatitis C testing and treatment into the clinic are recommended to reduce stigma.

Health service staff should recognise the importance of ensuring that confidentiality is maintained and be aware of the potentially negative connotations of a hepatitis C diagnosis, and the misperception that it implies current injecting drug use. Prisoners visiting the clinic for testing and treatment are often concerned they may be 'outing' themselves as potential injecting drug users. In prisons where stigma surrounds potential implications around injecting drugs, prisoners may be reluctant to get tested and therefore treated.

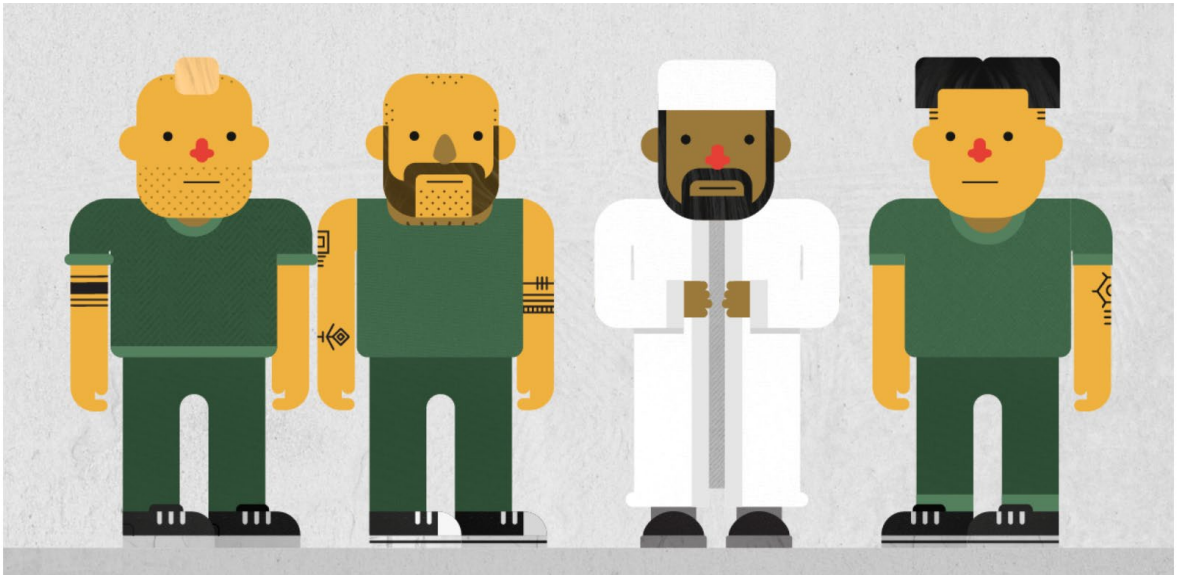
For treatment as prevention to be effective, large numbers of prisoners must be tested and treated to reduce transmission. Confidentiality assurances through education materials are useful in developing a trusting environment for prisoners to present to the clinic. Moreover, prisoners should be discouraged from disclosing specific injecting events which may trigger legislated reporting by health staff to correctional authorities.

"I didn't want to share it [that I had hep C] too much because everyone's got their own opinion and they like to judge people, so I kept it quiet first. You know, there's a bit of a stigma that goes along with it."
Prisoner

Special populations

Testing and treatment protocols may need to be adapted around cultural sensitivities or norms. Staff should be trained in cultural sensitivity towards special populations, and additional time allocated to prisoner interactions. Education should be tailored to meet the concerns of specific groups, and translated into languages prevalent amongst the prisoner population. Peer education delivered by influential prisoners, or a respected cultural or religious leader is recommended. With such support, targeted testing and treatment plans may be aimed at groups known to have a high prevalence of hepatitis C infection or with high rates of risk behaviours.

They could be feeling like they are in trouble if they were to come up to the clinic and try and do something about [hep C] anyhow, because they'll be thinking everyone else will find out they've got hep C if they are doing the hep C program and that'll put … they might not be part of that crowd anymore.
Prisoner



Step 3: Evaluation

Evaluating the testing and treatment scale-up should include the assessment of both processes and outcomes.

Process evaluations assess what was implemented and how well it was implemented, whereas outcome evaluations examine whether a program has the intended effects for the target population. The evaluation for the SToP-C study included qualitative and quantitative assessments of the processes and outcomes, as well as mathematical modelling of the epidemiological impact, cost-effectiveness and budget impact of prisons-based DAA treatment scale-up within the prisons and on the wider community.

In this section:

Process evaluation

The potential questions to be asked and answered in the process evaluation include measures related to each milestone in the hepatitis C care cascade.

Examples of such questions are provided below.

Milestones

Education

Question	Desired Outcome
How many education sessions or educational resource exposures happened for health care providers?	Significant improvements in knowledge, attitudes, and behaviours of health care providers, correctional officers and prisoners towards hepatitis C testing and treatment should be measured using validated tools.
How many education sessions or educational resource exposures happened for correctional officers?	
How many education sessions or educational resource exposures happened for prisoners?	

Screening

Question	Desired Outcome
How many prisoners had risk behaviour screened?	Good coverage – the proportion of all prisoners, and those at risk, who were tested and were diagnosed with chronic hepatitis C?
How many prisoners had hepatitis C antibody testing?	
How many prisoners had hepatitis C PCR testing for viraemia?	

Prescription and provision of DAAs

Question	Desired Outcome
How many prisoners commenced DAA treatment?	Good prescribing and dispensing systems – the proportion of all those prepared for treatment who actually commence DAA treatment

Monitoring for cure

Question	Desired Outcome
How many prisoners who initiated treatment were cured?	Good treatment adherence and follow-up – the proportion of those treated who are cured.

Monitoring for reinfection

Question	Desired Outcome
How many prisoners who were cured become reinfected when monitored regularly?	Good surveillance for reinfection – the proportion of those who were cured who become reinfected. The proportion who were provided access to harm reduction measures.

Retreatment

Question	Desired Outcome
How many prisoners were retreated?	Timely and broad retreatment for prisoners who have relapsed post-treatment or who become reinfected - time to retreatment, and proportion of those those relapsing and reinfected who go onto retreatment.

In addition to these positive process measures, it is also important to consider: the challenges faced in engaging prisoners in testing and treatment, and solutions which made the implementation process more efficient and acceptable; the resources required to achieve scale-up, and declines in other health care activities resulting from the hepatitis testing and treatment scale-up.

Outcomes evaluation

The evaluation of outcomes relate firstly to scale-up and secondly to treatment-as-prevention (TasP). For scale-up the outcome analysis should consider the rate of uptake and completion of the care cascade prior to implementation with the rate following implementation – particularly, increases in the number of prisoners diagnosed with chronic hepatitis C and initiated on DAA treatment.

For the TasP outcome, the analysis should examine whether there has been a reduction in the number and rate of new infections (including primary and reinfections) associated with the scale-up of hepatitis C testing and treatment.

Step 4: Dissemination

Targeted communication with key stakeholders is important in all phases during the establishment and scale-up of services. Partnerships should be established and formalised to help with engagement and communication.

How should information be disseminated?

In order to maximise the impact of interventional health research findings on healthcare in a complex environment such as the prisons, an assessment of the practical issues that support or inhibit uptake must be undertaken, and the extent to which a program can be adapted to meet variations in local circumstances recorded. With this information policy makers and providers can ensure widespread implementation into usual practice.

A dissemination plan should be developed, outlining the messages and methods of communication, tailored to each target audience.

- The plan may utilise methods such as:
- Formal reports to organisational heads
- Newsletters and fact sheets for corrections and health organisation staff
- Media releases as well as social media accounts for the public

A specific dissemination strategy for family members of prisoners should be considered. This presents an opportunity for education, and if necessary, linkage of both prisoners and their family members to hepatitis testing and treatment services in the community. Potential times or places to provide such information include visitor waiting rooms, family days, and through organisations supporting families of prisoners.

Who should be considered in the target audience?

The dissemination plan should include communication of an introduction to the program, as well as its progress and the outcomes achieved, at regular intervals to key audiences, including:

- Policymakers at the local, state, or federal level
- Funding agencies
- Prison directors and senior management
- Custodial staff
- Prison healthcare staff
- Prisoners
- Family members of prisoners
- Consumer advocacy groups representing prisoners, people living with hepatitis C, and people who inject drugs
- General public/community members

More broadly, an understanding of the general community support or potential resistance to health care programs targeting prisoners will help to formulate pre-emptive strategies to handle negative media coverage. The messaging should focus on benefits to the general community, in terms of reduction in overall prevalence of chronic infection (as most prisoners are released back to the community) and the associated burden of disease on health care services in the community, as well as reduction in the risk of further transmissions both within prisons and following release.

The partnerships with community organisations advocating for the health and wellbeing of prisoners, people living with hepatitis C, and people who inject drugs, are important to lend credibility to the scale-up efforts and to facilitate successful communication. This approach is important to ensure appropriate engagement and reporting of outcomes, and to mitigate any potential backlash in the community.

Acknowledgements

The Kirby Institute

The Kirby Institute is a major research organisation in Australia conducting research into the clinical and epidemiological aspects of blood-borne virus infections, including hepatitis C and HIV. The research has a particular focus on marginalised populations, including people who inject drugs and prisoners.

For further information see: **kirby.unsw.edu.au**

Organisational partners

The STOP-C study was a partnership project led by The Kirby Institute, UNSW Sydney, in collaboration with the following organisations:

- NSW Health
- Justice Health and Forensic Mental Health Network
- Corrective Services NSW
- Hepatitis NSW
- NSW Users and AIDS Association
- Community Restorative Centre
- Centre for Social Research in Health, UNSW Sydney

SToP-C Investigators

Andrew Lloyd

Professor Andrew Lloyd was co-chief investigator of the SToP-C project. He is an infectious diseases physician, and an epidemiology, virology and immunology researcher. He is the Head of the Viral Immunology Systems Program (VISP) in the Kirby Institute, UNSW Sydney. He also provides clinical services in infectious diseases at Prince of Wales Hospital, Sydney and hepatology services to Justice Health in the New South Wales prisons.

Gregory Dore

Professor Gregory Dore was co-chief investigator of the SToP-C project. He is a clinical epidemiologist and Head of the Viral Hepatitis Clinical Research Program in the Kirby Institute, UNSW Sydney, and an infectious diseases physician at St Vincent's Hospital, Sydney, Australia, and the Parklea Correctional Centre.

Jason Grebely

Professor Jason Grebely is a clinical epidemiologist in the Viral Hepatitis Clinical Research Program at the Kirby Institute, UNSW Sydney. His research activities are mainly focused on the epidemiology and natural history of hepatitis C virus infection, strategies for enhancing assessment and treatment of hepatitis C virus infection in people who use drugs, and other harms that may occur from drug use.

Carla Treloar

Professor Carla Treloar was the senior investigator for the SToP-C qualitative research component. Carla is Director of the Centre for Social Research in Health and the Social Policy Research Centre at UNSW Sydney. She is a primarily qualitative researcher and is grounded in the disciplines of health and social psychology, public health and health policy. Her research focus is in the fields of hepatitis C and injecting drug use.

Georgina Chambers

Associate Professor Georgina Chambers led the SToP-C health economic evaluation. Georgina is the Director of the National Perinatal Epidemiology and Statistics Unit, UNSW Sydney. She has research experience in the Australian public and private healthcare sectors in public health research, health economics, medical science and health services management.

Natasha Martin

Associate Professor Natasha Martin was co-lead investigator on the SToP-C mathematical modelling. Natasha is an infectious disease economic modeler who develops dynamic transmission models to evaluate the impact and cost-effectiveness of public health interventions. She is an Associate Professor in the Division of Global Public Health, Department of Medicine at the University of San Diego and holds an honorary senior lecturer position in the School of Social and Community Medicine, University of Bristol.

Peter Vickerman

Professor Peter Vickerman was co-lead investigator on the SToP-C mathematical modelling. Peter is a Professor in infectious disease modelling at the University of Bristol and has an honorary position at the London School of Hygiene and Tropical Medicine. His research focuses on the use of mathematical modelling to help understand the transmission of different infectious diseases and impact and cost-effectiveness of prevention measures.

Other SToP-C Researchers

Behzad Hajarizadeh

Dr Behzad Hajarizadeh led the primary analysis of the SToP-C project. Behzad is a clinical epidemiologist in the Viral Hepatitis Clinical Research Program at the Kirby Institute, UNSW Sydney. His research is focused on the epidemiology and natural history of acute and chronic hepatitis C infection and re-infection; hepatitis C management and barriers to care in the prison setting and among people who inject drugs.

Janaki Amin

Professor Janaki Amin was the SToP-C study statistician. Janaki is an epidemiologist and biostatistician. Her primary activities and interests include design and analysis of clinical trials and data linkage studies, and analysis of cohort studies. A significant body of her expertise has arisen from data linkage studies of cancer and mortality among people notified with hepatitis B or C.

Lise Lafferty

Dr Lise Lafferty led the qualitative research work related to prisoner and prison staff perspectives. Lise is co-appointed to the Centre for Social Research in Health on a number of studies pertaining to people living with BBVs, people who inject drugs, and people in prison; and at the Kirby Institute on a study promoting point-of-care sexual health testing in Aboriginal communities.

Jake Rance
Dr Jake Rance led the qualitative research work related to policymaker perspectives. Jake works at the Centre for Social Research in Health (CSRH) and has worked for many years in harm reduction services. He has a disciplinary background in philosophy, politics and cultural studies.

Marianne Byrne
Marianne Byrne coordinated the SToP-C project. Marianne is a Clinical Trials Manager with qualifications in public health, project management and clinical trials management. She works across both the Kirby Institute and National Drug and Alcohol Research Centre at University of New South Wales.

SToP-C Nurses

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Ronella Williams
Brigid Cooper
Camilla Lobo
Carina Burns
Kelly Somes
Karen Conroy
Anoop Kaur

SToP-C Dedicated Correctional Officers

Carolyn Cafe
Jodie Anlezark

Implementation Committee

The Implementation Committee is a sub-committee of the SToP-C Protocol Steering Committee. Throughout the duration of the project, the Implementation Sub-Committee advised on and contributed to the development of the implementation plan and this toolkit. Key aspects included: development of processes for collection of key information to inform the toolkit; documentation of barriers, obstacles and solutions throughout all phases of the project; assessment of key scalability considerations; and integration with policy.

Andrew Lloyd (Chair)
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Jason Grebely
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Marianne Byrne
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The draft Implementation Toolkit was also reviewed and received input from the following external reviewers, involved in hepatitis C care and service delivery in prisons both in Australia and internationally:

Matthew Akiyama
Joaquin Cabezas
Nadine Kronfli
Josiah Rich
Mark Stoove
Alexander Thompson
Karla Thornton

Qualitative research investigators

The social researchers developed and conducted qualitative research interviews throughout the project with key stakeholders, to assess the acceptability of the intervention, prisoner and provider attitudes and perceived barriers, and perceptions of what should constitute a program of HCV prevention in correctional centres beyond the treatment as prevention paradigm.

Participant interviews included prisoners, correctional staff, prison health staff, senior bureaucrats in health and correctional authorities, expert stakeholders, and policy makers.

Carla Treloar
Centre for Social Research in Health, UNSW Sydney

Lise Lafferty
Centre for Social Research in Health, UNSW Sydney

Jake Rance
Centre for Social Research in Health, UNSW Sydney

Mathematical modelling investigators

Mathematical modelling was performed during the study using SToP-C year 1 surveillance data to model the number of prisoners required to be treated to demonstrate a significant reduction in incidence. The modelling performed after study completion included the contribution of Stop C prison treatment to observed declines in HCV incidence in the STOP-C study, the potential impact of prison-based interventions on HCV transmission among PWID and their importance for HCV elimination.

Natasha Martin
Division of Infectious Diseases and Global Public Health, University of California San Diego

Peter Vickerman
Bristol Medical School, Bristol University

Jack Stone
Bristol Medical School, Bristol University

Health economics investigators

The cost-effectiveness of scaling up HCV treatment as prevention and budget impact was evaluated in the context of the NSW prison system.

Georgina Chambers
National Perinatal Epidemiology and Statistics Unit, UNSW Sydney

Protocol Steering Committee members

The SToP-C project was guided by a Project Steering Committee which will include the chief investigators of the project and representatives from Justice Health and Forensic Mental Health Network, the Department of Corrective Services, NSW Health and consumer organisations (Hepatitis NSW, NSW Users & AIDS Association, and Community Restorative Centre).

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Education Resources Committee members

The Education Resources Committee is a sub-committee of the Protocol Steering Committee. It acted in an advisory capacity to guide the development and evaluation of resources. A creative agency, Utility Creative, was contracted to for the aesthetic, branding, design, and creation of materials.

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Mary Ellen Harrod
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Daniel Potenza
Utility Creative

Marianne Byrne
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FAQ

Why bother with DAA treatment in the prisons?

There are multiple reasons for developed societies to implement DAA treatment in the prison, including the high prevalence of chronic hepatitis C in the prisoner population and the dynamic nature of that population (that is frequently circulating back into the community), the similarly high incidence of new infections occurring in the prison setting, and the window of opportunity for very effective health care provision to a population often marginalised from community-based services.

Is scale-up of treatment and TasP a replacement for other harm reduction measures, such as needle syringe programs (NSP) and opioid agonist treatment (OAT)?

No, the data from SToP-C indicates that scale-up of DAA treatment in the prisons can significantly reduce transmissions, but to achieve and sustain a major reduction in incidence both DAA treatment and integrated harm reduction measures are needed.

What are the most important elements of the implementation plan?

All of the elements of the plan and the implementation are important. Prisons are complex environments in which to provide health services, and so each aspect - if left untouched - has the potential to undermine success. This ranges from insufficient clinic space, to unsupportive attitudes of staff, or lack of awareness amongst prisoners.

How should the plan be implemented if there are no data on the prevalence or incidence of hepatitis C infection?

It is reasonable to look to comparable prison systems in other regions or in other countries to provide an estimate. The evaluation plan of the DAA scale-up should include establishing data collection to record testing and treatment uptake rates as well as chronic hepatitis C prevalence. If possible, it is also important to screen for new infections and reinfections to allow measurement of the TasP benefit.

How much does the scale-up program cost?

The costs of the program and the economic benefits to both the health and corrections organisations are being evaluated and will be published and updated on this website.

Terminology

Access
The provision of an opportunity for a health, or other, activity necessitates the prisoner being released from their cell and often escorted by a correctional officer to another location – this is often termed '…accessing the prisoner'.

Care cascade
The sequential steps undertaken by healthcare workers to engage, diagnose, treat, cure, and monitor individuals at risk of, or infected with, hepatitis C.

Direct acting antiviral (DAA)
Medications that target hepatitis C virus replication. DAAs have high cure rates following a short course of treatment, and very few side effects.

Escort
The process of supervised transfer of a prisoner from one location to another by one or more correctional officers.

Health clinic
A room or rooms in the prison dedicated for use by health staff to deliver health services to prisoners. The available space is often very limited.

Implementation
To put in place the infrastructure, resources, and processes to establish an effective hepatitis service.

Let-go
A systematic process during which prisoners are released from their cells by correctional officers, and allowed access to other parts of the prison, such as exercise yards, activities halls or workplaces.

Lockdown
An action taken by prison management and staff to control the movement of prisoners, typically by confining prisoners to their cells. This may be part of the usual prison routine, or unscheduled to cope with unplanned events such as security incidents or correctional staff shortages.

Movements
The highly organised transfer of prisoners between different prisons, to the courts, or internal escort to a different part of the same prison. This often requires complex logistical and security planning.

Needle and syringe program (NSP)
Provision of sterile injecting equipment with an aim to prevent transmission of blood borne viruses.

Opioid agonist therapy (OAT)
Treatment for addiction to opioid drugs (e.g. heroin, oxycodone, fentanyl). OAT medications include methadone and buprenorphine.

Polymerase chain reaction (PCR) test
A commonly used technology used to detect the genetic material (the ribonucleic acid or RNA) of the hepatitis C virus, and hence diagnose current hepatitis C infection.

Prisons
A collective term including jails (gaols) and other correctional centres in which inmates (or prisoners) are legally held as a punishment for a crime, either prior to conviction (remand) or following sentencing.

PWID
People who inject drugs.

Remand
The status of individuals who are imprisoned but not yet sentenced (…being 'on remand').

Scale-up
To establish or expand services to reach more of those at risk of, or infected with, hepatitis C, and to enhance effectiveness.

Security classification
The level of security associated with a prison or a prisoner, generally described as 'maximum', 'medium', or 'minimum' (and other variations of these terms).

Segregation
When a prisoner is separated from other inmates in an isolated area for a specified period of time either for disciplinary or administrative purposes.

SToP-C
Surveillance and Treatment of Prisoners with Hepatitis C study.

Sustained virological response (SVR)
No hepatitis C virus is detectable in the blood 12 weeks following the completion of antiviral treatment (also considered to be hepatitis C cure).

Training days
Specified days within the prison schedule that are dedicated to correctional and health staff education and training. These may be scheduled on a regular basis (e.g. monthly) and mean that the prison is in lockdown on that day.

Treatment as prevention (TasP)
Testing for diagnosis and curative treatment coverage in the target population sufficient to reduce hepatitis C transmissions.

Visits
Specified days or periods during which prisoner nominated guests (e.g. family members) may attend the prison to meet with the prisoner, usually under high security and for a limited period of time.

Wings
The section of the prison structure containing tens or sometimes hundreds of individual cells.

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