

# Implementation of hepatitis C cure in Australia: one year on

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## Abstract

**Objectives:** Direct-acting antivirals (DAAs) for the treatment of hepatitis C (HCV) became universally available in Australia in March 2016, with an aim to achieve HCV elimination. Fourteen per cent of Australians with HCV have initiated treatment. The objective of this study was to explore and identify challenges and enablers that have emerged during this initial phase of HCV cure implementation.

**Methods:** Key stakeholders (KS) in primary care, non-government and government sectors were recruited to participate in a telephone-based semi-structured interview to describe challenges and enablers facing individuals with HCV and the healthcare system in implementing HCV cure. Data were thematically analysed.

**Results:** Eleven KS participants were interviewed with each commending the significantly increased numbers of people accessing HCV treatment since March 2016. There was concern that this momentum was waning and that targeted interventions to normalise HCV treatment within primary care were needed. Furthermore, workforce development activities needed to acknowledge the priority of HCV elimination, and develop training and resources for clinicians, most of whom had limited HCV experience. The role of professional champions and multidisciplinary teams of both clinical and non-clinical workers was identified as critical for services that had cured a significant number of people with HCV.

**Conclusions:** Australia has many of the essential elements necessary to eliminate HCV, including universally funded DAA access and multiple treatment access points through primary care. Additional systematic activity is needed to ensure that the DAA-access momentum is maintained and HCV elimination achieved.

Keywords: Australia, elimination, hepatitis C, implementation, treatment

## Background

In March 2016, the Australian Government adopted the World Health Organization's (WHO) ambitious target of eliminating hepatitis C (HCV) by 2030 [1,2]. This was supported by providing free access through the Pharmaceutical Benefits Scheme (PBS) to direct-acting antiviral (DAA), all-oral medications, allowing over 95% cure rates with few side effects to all people with HCV. An estimated 43,360 people (19% of the population living with HCV) initiated DAA treatment between March 2016 and June 2017 [3]. This was remarkable considering that in the previous 20 years only 2000–3000 people per year had accessed interferon-based treatment [3].

The high number of people treated over that year reflected, in part, individuals who had been waiting to access DAAs, with the number of people initiating DAAs having so far declined in 2017 [3]. Modelling suggests that approximately 20,000 people will need to be treated each year to reach the 2030 WHO HCV elimination goal [4].

Eliminating HCV requires stopping onward transmission [5], in part through cure among people at risk of transmitting the virus, predominantly those who inject drugs – the population in Australia most affected by HCV. Possible barriers to accessing DAA treatment include a lack of awareness of HCV status and/or desire to access treatment, given its asymptomatic nature, and issues related to social marginalisation and stigma experienced by people who inject drugs (PWID). Overcoming these barriers will require an easily accessible health system infrastructure, with a healthcare workforce well trained in HCV infection.

Over the last 30 years, interferon-based treatment of HCV has only been available in Australia through specialist, tertiary-based

services, with the sole responsibility of primary care (PC) services being to diagnose the infection. The DAA availability expands the role of PC practitioners to include HCV testing and treatment, particularly among people at greater risk of infection, and is supported by Australia's Fourth National Hepatitis C Strategy 2014–2017 [6] and the National Hepatitis C Testing Policy [7]. National surveillance report data indicate that numbers of HCV notifications have remained stable over the past 4 years and that 82% of Australians with HCV had been diagnosed by the end of 2015 [8]. Much still needs to be done to support PC practitioners to identify people at risk and offer streamlined, accessible testing services and newer technology [9].

Dispensing DAAs through community pharmacies supports the transition of treatment from tertiary to PC settings. The extensive treatment accessibility was reinforced with PBS provisions that broadened access to these drugs, including through general practitioner (GP) and, more recently, nurse practitioner (NP) prescribing. While the proportion of GP prescriptions of HCV DAAs has steadily increased from 8% in March to 31% in December 2016 [3], integrating HCV into the broad PC workforce and maintaining the momentum for treatment uptake are remaining challenges. The aim of this study was to provide a snapshot of HCV elimination implementation in Australia one year after DAAs were listed on the PBS.

## Method

### Recruitment

Ethics approval for this study was granted by the La Trobe University College of Science, Health and Engineering Human Ethics Committee (S17-073). Key stakeholders (KS) were purposely recruited through the research team's professional network and included participants from PC, medical, nursing, community and government sectors. The investigator invited KSs to participate in a telephone interview via an e-mail, and provided a participant information statement and consent form for their consideration.

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## Data collection

Eleven KS interviews were conducted in May 2017 with two PC physicians, three representatives of community-based organisations working with HCV priority populations, an epidemiologist, two nurses (one tertiary hospital-based and one community-based), one jurisdictional government representative and two public health officers. All interviews were conducted by telephone, electronically recorded and lasted for approximately 45 minutes. Written consent was obtained from all participants prior to the interview. No compensation was provided.

The interviews were semi-structured and explored the following areas:

- How is Australia tracking in eliminating HCV?
- What are the challenges to the future implementation of the DAAs in Australia?
- How is the health delivery system working regarding HCV treatment?
- What is being done well and not so well in implementing access to DAA?

## Data analysis

Interviews were analysed for key themes. A coding framework for analysis was based on predetermined areas of interest, for example, challenges and barriers and key achievements in DAA implementation.

## Results

Participants in the interviews all agreed that this was a 'dangerous time' in terms of the HCV elimination efforts in Australia, with a decrease in media attention and perceived decreasing awareness about DAAs since the PBS listing in March 2016. To maintain momentum, participants supported a community awareness campaign to encourage people with, or at risk of, HCV to access health services for testing, diagnosis and treatment. It was acknowledged that while mathematical models estimated that most Australians with HCV had been diagnosed, three of the participants questioned the practical validity of this assumption. One participant explained that while people may have been tested in the past, they may have forgotten or not ascribed any importance to their HCV diagnosis because their doctor did not seem concerned. A focus on increasing access to testing services was perceived to be critical in increasing treatment numbers, with an emphasis on ensuring linkage to treatment.

Three of the participants specifically highlighted the need to promote the systemic changes to the healthcare system that had been implemented to improve DAA access, namely DAA PBS listing, GP and NP prescribing, as well as community pharmacy dispensing. The workforce development activities that have accompanied these changes were highlighted as improving the pool of health professionals with HCV knowledge.

Primary Health Networks (PHN) were repeatedly identified by participants as having an important role in the transition of HCV treatment from specialist services to PC. Using existing infrastructure and local healthcare pathways, PHNs were considered well placed to address the learning and support needs of PC practitioners. However, as one jurisdictional government officer stated, there needs to be a significant paradigm shift to allow PC to reach its full capacity regarding HCV treatment, such as actively involving GPs in HCV treatment by offering outreach support to facilitate prescribing. However, there are many challenges facing the success of this transition.

Two participants discussed that beyond the alcohol and other drug (AOD) setting, the majority of primary care practitioners have limited contact with people with HCV as these people either have not been diagnosed, their diagnosis has not been recorded or they do not discuss their diagnosis with their doctor. The complexity of the patients with HCV in AOD settings was highlighted by the two nurses with clients experiencing competing issues, including AOD and mental health, housing, judicial, and family relationship challenges. Hepatitis C, in this complex health and social context, lacks priority as it is a predominantly asymptomatic condition and does not cause any significant problems until considerable liver damage has occurred. Clinical participants ( $n=4$ ) emphasised the need to highlight the sequelae of untreated infection in the hope that this would assist practitioners to prioritise HCV testing and treatment.

In terms of workforce development, participants highlighted that health professionals have varying learning needs, with some having no experience in HCV treatment, while others have had a limited role in testing and/or referral. It was noted that the content of workforce development activities must be flexible to cater for a variety of learning needs. One of the community organisation participants framed workforce delivery in terms of 'just-in-time learning', where it is acknowledged that most PC practitioners will not have regular or repeated contact with people with HCV, and that the education needs to be brief, easily accessible and able to be directly translated into clinical practice.

Five participants discussed the importance of identifying local champions within each health profession, to lead the expansion of their profession's role in delivering treatment. The role of the champion was to motivate action, and challenge inaction, given their understanding of the culture and context of their profession.

The power of champions was demonstrated by three participants (two public health professionals and one PC physician) involved in a successful example of local DAA implementation. This had occurred over the previous 12 months in a regional Australian city of 160,000 residents with approximately 1500 of them with HCV, and where the Sexual Health Service set up the goal of HCV elimination by 2020 within their jurisdiction. At the time of the interviews, approximately 1000 had been successfully treated, with the local prison deemed 'hepatitis C-free', all patients attending the local hospital cured, and ongoing efforts to treat people accessing the local AOD service. When these participants were asked to explain what the rest of Australia could learn from their successful experience, each independently identified the importance of the multidisciplinary team in creating a supportive environment for HCV elimination. This includes a need for several access points for treatment with the engagement of hospitals, PC services, AOD including needle and syringe programmes (NSP), and the prison health services being crucial, meaning that if people had decided to explore treatment there were multiple access options available to them.

Two participants from consumer organisations discussed the situation of people with HCV who had been diagnosed and potentially engaged with clinical services but were ambivalent about commencing DAAs. In particular, one participant, who worked for an organisation that advocated for PWID, reported that many people among them remained sceptical about this new type of treatment, with a particular concern that they were being deceived about the lack of DAA side effects, particularly when considering previous experiences with the challenging side effects associated with interferon-based treatments. Three participants noted that PWIDs had told them that treatment was something they planned to do when they stopped using drugs. Once again, the lack of symptoms associated with HCV meant the infection

was not seen to be an issue that needed to be addressed urgently. To address these negative perceptions, three community representatives highlighted the power of ‘word of mouth’ about the success and ease of DAAs to motivate and encourage their peers to access treatment.

## Discussion

Australia’s elimination target for HCV will not be achieved without systematic interventions targeting both people affected by it and the healthcare workforce. The excellent achievement of treating 17% of the Australian population with HCV in the one year must be applauded [3]. During the first year of DAA access in Australia, enablers for HCV elimination, including DAA universal access and generous prescribing provisions for GPs and NPs which had streamlined the treatment process, have been implemented. However, evidence of a decline in the number of people accessing DAAs in 2017 highlights the importance of continued activity to maintain treatment access and momentum [3].

There are many barriers confronting people, who have in the past or currently inject drugs, from accessing healthcare, including stigma [10,11]. Participants in this study called for an awareness campaign that sought to normalise HCV in the community. These could be similar to programmes in the US that have focused on screening ‘baby boomer’ adults born 1945–1965 for HCV in order to avoid the stigma associated with needing to disclose a history of injecting drug use as a rationale for testing [12].

The modelling, which suggests that 75% of Australians living with HCV had been diagnosed [13], was frequently questioned by participants in this study and labelled as potentially misleading. People may have been diagnosed but no action may have been taken or no further engagement initiated by themselves or by healthcare providers because of poor understanding of the infection. For example, it was estimated by modelling, that approximately 58% of people living in Victoria ( $n=20,400$ ) with an HCV notification 2001–2012 had not received confirmatory tests for virus detection or genotyping [14]. Much work remains to be done in terms of promoting testing and subsequent access to DAA treatment among people with or at risk of HCV.

Simultaneously, a concentrated effort to build the capacity of the PC workforce to identify people at risk, offer testing and develop proficiency in initiating DAA treatment is required. Training healthcare professionals to treat patients with a condition in which the professional may have limited experience in clinical practice is challenging. Nonetheless, a paradigm shift needs to take place where the focus of HCV treatment delivery is carried out in PC settings. Primary Health Networks are critical to this transition, given their government mandate to build the capacity of PC to manage chronic diseases. A major selling point for increasing practitioner engagement in HCV is that DAAs provide a cure, and the possible elimination of a chronic disease. There are few areas of clinical medicine where such a claim can be made. Professional development activities that utilise professional champions, who can demonstrate the role of their peers in the delivery of HCV care, need to become the mainstay of education delivery. Champions within a profession understand the context of the clinical setting and the challenges facing their patients regarding prioritising HCV. While this may sound obvious, it will require a significant shift from the specialist-dominated education model.

Collaborations are under way in Australia to eliminate HCV among PWID [15]; however, additional interventions are needed to ensure that people who do not or have never injected drugs access treatment through mainstream services. A committed partnership approach between both primary and tertiary healthcare providers, researchers, policy makers, affected communities and government is needed, more than ever, to achieve HCV elimination [16]. More needs to be done to ensure we reach the sustained target of 20,000 people initiated on HCV treatment per year to achieve elimination by 2030.

## Acknowledgments

We would like to acknowledge the participants in this study for sharing their unique insights.

## Funding

This study was funded by the Commonwealth Department of Health for a programme of research in viral hepatitis related to the National Blood Borne Virus and Sexually Transmissible Infections Strategies (Agreement ID: 2-PZ0053).

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