

General practitioners' perceptions of the provision of direct-acting antivirals for hepatitis C within Australian private general practice: an exploratory qualitative study

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ABSTRACT

Background. There is a need to increase the involvement of Australian general practitioners (GPs) working in private practice to realise the potential of direct-acting antiviral (DAA) treatments for people with the hepatitis C virus. **Methods.** Semi-structured interviews were conducted in 2018 with seven GPs and two practice nurses working in private general practice to elicit the experiences and perceptions of their involvement in providing care for patients with hepatitis C virus in this setting. The interviews were recorded, transcribed and thematically analysed to inform interventions to maximise the provision of DAA in private general practice. **Results.** Participants described individual GPs purposely limiting their scope of clinical practice (SOCP) and expressed an expectation that DAA provision would not be included in all GP's SOCP. When GPs delineate their SOCP, their confidence to competently provide quality health care to their patients and GPs' professional special interests are important considerations. **Conclusion.** Providing DAA training, skill development, support and resources to GPs is necessary, but may not ensure that individual private GPs will provide this care. Where GPs do not include DAA in their SOCP, care pathways need to be developed for patients who will benefit from DAA, including GP-to-GP referral. These findings may be applicable to other areas of unmet need that rely on GPs including provision of care in their SOCP.

Keywords: delivery of health care, disease management, health manpower, health services: accessibility, health services: needs and demands, primary health care, scope of practice - clinical.

Background

To realise the potential of direct-acting antiviral treatments (DAA) to eliminate chronic hepatitis C viral infection (HCV) in Australia, there has been a call for a greater role for general practitioners (GPs) in the provision of HCV care ([Heard *et al.* 2020](#); [Clark 2021](#)). Although people with HCV are advised to see their doctor to access DAA ([Ley 2016](#)), >30% of the estimated 177 800 individual Australians with HCV may not be aware of their status ([Kwon *et al.* 2021](#)). Given >80% of Australians visit a GP at least once annually ([Royal Australian College of General Practitioners 2022](#)), GPs are well positioned to diagnose people with HCV and have been identified as the health professionals most likely to do so ([The Kirby Institute 2017](#)). Although GPs have had a historical role in HCV diagnosis, the provision of DAA is relatively new.

In March 2016, all Australian GPs were authorised to prescribe DAA for HCV ([Haridy *et al.* 2021](#)), replacing previous restrictions that limited prescribing predominately to specialists ([Clark 2021](#)). In stark contrast to former interferon-based treatments, DAA treatments are highly effective, well tolerated, and the regimen is uncomplicated to prescribe and follow ([Clark 2021](#)). These advances improved the appeal for patients to undergo treatment for their HCV and expedited the safe delivery of this treatment by GPs ([Clark 2021](#)). Previously, only a small number of GPs were involved in treating HCV in Australia ([Hopwood and Treloar 2013](#)). Since the extension of prescribing rights, GPs have achieved

equivalent HCV treatment outcomes to specialist settings (Haridy *et al.* 2021), and in 2020, GP prescribing accounted for 44% of all DAA prescribed (MacLachlan *et al.* 2021). Many Australian primary health care agencies employing GPs, such as forensic health services, specialist drug and alcohol services, and Aboriginal controlled health organisations (Clark 2021; Burnet Institute and Kirby Institute 2022) now prescribe DAA treatment. However, the majority of GP-patient appointments occur in private practice (Royal Australian College of General Practitioners 2022), and the majority of GPs working in private practice have not been involved in prescribing DAA in this setting.

To encourage GPs to prescribe DAA, a range of clinical resources for the management of HCV by GPs have been developed (Hepatitis C Virus Infection Consensus Statement Working Group 2020), and DAA prescribing training has been made available either in face-to-face or online format across Australia (Australasian Society for HIV Medicine 2018). Viral Hepatitis Nurses (VHNs), who are based in public tertiary liver clinics or in community settings, have been employed to partner with GPs in shared-care arrangements for patients with HCV (Government of South Australia – SA Health 2017; Wade *et al.* 2018). Although GPs experienced in the provision of DAA treatment can do so independently, consultation with specialist clinics before prescribing DAA is required by GPs who are not experienced in prescribing this treatment (Haridy *et al.* 2021). Remote consultation processes using template-based forms were developed to facilitate these consultations (Wade *et al.* 2018; Haridy *et al.* 2021). Across Australia, processes in place involve the referring clinician completing a form (Gastroenterological Society of Australia 2020) and sending it to a nominated specialist, who then reviews the decision to treat the patient based on this information. After commenting on their decision, the form is then returned to the treating clinician (Haridy *et al.* 2021). Despite these measures, modelling has demonstrated that the level of uptake of DAA is insufficient to meet the elimination targets adopted by the Australian government (MacLachlan *et al.* 2021).

Several barriers to Australian GPs' engagement in provision of DAA have been identified, including a deficit of knowledge to confidently prescribe DAA; impeded access to facilities to measure cirrhosis (Gooley *et al.* 2020; Heard *et al.* 2020); and problems with convincing GPs working in a 'time-limited and cost constrained environment' (Clark 2021, p. 318) to add DAA to their SOCP. Our group has previously demonstrated that people affected by HCV viewed GPs in private practice as a source of general health care but, due to negative experiences and perceptions, many developed a strategy of 'sussing' out doctors before engaging with and disclosing to a GP regarding HCV-related issues. Participants did not assume that they would be provided best practice care in a non-discriminatory, non-judgemental way. They perceived risks to confidentiality and risks of changes to the care they received from GPs upon disclosure (Scarborough *et al.* 2017).

Focusing on the private general practice setting, here we aimed to investigate GPs' perceptions and experiences about including DAA within their SOCP, to provide insights to increase the provision of this care.

Methods

Sample and recruitment

Participants were recruited from private general practices in South Australia. Although recruitment targeted GPs, participation was not restricted to this professional group. Participants were not offered recompense for their participation. The authors estimated a capacity to interview and analyse 20 interviews. From the sample frame, we aimed to recruit participants with a diverse range of demographic characteristics; for example, metropolitan/rural, male/female, recently qualified/experienced, Australian medical school graduates/international medical graduates, opioid substitution treatment (OST) prescribers/no such experience and DAA prescribers/no such experience.

Three methods of recruitment were used:

1. Recruitment flyers were included in the Drug and Alcohol Services South Australia GP Program newsletter, sent to GPs in the community with some involvement with OST programs in South Australia (approximately 360 GPs).
2. The government-funded community organisation, 'Hepatitis SA', mailed a recruitment package to the GPs on their mailing list (approximately 330 GPs) on behalf of the study. This list includes DAA prescribers, as well as GPs who may have had minimal involvement in the provision of care for patients with HCV.
3. To reach GPs who were less likely to be involved in OST or care for patients with HCV, direct recruitment information was also sent via mail and facsimile to individual general practices ($n = 10$) and to individual GPs ($n = 40$). These were sent in batches of 10, a week apart. To aid the process of sending the direct recruitment information, the first author developed and populated a database with details of South Australian GPs ($n = 242$) and their private general practices from publicly available sources. The decision to cease direct recruitment was made 4 weeks after the last invitations were sent, and no further participants had responded to recruitment.

Data collection and analysis

Face-to-face, audio-recorded, semi-structured interviews were used to elicit the experiences and perceptions of participants with their involvement in providing care for patients with HCV to inform the research question: 'What influences GPs in private general practice to provide DAA?'. One-on-one interviews were conducted with six individual GPs, and one

group interview was conducted involving a GP and two practice nurses from the same practice. Interviews were conducted by the first author, from May to November 2018 in a variety of locations chosen by the participants (e.g. GP practice room, library meeting room, café). The six individual GPs were interviewed for between 52 and 79 min, and the group interview was of 48-min duration.

The topics explored, and subsequent questions developed, were informed by existing literature (Hopwood and Treloar 2013; Wade *et al.* 2017) and earlier phases of the study (Scarborough *et al.* 2017). The interview schedule included questions about the professional background of the participants ('What brought you to work in general practice?'), the participants' choices regarding professional development ('How do you choose the education you are involved in?'), specifically about HCV education ('Can you tell me about any HCV education that has been offered?', 'Describe any further education you would like in this area?'), about the general practice they work in ('Tell me a bit about your practice'), their patients and HCV ('Do you think patients know their HCV status?') care provided for HCV ('Can you tell me about the care that has been provided here for people with HCV?') and, similarly, injecting drug use ('Can you tell me about the care that has been provided here for people with drug use issues?'). In addition, prompts and probing were used to further elicit in-depth responses.

With the aid of NVivo computer software (QSR International Pty Ltd. 2019), the participant interviews were thematically analysed using the following six phases outlined by Braun and Clarke (Braun *et al.* 2019): (1) familiarising yourself with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. Interviews were transcribed verbatim by the first author ($n = 5$) or by a professional transcription service ($n = 2$), and the process of producing and checking these transcripts aided the familiarisation process. Prior to analysis, the transcripts were de-identified and participants were randomly assigned pseudonyms using names of gemstones. Initial coding was undertaken by the first author. After initial, largely descriptive codes were identified, all authors met face-to-face regularly, and were involved in naming, refining and reviewing further codes to provide more interpretive themes (Braun *et al.* 2019) applicable to answering the research question.

Participants

There was a total of nine participants, comprising seven GPs (three women and four men) and two practice nurses (both women and both involved in a team approach of provision of DAA at their practice). There were two GP participants with <10 years' experience working as GPs that we defined as being at an 'early career' stage, and five GP participants who had >30 years' experience that we defined as having an

Table 1. Demographic information of participants.

Characteristic	Detail
Age	<ul style="list-style-type: none"> • Ranged from early 30s to >60 years.
GP qualifications	<ul style="list-style-type: none"> • GP undergraduate training in South Australia: 7 (100%). • Mature age student: 1 (14%). • GP college membership: 7 (100%).
Work as a GP	<ul style="list-style-type: none"> • Established career of >30 years' experience: 5 (71%), Early career of <10 years: 2 (29%). • Full-time: 6 (86%), Part-time: 1 (14%). • GP owners: 4 (57%), GP employees: 3 (43%). • Practice ownership structure: partnerships or private ownership. • 2–10 GPs at each practice.
OST prescribing	<ul style="list-style-type: none"> • Current, active, accredited prescribers: 3 (43%). • Former prescriber: 1 (14%).
HCV prescribing	<ul style="list-style-type: none"> • Experience providing antiviral treatment: 7 (100%). • Ever prescribed DAA: 6 (86%). • Currently providing DAA: 4 (57%). • Nurses were part of a team providing DAA.

'established career'. Demographic and background information of participants is presented in Table 1.

Ethics approval and consent to participate

Ethics approval was granted by the Flinders University Social and Behavioural Research Ethics Committee (project number: 7823).

Results

Participants reported the inevitability that GPs would limit their SOCP and discussed the provision of DAA in this context; thus, we developed an overarching theme of 'Fitting DAA into their scope of practice'. Participants described the factors involved in determining their overall SOCP and factors relating specifically to the provision of DAA. We developed three subthemes based on these descriptions, which we named: 'Confidence to provide effective care', 'Serving their patient base' and 'GPs' individual interests'. A summary of the overarching and subthemes is presented in Table 2. Based on these themes, we present our analysis below using quotes

Table 2. Themes developed from thematic analysis of interview data.

Overarching theme	Subthemes
Fitting DAA in their scope of clinical practice.	<ul style="list-style-type: none"> • Confidence to provide effective care. • Serving their patient base. • GPs' individual interests.

selected to elucidate themes, and to convey the experiences and perceptions of participants.

Fitting DAA in their scope of clinical practice

GP participants discussed the addition of DAA into the SOCP of GPs generally, and their consideration of including DAA within their own specific SOCP. The SOCP of the profession was described by participants as broad and constantly expanding due to pressures external to the profession.

We're dealing with more and more stuff than we ever used to. Dr Ruby (established career)

The trouble with general practice is that every politician, every group or every organisation, says 'This can be done by a GP', and the GPs don't necessarily feel confident about dealing with it, because they just don't do enough at it. Dr Citrine (established career)

Yeah, it's just too much. Sometimes you get tired. Like your brain is saying 'You have to do this and you have to do that [training].' Dr Diamond (early career)

Managing these demands within the time limits faced was considered stressful, fatiguing and unreasonable.

However, participants described advantages for their patients in having DAA delivered in general practice rather than in tertiary settings, welcoming this expansion to their role and the opportunity to provide this care.

... speciality clinics have their own doors closed, [they] can only take so many ... Dr Sapphire (established career)

... 'cause most of them aren't there [patients at specialist settings], because most people with hepatitis C aren't sick. ... Everyone else [not receiving OST or HIV treatment] is out in the hinterland somewhere ... Dr Ruby (established career)

They were comfortable coming here. ... [Patients with HCV] really don't like going to the hospital much. I think they're a bit intimidated. Maybe they're a bit worried, because they're going to be labelled as drug addicts or something. Dr Morganite (established career)

Outlined below are factors identified by participants that were perceived to influence their own, and other GPs', SOCP.

Confidence to provide effective care

GP participants described limiting their SOCP to areas where they were confident to provide quality care, and how GPs' choice of SOCP on this basis was reinforced. Participants reported that relevant skills were developed or honed through

the experience of providing care, improving their efficiency and further bolstering their confidence to deliver this care.

... doctors that are seeing more numbers, are more senior and, or are partners of the clinic ... that tends to make you a bit faster and you have an established patient body that isn't somebody new all the time. Dr Jade (early career)

Taking patient histories was one such specific skill that was perceived by participants as pivotal in shaping GPs' SOCP, with certain approaches perceived as effective for identifying particular patient health issues, such as HCV.

If you're involved in treating people with drug and alcohol problems or hepatitis C, you're going to take an appropriate history [that identifies the issue] for that. If you don't deal with it, you're not going to [identify the issue]. Dr Citrine (established career)

Dr Ruby was among the participants experienced in DAA prescribing, who depicted the process of prescribing DAA as straightforward.

... it's just a script and blood tests, and you can get them done anywhere. Dr Ruby (established career)

Participants described accessing high-quality training and specific DAA information resources, that increased their confidence in prescribing DAA.

I think before I went there [to HCV training session], you were wondering how it's all going to work and your knowledge, would that be good enough? and that sort of thing, but I think they certainly furnish you with enough information to get going. Dr Morganite (established career)

... we got it [DAA for HCV] covered during general practice training as a registrar, we had some sessions on that. Dr Jade (early career)

Several participants cited the effectiveness of the new DAA as a trigger to undergo HCV education, after doubting the benefit for patients of the former HCV treatment.

... they [GP colleagues] just ask, 'Anything new on the horizon?' 'No, not that I've heard of.' And then I heard about this stuff [DAA educational road show] ... so I went to the Adelaide meeting. Dr Ruby (established career)

Drug representatives were mentioned by participants as providing updates regarding HCV care.

Yeah [a drug industry representative] comes in and touches base, quite often and lets us know if anything's changed ... Nurse Opal

Participants recounted the links with specialist support, via the consultation form process, and with VHNs that provided them with additional confidence to prescribe DAA. They described the consultation form as a useful checklist for the steps required to initiate DAA.

So, I'm familiar with the resources for like, the forms that you can access to be like 'I need to make sure that I've done all these things' and you fax it off and get a 'Yep, this patient's clear to start. We recommend this treatment'.
Dr Jade (early career)

Having the specialist unit review the participant's DAA regimen choice via the form was perceived as educative for the GP, as well as mitigating the burden on GPs to maintain up-to-date, detailed knowledge of DAA.

... new drugs seem to be coming out every year for this stuff, new combinations ... So why bother? [reviewing the guidelines] These are the guys [the specialist unit staff] that know about it. Why would I want to know about it?
Dr Ruby (established career)

Providing mobile Fibroscans[®] to assess cirrhosis at general practices and directly providing support to patients receiving DAA were among the types of VHN involvement outlined.

She [a viral hepatitis nurse] actually came out and did mobile ones [Fibroscans to measure cirrhosis], which was very handy for some of the – because I had trouble getting the patients to the hospital, to get that organised. Some of them [patients] are a little bit unreliable ...
Dr Morganite (established career)

... another second person [HCV nurse providing Electroscan[®]] to kind of look, who sees lots and lots of people, to say 'Yeah, that's fine'.
Dr Emerald (established career)

and

One of them [a patient undergoing DAA] I didn't even know was, halfway through the treatment, was ringing them [Viral Hepatitis Nurses] and asking questions.
Dr Emerald (established career)

Participants acknowledged VHNs as a source of specialist knowledge, and reported feeling reassured by the VHNs' involvement in the provision of DAA for their patients.

Serving their patient base

GP participants indicated that an important factor that shaped the development of their SOCP was the health needs of patients, and reported that they aimed to provide patients with long-term, holistic care.

... really holistic type medicine, quite a different variety of patients we all see.
Dr Morganite (established career)

... the value that our practice places on continuity of care is; they really value it highly ...
Dr Jade (early career)

Basically, you just sort of identify the gaps in your knowledge [when deciding further education needed], depending on the patients you're seeing.
Dr Diamond (early career)

The business success of their practices, including attracting and retaining patients, was perceived by several participants as evidence that they understood the SOCP relevant to these patients.

I think patients do try and find us as well. But that's just because we've been here and we've looked after, well I think we've looked after the patients and their families in all manners of medicine.
Dr Sapphire (established career)

However, GP participants also reported some consultations that did not involve ongoing GP–patient relationships, and in these cases, the opportunity or responsibility to provide ongoing care was not a consideration, and the decision to build capacity to expand the SOCP was less likely to occur.

I don't actually know how many patients with hepatitis C, where it's known hepatitis C or it's a new diagnosis, how many of them would be, you know, they're seen the same day clinic doctor or whether they would have a usual GP.
Dr Jade (early career)

... a lot of people do have their GP that they see for complicated things and the GP that they see for less complicated.
Dr Citrine (established career)

Participants described how their patient base influenced their SOCP, but also described GPs' SOCP influencing patient engagement.

Further, GP participants considered the provision of HCV care in their practice as either relevant or of low priority, depending on their perception of how commonplace HCV was within their patient base. Participants appeared to consider population HCV prevalence and their understanding of those most at risk weighed against the profile of their patient base.

It [HCV] isn't a frequent enough disease (for) anybody who's not really interested in it to get competent at doing it as a general practice area ... it's three (patients) per GP. You know, even if you're aware of what's going on, the number that you're going to be involved in treating is small.
Dr Citrine (established career)

... we're in a poor socio-economic area, a high drug abuse area, so it [management of HCV] fits in with the practice. Dr Sapphire (established career)

Based on their expectation that a substantial number of patients in their practice would have undiagnosed HCV, participants reported that posters that successfully encouraged patients to report HCV risk factors and be tested for HCV were prominently displayed in their practices.

... so that's what they have to look at [poster listing HCV risk factors and encouraging testing] when they're sitting there [in the nurse's room] ... I've had a couple go, 'Oh! Should I have a blood test? I've had a tattoo.' Nurse Topaz

Some participants' perceptions of HCV occurrence in their patient population appeared to be based on narrow stereotypes of patients with HCV.

... it's very urban, very upmarket ... you do get the very occasional people who might be using drugs but, yeah, very, very little ... Dr Diamond (early career)

and

... they'll probably be out of business [if they offer DAA], because there's just not enough [patients with HCV]. Dr Diamond (early career)

Subsequently these participants' imperative to screen for the condition was limited, and the likelihood of detecting patients with HCV was decreased.

GPs' individual interests

GPs' SOCP was described as being shaped by the professional special interests of GPs in the context of their general practice. Interests may involve the provision of care for specific conditions or particular subpopulations, with this work involving particular skill and knowledge sets.

... other people [GPs in the practice] who had particular interests in other areas. It might be sports medicine, it might be musculoskeletal. Always happy to send [patients] to a colleague who's actually got an expertise in that area. Dr Citrine (established career)

They're [patients] happy to go and see somebody who does more than just the odd one. ... with the two other doctors, I ended up doing all of their patients' Suboxone. You know, it takes me much less time than it would take them and much less stress on them. Dr Emerald (established career)

When there were multiple GPs working at a general practice, participants outlined how patients were matched to these GPs.

Factors influencing allocation included patients instigating requests for appointments with particular GPs based on the GP's reputation, selective allocation of appointments and GP-to-GP referral within their practice.

Word gets out that 'Oh, this doctor was really good at that sort of thing' and then, you start getting a pattern of people coming to you for similar issues. Dr Jade (early career)

They [patients] may ask for a particular doctor or they – on our web page it will describe what the doctor's interests are, so that may prompt them to choose a particular doctor. Dr Morganite (established career)

Participants reported that colleagues may have erroneous perceptions of what their particular interest(s) encompassed and that this had led to patients being offloaded to them based on these perceptions.

... they [GP colleagues] would send all these type of people to me saying that 'You manage drug, alcohol, that sort of stuff'. Dr Diamond (early career)

... it [prescribing of DAA for HCV] isn't my focus, because I'm mainly dealing with either pain dependence or mental health issues and I just – I don't want to stretch myself that little bit extra. Dr Citrine (established career)

... [patients are allocated appointments with] whoever they like. There's a girl doctor, she gets the 'tears and smears'. Dr Ruby (established career)

The allocation of patients based on gender, rather than interest, was also relayed by a participant.

Some of the more experienced GP participants outlined how their special interests developed. Dr Sapphire reported their interest in treating HCV developed in the context of a relative with HCV who had an unsuccessful experience of early treatment.

[relationship of individual to GP] died of hepatitis, many years ago [late 1970s] and [relative's gender pronoun] had non-A non-B back then. Dr Sapphire (established career)

This interest prompted them to monitor the progress of treatment options and screen vulnerable populations for HCV in anticipation of patients' ability to access DAA.

I used to do rounds for the homeless some years ago, and that was just when the hep C treatment was sort of being talked about; it wasn't available, but I started screening then ... Dr Sapphire (established career)

GP participants described becoming involved in prescribing OST and how this led to their interest in providing care for

HCV, that addressed an unmet need beyond their usual general practice catchment area. They described a focus on expanding their knowledge and skills in DAA, and seeking out patients who could benefit from the treatment.

I was just looking for something a little bit different. I know it [OST prescribing] was an area of need and I knew – well, basically I knew that it wasn't overly popular. Dr Morganite (established career)

The participants described having capacity to provide otherwise unmet need for care, agency to pursue their own particular interests and how they provided comprehensive care in the area of their special interest.

Discussion

This study highlights problematic aspects of strategies that rely on care being included within private GPs' SOCP, to help meet the population-level need for health care provision. Australian GPs have authority (Haridy *et al.* 2021), support and training (Australasian Society for HIV Medicine 2018) to prescribe DAA, and are likely to have patients that they perceive would benefit from this treatment (Burnet Institute and Kirby Institute 2022). However, our findings indicate that Australian GPs perceive a necessity to limit their SOCP and will not always choose to prescribe DAA. A greater understanding of how GPs determine their SOCP helps to explain the omission of DAA, and can be used to inform improvements to expand the availability of this treatment in private general practice.

Lack of education has been framed as a barrier to GPs providing DAA (Gooley *et al.* 2020; Heard *et al.* 2020), but a more explicit and useful framing of the education barrier is that GPs are not prioritising DAA education. Access to continuing professional development (CPD) regarding DAA is available in Australia (Australasian Society for HIV Medicine 2018), and our participants perceived CPD to be of high quality, accessible and gave them confidence to prescribe DAA. To meet the requirements for ongoing registration, GPs must engage in CPD activities, but, importantly, GPs are given discretion regarding the CPD topics they choose (Royal Australian College of General Practitioners 2020). Financial incentives have been used to encourage involvement in particular CPD topics (Australian College of Rural and Remote Medicine 2022), but their effect on GPs' SOCP is unclear. To gain a deeper understanding of the effect of CPD participation on SOCP, additional data are needed to fill fundamental gaps relating to GP activities (Tran *et al.* 2018), including data from colleges regarding CPD undertaken by GPs. Although continued availability and promotion of quality education is important, other considerations may limit DAA being included in the SOCP of GPs (Gooley *et al.* 2020).

Highlighting GP access to specialist support to provide DAA through a combination of VHN outreach and the consultation form process (Government of South Australia – SA Health 2017; Haridy *et al.* 2021) may bolster GPs' confidence to include DAA in their SOCP. The clinical effectiveness of providing DAA by GPs in the community supported by the consultation process and VHNs has been reported (Haridy *et al.* 2021), and our study provides evidence that GPs accept and appreciate the assistance provided in this way. As with other nurse outreach support services (Wilson *et al.* 2022), VHNs were perceived by the GPs interviewed in this study to be approachable and willing to share their extensive expertise in a collaborative manner. The VHN outreach service can address previously identified barriers to access to patients' level of cirrhosis measurement (Heard *et al.* 2020), and establish valuable direct VHN–patient clinical relationships. The remote consult form (Haridy *et al.* 2021) is a way for a specialist to both review and have input to the patient care plan, and provide GPs with ongoing education. Specialist support that relies on same-time communication between busy GPs and busy specialists has been critiqued (Wilson *et al.* 2022), but the remote consult form avoids this issue and this may be one reason why participants perceived that the process worked well. The specialist support model that uses a combination of nurse outreach and remote form-based contact with specialists may be able to be replicated to encourage GPs to provide care in a range of other areas that benefit from specialist support.

Although GPs aim to provide high-quality health care for their patients, this does not translate to existing GP–patient relationships guaranteeing people with HCV will have access to DAA. There will be individuals with HCV who do not have a relationship with a GP. Importantly, in the Australian primary healthcare system, the GP–patient relationship is not tied, as there is no formal registration of GP–patient relationships (or general practice–patient relationship), and patients commonly engage with more than one GP (Wright and Versteeg 2021). Therefore, although GPs are responsible for the care they provide to be appropriate, safe and effective (Medical Board of Australia 2016), the duty of care for providing a patient's wider health needs is difficult to establish (Wright and Versteeg 2021).

Even where a GP–patient relationship exists, there are limitations to the care some GPs perceive they can provide. Although some participants were very willing to include DAA in their SOCP and cited advantages for patients from this, participants mirrored previous concern (Clark 2021) regarding the willingness of GPs to add DAA to their SOCP, in the context of time pressures they faced. Although not prominent, the need for GPs to have sustainable businesses was mentioned in participant responses. GPs are financially penalised for working in complex areas of care, such as DAA, that involve longer consults and where work is required outside of the patient consult (Royal Australian College of General Practitioners 2022). The remuneration penalty of involvement in DAA

may be regarded by some GPs as unsustainable within their business model. Further, to identify patients' health care needs, GPs rely on patients to disclose information, but people with HCV may be reluctant to disclose HCV risk factors or diagnoses where this is known, if they are uncertain of the reaction of GPs (Scarborough et al. 2017). The advice to patients to see their doctor for the provision of DAA (Ley 2016) does not take into account these limitations. The recognition that not all GPs will include DAA in their SOCP predicates the need for alternative pathways for patients requiring DAA to access GPs willing to provide this care.

Encouraging GPs with a special interest in DAA to provide this treatment to more patients and formalising GP-to-GP referrals (Bell et al. 2022) could assist patients to access DAA from GPs. These referrals would supplement existing channels (Hepatitis Australia 2022) for patients to identify and access GPs who include DAA in their SOCP. Appropriate coordination of GP-to-GP referrals is necessary (Bell et al. 2022), and our study indicates that GPs would welcome VHNs acting in this role. Our participants indicated that as their career advanced, they had developed in-depth knowledge and skillsets relevant to involvement in more complex areas of clinical practice, such as DAA; however, even GPs experienced with special interests in particular care did not welcome all GP-to-GP referrals. To ensure that GPs do not receive unwanted referrals, their interest in receiving GP-to-GP referrals for DAA could be formally vetted in the process of coordination of these referrals. It is likely that such measures would be appropriate for supporting other areas of GPs' SOCP that are considered as special interests in areas of unmet need.

Continual calls to GPs to increase the breadth and depth of their SOCP may be exacerbating difficulties in attracting and retaining GPs (Royal Australian College of General Practitioners 2022), and therefore, reducing the capacity of the GP workforce to meet population health needs. Expansion of GP SOCP is not necessarily problematic, as demonstrated by GPs in the current study who tended to support prescribing of DAA in general practice. However, time constraints faced by GPs, perceived pressure to continually do more and perceived inadequacy of remuneration can contribute to GP 'burnout' (Royal Australian College of General Practitioners 2022). The attractiveness of general practice over other specialties may also be affected by these factors (Royal Australian College of General Practitioners 2022). In calling for GP involvement in providing care, it should be acknowledged that there is limited capacity for the GP workforce to continually absorb extra work, and that GPs working in private general practice can maintain professional standards despite or even due to choosing to limit their SOCP.

Limitations

The system of private general practice in Australia has substantially remained the same since this study was conducted in 2018, but has been placed under increased pressure by events,

such as the COVID-19 pandemic and ongoing underfunding (Royal Australian College of General Practitioners 2022). GPs may be less inclined to extend their SOCP to include DAA. Future studies that monitor the effect of this pressure on GPs' SOCP are warranted.

Similar to other studies (Heard et al. 2020), there were difficulties in recruiting GPs to this study. Additional participants with a wider range of demographic characteristics may have contributed additional perspectives and experiences; for example, international medical graduates. Importantly, although negative views towards patients with a history of drug use may be a significant barrier for GP involvement in DAA, it is unlikely that GPs with these views would have been recruited to participate in this study. With the sample obtained, it was nonetheless possible to derive themes that added to the understanding of what influences GPs in private general practice to include DAA in their SOCP.

Conclusion

Not all GPs will include DAA in their SOCP, despite legitimate public health imperatives to do so. Workforce planning should not only consider the overall number of GPs and their location, but also the availability of GPs with SOCP that matches the clinical needs of patients. Interventions should aim at matching GPs who include DAA in their SOCP with patients who need this care.

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