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Abstract. **Background:** The science of HIV prevention and treatment is evolving rapidly, resulting in renewed calls to increase rates of HIV testing and, in particular, facilitate the timely and possibly earlier initiation of treatment, as this has the potential to dramatically reduce new infections. Little is known about how to engage non-HIV specialist Australian general practitioners (GPs) with these new priorities. **Methods:** Content related to the engagement of non-HIV specialist GPs in the HIV response was identified within the transcripts of in-depth interviews with policy key informants (n=24) and general practice clinicians (n=47) engaged with HIV medicine. A qualitative analysis of the semantic meaning of this content identified three categories of ‘issues’ described by participants. **Results:** **Educational issues** referred to a lack of attention to HIV in medical curricula, a perception that HIV care is only provided by HIV-specialist GPs, a need to make HIV testing more ‘routine’ in GP education and a need to strengthen GP awareness of referral options. **Organisational issues** encompassed time pressures in general practice and a need for general practice nurses and for rapid testing to become available, as well as formalised peer mentoring and co-management opportunities. **Societal issues** included the changing dynamics of HIV transmission and a need to re-connect GPs with the Australian HIV response. **Conclusions:** To successfully engage non-HIV specialist GPs in the promotion of regular HIV testing and timely initiation of treatment, challenging issues affecting their capacity and willingness must be urgently addressed.

**Additional keywords:** HIV testing, Australia
Introduction

[It’s] every GP’s responsibility to ... assess risk of [HIV] infection and educate further
reduction of risk ... And I’m not sure that they do. (Key informant/12)

Australia is a signatory to the 2011 UN Political Declaration on HIV and AIDS that commits countries
to reducing HIV transmission rates, which in part may be achieved through improving and increasing
the availability, accessibility and use of antiretroviral treatment (ART).¹ ² On the basis of recent
research,³ UNAIDS and the United States Panel on Antiretroviral Guidelines for Adults and
Adolescents have proposed that ART, particularly when introduced early, has the potential to reduce
the risk of transmission to close to zero.⁴ ⁵ While the Australian Antiretroviral Guidelines Panel does
not support the recommendation in the US guidelines regarding initiating treatment earlier than
previously recommended (i.e., at CD4 counts lower than 500 rather than 350 cells/mm),⁶ there is
general support for increasing testing rates and frequency among the most at risk populations,
including gay and other men who have sex with men and better facilitating pathways to timely care
and treatment.⁷ This ongoing intensification of HIV testing and treatment, including for prevention,
is likely to have a substantial impact on people living with HIV (PLHIV) who have not initiated
treatment and the broader populations at risk of HIV. There is some disquiet about the implications
of promoting the use of treatment for prevention for sustained condom use and other behavioural
risk reduction strategies,⁸ ⁹ as well as about the complexities of translating global targets into locally
achievable goals in particular populations.¹⁰ Strengthening HIV testing and treatment, including
through a ‘treatment-as-prevention’ approach, also has implications for health and medical
practitioners working in the community to provide HIV testing and treatment services. However, this
critical aspect of ‘scaling up’ HIV testing and treatment has received less attention than is warranted,
and much remains unclear regarding what new HIV prevention and treatment priorities will mean
for the health care workforce.
General practitioners (GPs) have historically played a central role in the HIV response in Australia.\footnote{11} However, there is much variety in the contributions that GPs make to HIV medicine. A limited number of general practices based in the inner cities of the major state capitals diagnose a large proportion of the HIV infections that are newly reported each year, particularly in men who have sex with men.\footnote{12} These practices typically have a ‘high HIV caseload’ of people living with HIV and offer the services of GPs accredited to prescribe antiretroviral medication who can initiate and manage HIV treatment in the community.\footnote{13} HIV medication prescriber GPs also provide a critical service in other parts of Australia, with a growing number of PLHIV now residing in suburban or regional settings.\footnote{14} Another group of GPs provides general health care to PLHIV but are not accredited to prescribe antiretroviral medication. Despite their differences, these two groups of GPs are both to some extent already involved in HIV medicine and possess at least general expertise regarding HIV diagnosis and care, including referral to consultant specialists and where and how to obtain expert support. A main question for these ‘already involved’ GPs emerging from the treatment-as-prevention approach is whether they would be willing to recommend earlier initiation of HIV treatment and research is underway to investigate this matter [removed for peer review].

The general practice workforce in Australia is however much broader than these groups of involved GPs and the majority of GPs – the ‘mainstream’ – are likely to have had little or no engagement with HIV medicine to date. Nevertheless, to effectively meet the increasing demand for HIV testing and treatment, the non-HIV specialist general practice workforce is likely to be expected to make considerable contributions. These will include initiating conversations about HIV risk and offering HIV testing much more routinely, as well as ensuring appropriate referral if a patient receives a positive diagnosis to facilitate timely consideration of initiation of treatment, in addition to ensuring appropriate emotional or mental health support. A range of workforce issues is likely to affect the capacity and willingness of mainstream GPs to engage with these new HIV prevention priorities, on top of already challenging workloads.\footnote{13} As a recent report of the Australasian Society of HIV
Medicine (ASHM) concluded, promoting HIV testing and treatment, as part of a treatment-as-prevention approach, will require ‘increasing capacity in general practice to manage the health needs of PLHIV’. At the same time, however, it is estimated that HIV clinical service capacity is decreasing in Australia. Our study of the Australian HIV general practice workforce offered a unique opportunity to explore the perspectives of policy key informants and clinicians who are already working in this field, to begin to examine the potentially manifold and complex issues shaping the engagement of mainstream GPs with evolving and new priorities in HIV prevention and treatment.

Methods

The Project aimed to explore what motivates or discourages Australian GPs from pursuing training and accreditation to prescribe HIV medications and to provide new knowledge regarding the broader role of GPs in maintaining and enhancing the health of PLHIV. This broad, national study had a qualitative design, comprising in-depth interviews conducted throughout 2010 and 2011 with policy key informants and clinicians with experience in providing HIV care in different HIV caseload and geographical general practice settings across Australia. Key informants (n=24) held a range of senior positions in government and non-government organisations involved in the HIV response in Australia, including through policymaking, advocacy and education and training of GPs. Clinicians (n=47) included GPs accredited to prescribe HIV medications (n=31), GPs who provided other forms of HIV care (n=5), GPs who previously were HIV medication prescribers but had discontinued that role (n=8), and nurses working in high HIV caseload general practice clinics (n=3). Clinicians had been involved in HIV care for between 1 and 30 years and of those who were actively caring for PLHIV at the time of interview (n=39), 20 (51%) self-reported their HIV caseload as high. Written consent was obtained from participants interviewed face-to-face, while verbal consent was obtained from participants interviewed by telephone,
following a structured protocol. All participants were offered AU$150 reimbursement. Interviews were audio recorded then transcribed and checked against the original recordings for accuracy, before being de-identified to protect participant confidentiality. The National Research and Evaluation Ethics Committee of the Royal Australian College of General Practitioners and the Human Research Ethics Committees of participating universities provided ethical approval for the study.

While the study was focused on understanding the key workforce issues for GPs and other clinicians who are already engaged with HIV prevention and treatment, we found that participants also spoke about issues regarding the ‘mainstream’ general practice workforce. As so little is known about how to engage the mainstream general practice workforce with HIV prevention and treatment in the current era, our main aim was to identify and explore possible issues of relevance to this topic in the accounts of policy key informants and clinicians.

From the full set of de-identified transcripts, we extracted the passages that described participants’ views on engaging non-HIV specialist GPs in HIV prevention and treatment. This approach can be described as ‘theoretical’ in that it involved pursuing a pre-existing interest. Also, while other aspects of the study take a constructionist perspective, for this paper our approach can be described as realist since we were focused on the semantic meanings in the data, rather than exploring any possible latent meanings or interpretations. Using qualitative content analysis, we examined the collated pieces of text and organised these into three related but distinctive ‘categories’, referring to educational, organisational and societal issues, respectively. These categories of issues are described below with reference to interview extracts (note: interviewees are referred to by codes). Rigour was established through an iterative process of discussion and revision of the findings and manuscript by the research team, and consultation with members of the study’s broader Expert Committee.
Results

A first category was distinguished that referred to *educational issues* that play a role engaging non-HIV specialist GPs in HIV prevention and treatment. In particular, a lack of knowledge and skills regarding HIV prevention and treatment was seen as originating in medical school, with many participants recounting a belief that HIV-related topics were covered only minimally in undergraduate and vocational medical curricula:

> [Medical students are] not very knowledgeable about how [HIV is] transmitted ... We talk to fourth years ... [and still] get the questions about ... sharing coffee cups ... So the next time they’re going to probably even think about HIV is when they’re actually confronted by a patient. And then you worry a little bit about, well, what kind of information is a GP going to give them? (Key-informant/19)

While there was recognition that not all medical students would need a detailed understanding of HIV prevention and treatment, there was a consistent view that opportunities were being missed to educate the mainstream general practice workforce about their potential role in initiating HIV testing and timely commencement of treatment. For example, some participants believed that many GPs assumed HIV care was only provided by HIV-specialist GPs in ‘high caseload’ clinics:

> How [do] you make it something that matters to the GP? ... Because [we have] this cohort of HIV kind of specialist GPs, it means that the rest of the GP world ... basically doesn’t get involved much. (Non prescribing GP/3)

This idea that mainstream GPs see themselves as ‘separate’ or ‘apart’ from HIV specialist GPs led some participants to suggest that general practice vocational education and training should emphasise the need for all GPs to remain open to the possibility that any of their sexually active patients has been exposed to HIV, and to consistently ask themselves: “should [I] be ... offering an HIV test?” (Key informant/07). It was also hoped that HIV testing would become more routinised in general practice, “as a lifestyle issue. Like ... getting your cholesterol checked” (Key informant/12). In
anticipation of the possibility of making a new diagnosis, participants also suggested that referral and support options for clinical and social services needed to be made much more widely known among the mainstream general practice workforce. These perspectives suggest that engaging mainstream GPs in HIV prevention and treatment may require a reframing of HIV-related topics in GP education and training as a matter of broad public and preventive health significance, in order for it to become familiar and to be seen as routine and relevant to their practice, and to ensure they are prepared and ready.

A second category encompassed organisational issues in engaging non-HIV specialist GPs, with the most common issue relating to the time pressures faced by GPs working in private practice:

The GP on the ground that you see at your local health centre ... they’ve got very little time often for anything more than, “Let’s deal with what you’ve come in for”. And I know that’s a big part of what’s being tried to be changed ... [in facilitating] prevention to occur as part of GPs’ treatment ... But I [wonder] how comfortable are GPs with that direction? I think most of them would be welcoming it with open arms but, again, when they’re ... trying to churn through a lot of patients, is it more of a bother than it’s worth? (Key informant/22)

While these issues were seen as persistent barriers to the capacity and willingness of GPs to contribute more to HIV prevention and treatment, a range of strategies were identified as having the potential to attenuate this. In particular, participants stressed the significant benefits of increasing public investment in multidisciplinary health care teams and more cost- and time-efficient pathology services in general practice, so that the workloads of mainstream GPs could be better managed:

“Nurse practitioners ... could help with ... [HIV] education, awareness, adherence, [and] testing ... [Also] rapid testing [would] encourage patients to come in for more testing” (HIV-prescriber GP /22).

Again, while these organisational issues tended to focus mostly on the GP role in HIV testing, they
were also viewed as creating barriers to GPs playing a continuing role after a positive diagnosis, with considerable implications for the patient:

If you do do the test and you’ve never diagnosed someone, how is that managed? … [A] significant minority of diagnoses are made by GPs who have never diagnosed a case of HIV and won’t ever again. And what that means for the referral pathway? … Those initial contacts with healthcare providers when your diagnosis is made can have far reaching impacts on the quality of your life from then on. (Key informant/07)

If you haven’t had the history of knowing the sequence of how various drugs have come through ... and what toxicities to look for, then [HIV medicine] can seem quite daunting ... [But] I think with support, like co-management or peer support within a practice, I think that can certainly help somebody who is ... coming into the area. (HIV-prescriber GP/10)

These perspectives on organisational issues suggest that some GPs who have little or no experience with making an HIV diagnosis may view that process and the subsequent learning associated with providing ongoing care as too daunting and complicated to even consider. However, formalising connections with HIV-specialist GPs and other clinicians who can provide advice and guidance on navigating these new systems of knowledge and practice may have the potential to support non-specialist GPs in continuing to play a meaningful role in patient care after diagnosis.

A third category included societal issues affecting the engagement of non-HIV specialist GPs. One of the issues noted was a perceived lack of awareness of HIV risk and prevention strategies among the general population, and a common belief that more national education was required. A related issue involved the changing dynamics of HIV transmission in Australia, which was seen to both increase the need for HIV testing in a wider range of patient groups than in the past and to require that a broader range of GPs take this on:
GPs tell us ... that the group of people who become HIV infected has changed ... it’s still ... mainly in males who have sex with males ... [but] it’s now younger people ... [and] there’s also a change in immigration, in the Sub-Saharan African people who come to Australia with an HIV infection ... [so] GPs need to look out for HIV infections in people that [they] didn’t tended to screen, didn’t even tend to see in their local population. (Key informant/14)

We still don’t get a hundred percent screening for HIV in pregnant women, you know, which completely amazes me because GPs are still making decisions around who might have it and who might not. (Non-prescribing GP/3)

The HIV community sector was viewed as having important roles to play as both patient advocates and clinician educators, strengthening links with GPs and other clinicians in their local areas to raise awareness of the broadening impact of HIV and the changing needs of the positive community. However, our participants also suggested that GPs, like many other professional groups, may have become harder to engage with the cross-sectoral and collaborative partnership, which has typified the HIV response in Australia to date:

I have some [concerns] about the relationship of GPs to the ... HIV prevention sector ... Maybe twenty years ago ... government [and] non-government organisations ... had this access to GPs and ... the stories that they could tell about what was going on with patients ... which was incredibly rich and important ... [But] I don’t see GPs around much anymore ... So there’ll be an advisory committee for a piece of research or a piece of social marketing ... where it could be very valuable to have a GP involved ... But it seems [like] the sort of general belief ... is that you don’t even bother asking GPs anymore? (Key informant/8)

I don’t think younger doctors are politicised at all. And I think that’s going to be a problem when we have to fight over the health dollars ... HIV’s going to increase everywhere [and] I think there is going to be another political fight. And I’m not going to be doing it. (HIV-prescriber GP/11)
These claims about a perceived social and political ‘disengagement’ of the general practice workforce from the national HIV response point to the need for HIV organisations to more actively work with GPs, and to exchange knowledge about the issues of most relevance to patients in their local areas, including those related to HIV testing and treatment.

**Discussion**

Our study data provided a unique and timely opportunity to identify key issues affecting the increased engagement of the mainstream general practice workforce with evolving and new priorities in HIV prevention and treatment, from the particular perspective of those who are already involved as either policy, advocacy or education/training professionals, or clinicians providing HIV care. Based on this data, we identified three sets of issues that were considered of relevance in engaging mainstream GPs. Policy key informants and clinicians described educational issues arising from a lack of dedicated attention paid to HIV in medical curricula and a perception that HIV testing, care and treatment are the responsibility of high HIV caseload GPs only. Participants suggested that GP education and training should frame HIV testing as a more ‘routine’ public health practice and should aim to increase awareness of referral options for HIV-related health and social services.

Organisational issues were seen to be most directly affected by the widely recognised challenge of balancing time and business pressures in general practice, with many gains to be had from increasing public investment in rapid testing and multidisciplinary health care teams, particularly general practice nurses. Increased organisational support for GPs who are interested in becoming and staying involved in HIV care could include formalising peer mentoring and co-management opportunities. Societal issues were also seen to be critical to GP engagement, particularly the changing dynamics of HIV transmission and the need to re-connect with GPs as key partners in the Australian HIV response.
We recognise that there are a range of limitations to note. The original study did not set out to investigate the specific topic of how to better engage the mainstream general practice workforce, and so the data relating to that topic was incidental to the main study aims. In addition, the study took a purely qualitative approach, and was therefore interested in exploring perspectives rather than making representative or generalizable observations. We included data from interviews with a broad range of professionals, and did not seek to compare potential differences between the sub-groups of participants. It may be of relevance to note that educational issues tended to be mostly identified by key informants, while organisational matters tended to be mostly identified by clinicians, but even this level of generalisation is not particularly revealing, as the data relevant to this paper was drawn from interviews spanning the whole project dataset. Having said that, the interviews with nurses provided no relevant data for this topic, but that may well be because we were only able to interview three nurses. Finally, this study was conducted in Australia, which has made HIV care available in certain community settings since the early years of the HIV epidemic, and so may not be comparable to even those countries which provide similar health systems in many other ways. Despite these limitations, we feel that a discussion of the manifold and complex ways in which non-specialist HIV GPs will need to be further and better engaged in HIV prevention and treatment is of great value at this point in history, and we hope that our preliminary analysis goes some way towards contributing to this discussion.

Our findings suggest that a set of important and persistent workforce issues shape the capacity of mainstream GPs to become involved in HIV medicine, particularly in relation to the time, financial and continuing education pressures that are typical of private practice settings. Research in the United States has identified similar barriers to increasing HIV testing rates among health service providers, including insufficient time and a lack of knowledge and training. A study in the UK found that GPs who had taken part in an HIV training course were less likely to identify barriers to providing HIV-related health care services, which suggests that professional education will be of
critical importance to involving mainstream GPs in Australia. In Australia and the Western Pacific region, ASHM provides a range of training opportunities for GPs and other clinicians to learn more about what is involved in HIV medicine, but these may require additional resourcing to be able to make a significant contribution to increasing the involvement of the mainstream general practice workforce. In addition, public investment will be essential if GPs are to achieve the required capacity to spend sufficient time on initiating conversations about HIV testing and ensuring appropriate referral for timely initiation of treatment.

An additional range of underlying questions emerges from our analysis with respect to the willingness of GPs to increase their involvement in HIV medicine. It has been documented in research conducted in the United States that medical practitioners can be reluctant to discuss HIV risk, prevention and testing with their patients, because they either believe their patients to be at low risk, or feel uncomfortable discussing sexual and drug use practices in clinical settings. Even when provided with cues by the patient, some clinicians miss or deliberately avoid the opportunity to pursue further discussion of risk practices and risk reduction strategies. While generational change may contribute to a relaxing of GP apprehension regarding discussing potentially sensitive issues, clinician attitudes to discussing the sexual and drug use practices associated with HIV transmission are likely to shape their willingness to initiate and sustain meaningful conversations about these issues. If mainstream GPs are unwilling to become more engaged with HIV prevention and treatment because of a misconception that patients don’t want to talk to their doctor about sexual health and drug use, or that their patients are unlikely to be at risk of HIV, then the resourcing of education programs to address this critical issue should become a matter of priority. Our analysis suggests that the content of such education should focus on ways of making HIV-related discussions, as well as HIV testing, routine for all patients who may be at risk of HIV infection. This may be particularly important in the context of an increase in new diagnosed infections in Australia that are associated with heterosexual transmission and with migration from and travel to high prevalence
countries. However, as research has shown that GPs do not always take a sexual history from even high-risk patients, such as men who have sex with men, much remains to be done to achieve this. GP education regarding priorities for HIV prevention should emphasise the importance of routinely screening patients for HIV as part of a raft of other sexual health concerns. The need to emphasise HIV testing as ‘routine’ is further evidenced by research which has shown that GPs who report taking sexual histories regularly have been shown to feel much less concerned by barriers to this than those who did so infrequently.

In conclusion, we suggest that the momentum provided by the current attention to HIV prevention and treatment priorities offers a timely opportunity to actively involve more general practitioners in HIV prevention and treatment, including through enhancing the role of GPs in supporting and facilitating condom use and other behavioural prevention practices. There is potential for a much-needed strengthening and broadening of the linkages that were forged in the past between clinicians, advocates, policymakers and researchers, which have been so central to the successes achieved in HIV prevention in Australia to date.
References


13. [removed for peer review]


16. [removed for peer review]


