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Integrated opioid substitution therapy and HIV care: a qualitative systematic review and synthesis of client and provider experiences

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Abstract

People who use drugs in many contexts have limited access to opioid substitution therapy and HIV care. Service integration is one strategy identified to support increased access. We reviewed and synthesized literature exploring client and provider experiences of integrated opioid substitution therapy and HIV care to identify acceptable approaches to care delivery. We systematically reviewed qualitative literature. We searched nine bibliographic databases, supplemented by manual searches of reference lists of articles from the database search, relevant journals, conferences, key organizations and consultation with experts. Thematic synthesis was used to develop descriptive themes in client and provider experiences. The search yielded 11 articles for inclusion, along with 8 expert and policy reports. We identify five descriptive themes: the convenience and comprehensive nature of co-located care, contrasting care philosophies and their role in shaping integration, the limits to disclosure and communication between clients and providers, opioid substitution therapy enabling HIV care access and engagement, and health system challenges to delivering integrated services. The discussion explores how integrated opioid substitution therapy and HIV care needs to adapt to specific social conditions, rather than following universal approaches. We identify priorities for future research. Acceptable integrated opioid substitution therapy and HIV care for people who use drugs and providers is most likely through co-located care and relies upon attention to stigma, supportive relationships and client centred cultures of delivery. Further research is needed to understand experiences of integrated care, particularly delivery in low and middle income settings and models of care focused on community and non-clinic based delivery.

Background

People who use drugs (PWUD) experience limited access to the comprehensive package of HIV care (WHO, UNODC, & UNAIDS, 2012) including Needle and Syringe Programmes (NSP), Anti-Retroviral Treatment (ART) and Opioid Substitution Therapies (OST) (Degenhardt et al., 2014; Mathers et al., 2010). The impacts of limited access is compounded by how delivery in combination has synergistic effects (Strathdee et al.). OST, such as methadone and buprenorphine, reduces injecting frequency and subsequent risk of HIV transmission (MacArthur et al., 2012) and promotes adherence to, and coverage of, ART (Reddon et al., 2014; Uhlmann et al., 2010) and supports improved ART outcomes (A. J. Low et al., 2016). Whilst addressing political, economic and social barriers to care access is necessary (Krüsi, Wood, Montaner, & Kerr, 2010; Wolfe, Carrieri, & Shepard, 2010) a priority at the level of service delivery is to support integration of OST within a comprehensive package of HIV care (Lambdin, Mbwambo, Josiah, & Bruce, 2015; WHO, 2014; WHO & UNODC, 2009).

Whilst integration for OST and HIV care is widely promoted (Sylla, Bruce, Kamarulzaman, & Altice, 2007), there is a need to integrate clients and providers perspectives on how to organize and deliver care. Integration – combining service functions (Briggs & Garner, 2006) - can be realised with a range of strategies (WHO, 2008): e.g. delivery within a single clinic, referrals between sites, delivery within community or home settings, supported or not by outreach (Grenfell et al., 2012; Keats et al., 2015; Kennedy et al., 2010; Lucas et al., 2006; Treloar & Rance, 2014; Uyei, Coetzee, Macinko, & Guttmacher, 2011). We have little understanding of what specific approaches to integrated care should be prioritized (Drainoni et al., 2014).

We reviewed and synthesised qualitative research documenting PWUD and provider experiences of OST and HIV care to support the development of appropriate and acceptable care

delivery and policy (Glenton, Lewin, & Gülmezoglu, 2016; Jones et al., 2014; Leidel, Wilson, McConigley, Boldy, & Girdler, 2015; Treloar & Rhodes, 2009; Tuthill, McGrath, & Young, 2014).

Methods

We systematically searched for qualitative literature and used a thematic synthesis approach (Jones et al., 2014; Thomas & Harden, 2008; Tso et al., 2016). Reflecting how service innovations may be documented in non-scientific literatures, we included policy and grey literatures and reports as a supplementary resource (Grenfell et al., 2013; 2010), in order to identify novel models of service delivery and contextualize and explore the main review findings.

We searched nine academic databases (Medline, Embase, Global health, Social policy and practice, CINAHL Plus, Academic search premier, IBSS, the Web of science, and Scopus) in February 2015. A record of the search is available in supplementary file 1. The generic process involved searching for the terms HIV AND OST AND experiences, along with synonyms. We searched back to 1995 to reflect the change in HIV care owing to the availability of ART. We manually identified additional articles by i) searching reference lists of included articles from the database search, ii) identifying citations of included papers, iii) consulting experts in the field, iv) reviewing relevant journals and v) searching the websites of key organisations and conferences.

Articles were assessed for inclusion by two reviewers according to criteria of studies using qualitative methodologies, reporting experiences or preferences of people who use drugs or providers of integrated OST and HIV care (within which we included HIV prevention and treatment); see additional file 1 for further detail. For inclusion in the review or as supplementary expert and policy literature for parallel discussion, reviewers discussed whether selected articles met the following standards: i) use of,

and transparent presentation, of research methodology, ii) methodology is appropriate for the aims and objectives of the study. The included citations were assessed using CASP guidelines to support the interpretation of studies and assessment of confidence in findings (CASP, 2015).

Themes were developed based on major findings in included papers (Thomas & Harden, 2008). The supplementary expert and policy literature was used to further explore and add depth to the themes. AG and MS initially read and open coded data under findings sections, with iterations of identified themes and emerging analyses distributed to the broader review group for comment. Descriptive themes were then fully coded and developed by AG around first (respondents) and second (citation author) order interpretations based on frequency across the data (Noyes & Lewin, 2011). The emerging analysis was then discussed across the group. Nvivo 10 software was used to manage the analysis.

Each theme was documented by AG using the 'Confidence in the Evidence from Reviews of Qualitative research' (CERQual) approach (Lewin et al., 2015) (findings integrated in table 3).

Results

Figure 1 summarises the search. Eleven studies were included in the review (table 1). The majority of citations were from the USA (7), and then from China, India, Russia and Ukraine. All studies used interviews to generate qualitative data. Most papers were of medium quality; limitations focused on brief accounts of methods, in the context of published articles having word limit constraints. The literature focused entirely on 'fixed site' care in clinics, hospitals or offices (primary or general practitioner oriented care), with care then organized around single providers, or teams, and also referrals between sites.

Table 2 lists the expert and policy literature that we use to contextualise the main themes in the review. This literature described more models of care. As well as clinic-located care there was care in community, home and prison settings. There was also a greater geographic diversity: India, Indonesia, Portugal, Tanzania, Ukraine and the USA were all a focus.

In the synthesis of included citations we identified five descriptive themes in how PWUD and providers experience integrated OST and HIV care. Each theme is supplemented with a discussion of the expert and policy literature. Table 3 summarises these findings, including the CERQual assessment. As we note above, and discuss below, most evidence is from North America shaping the generalizability of findings. For each theme we describe the range of experiences, noting in particular differences and overlaps between views of clients and providers.

1 Convenient and comprehensive care through co-location

Co-location of services within one site was described by clients and providers as supporting convenient and comprehensive care.

Having care in one location allowed multiple health issues to be addressed at the same time (Drainoni et al., 2014; Egan et al., 2011; Korthuis et al., 2010): *"for me having it in the same place worked out well. I can get everything right here in this one facility, without having to run over here and over there''* (Client in Egan et al., 2011)

Some clients still sought quicker, geographically closer or less demanding care. OST clients highlighted barriers that complicated attending even one facility: distance (Drainoni et al., 2014), the

timing of work (Lin, Cao, & Li, 2014) and for women the need to arrange child care (Morrow & Costello, 2004). Counselling on HIV that was part of several programmes was also described as burdensome by some clients (Batchelder et al., 2013; Drainoni et al., 2014; Egan et al., 2011).

The expert and policy literature had similar findings. Co-located care was linked to easier access and was highly valued (Curtis, 2009; Grenfell et al., 2012; Pangaea, 2014; Tobias, Drainoni, & McCree, 2000). There were still challenges for some of travel to even one site (Curtis, 2009; Demchenko, Kozhan, Varban, & Kolomiets, 2014).

2 Contrasting philosophies of care

Differing treatment philosophies shaped preferences for the location and approach to care. Principles of harm reduction and client centredness were linked to HIV focused care and more favoured by clients and providers.

Egan et al (2011), where OST was integrated within a HIV care oriented setting, report physicians preferring clinic based services for how they differed from the regulated and punitive approach of methadone; providers reported the same in Weiss et al (2011). Some clients welcomed this client centred and harm reduction oriented approach: *"[my HIV provider] made me feel really comfortable knowing that if I… were to get off it [i.e. OST] and relapse, or whatever, that she could…you know, that she could start giving it to me again." (Korthuis et al., 2010)*.

A focus on abstinence in OST focused settings was linked to limit setting and sanctions (Strauss & Mino, 2011). Some clients didn't like this approach: *"One thing, you're five minutes late they'll shut*

the door right in your face." (Korthuis et al., 2010), although some favoured it: *"I need the structure and the consequences"* (Drainoni et al., 2014).

Similar themes were evident in the expert and policy literature. HIV care was again linked to harm reduction principles (Curtis, 2009) and client centred approaches (Demchenko et al., 2014; Grenfell et al., 2012), whilst OST was also described as restrictive (Curtis, 2009). Tobias et al (2000) reported a range of provider views: some linked successful care to a harm reduction approach that tolerates drug use, others an abstinence based approach with clear boundaries, and one provider a combination of both harm reduction and abstinence models as necessary.

3 The challenges of discussing and disclosing HIV and drug use within integrated care

Integrating OST and HIV care was challenged by clients being unable or unwilling to discuss and disclose HIV and drug use status; challenges of stigma were also recognized by providers.

Some clients felt that discussing HIV in the context of OST was not necessary. Drainoni et al. (2014) summarise: *"the participants almost universally did not feel that HIV risk reduction counselling was helpful or a necessary component of their treatment"*. Providers of OST trying to support ART reported that *"sometimes you were trying to give advice, and they [clients] were like 'I know, I know!'* "(Lin et al., 2014).

Some OST clients living with HIV were comfortable disclosing their status in care settings: *''now they know I got [HIV], and it's like nothing to them, you know what I mean.''* (Egan et al., 2011). For others stigma and discrimination were a challenge. Directly observed approaches to integrated OST and ART were cited as problematic (Lin et al., 2014). A client reported stopping taking ART at the

"methadone window" owing to stigma and shame; the extra pills described as a *"little sign"* of HIV (Batchelder et al., 2013).

Stigma and discrimination against drug use was cited less as a challenge. Weiss et al (2011) report a nurse in a site integrating OST within a HIV care focused clinic as saying of clients experiencing withdrawals: *"I hate providing care to these kinds of patients"*. Providers and clients reported how some referrals for ART from OST sites were not fulfilled as providers would not start people on ART out of beliefs they wouldn't adhere (Chakrapani, Kamei, Kipgen, & Kh, 2013; Lin et al., 2014).

The expert and policy literature reported similar findings. Inability or unwillingness to discuss or disclose HIV was again reported (Demchenko et al., 2014; van Laere et al., 2010). Bruce et al (2014) suggest that people confronting addiction may not at first feel able to also confront HIV (see also Demchenko et al., 2014). Fears of HIV stigma were overcome in one setting by involvement of outreach workers in facilitating referrals (Grenfell et al., 2012).

4 Varying mechanisms for OST enabling HIV treatment

In the context of integrated care, OST was described by clients as enabling people to access and maintain HIV treatment through a range of mechanisms.

OST enabling time was described by clients as facilitating HIV care through helping them to "*remember*" to take medication (Egan et al 2011), and through allowing people to find "*the time*" for care rather than being focused on obtaining drugs and being on the street (Mimiaga et al., 2010; Sarang, Rhodes, & Sheon, 2013). As described by an OST client: *"People who take street drugs are busy thinking*

about where to get drugs, how to get drugs and do not have time to take ART. It happened to me before I started taking substitution therapy" (Mimiaga et al., 2010).

OST also fostered motivation and hope, or "*reinvestment*" in life, and HIV treatment resulted from this: *"if it wasn't for suboxone, I think I'd be dead, truly. [ ]. It just changed a lot of things in my life. I can see clearly now there's - as a matter of fact I start seeing hope for myself. And I start feeling I could fight [HIV], and there's nothing that I can't accomplish."* (Egan et al., 2011).

This theme was little explored in the expert literature. Bruce et al (2014) note how OST provides "*stability and well being*" and so engagement in HIV care. Conversely, Grenfell et al (2012) report how OST limited HIV treatment engagement owing to fears of medication interactions.

5 The health system context for integrated care

Contextual health system factors were described by providers as shaping the potential for, and nature of, integrated care within clinics.

Requirements that clients pay for HIV care limited integration within an OST setting (Lin et al., 2014), and challenges in health insurance coverage for both areas of treatment were cited (Drainoni et al., 2014). Integrated care within one site ended when funding for vital staff finished (Strauss & Mino, 2011).

Ineffective referrals were linked to the absence of formal policy support (Chakrapani et al., 2014). ART providers' reluctance to accept referrals was also linked to specific, results-oriented

management systems: *"Patient mortality rate is one of their performance appraisal indexes, so they only want compliant patients, 'good patients'."* (Lin et al., 2014)

There was greater discussion of the role of context within the expert and policy literature. Funding and resource challenges were raised (Van laere et al., 2010; Curtis, 2009), poor coordination (Van Laere et al., 2010), as well as government regulations (Bruce et al., 2014), lack of political support (Van laere et al 2010), lack of awareness of OST efficacy by people using drugs limiting demand (Ambekar, Arumugam, Sharma, Raju, & Singh, 2014) and criminalization of people using drugs (Demchenko et al., 2014). Successful referrals were limited by bureaucratic obstacles, but facilitated by informal professional networks (Grenfell et al., 2012); similarly, case management was seen as a way to overcome lack of communication across a health system (Tobias et al., 2000). Detailed strategies were suggested to manage contextual limitations (Bruce et al., 2014).

Discussion

This review has synthesized qualitative literature on client and provider experiences of integrated OST and HIV care. We found that co-located care is valued by clients for its convenience, although convenience is not experienced the same by all; HIV and OST focused settings are associated with different treatment philosophies with clients and providers having greater preference for the patient centred philosophies associated with HIV focused sites and care; stigma limits the potential for co-located care, especially when delivered through directly observed approaches; and specific health system barriers shape the possibilities for integrated care. We discuss these findings to develop recommendations.

A strong theme was the support for the co-location of care within one facility for how it facilitates comprehensive and convenient care. This co-location of care should be favoured over referral models . There are however limits to this convenience and it is also experienced differently: women may face greater hurdles to care access and these varying needs should be explored (Azim, Bontell, & Strathdee, 2015; Deshko, 2015).

In planning and developing integrated services HIV and drug stigma should be a primary consideration. Co-located care especially poses challenges in terms of stigma (Beyrer et al., 2011), particularly with directly observed approaches to care through 'methadone windows' (Bourgois, 2000; Crawford, 2013; Fraser, 2006). Co-located care should therefore be prioritized only if attention is paid to the need for privacy and confidentiality (Beyrer et al., 2011). This could include support to providers and adapting delivery settings, or 'co-locating' care within community settings (Grenfell et al., 2012)). If such approaches to addressing stigma are not feasible or ineffective, then alternative – potentially additional – care models should be prioritized. For example, support to effective referral pathways between facilities, through facilitating outreach support (Broadhead et al., 1998; Keats et al., 2015; Treloar et al., 2015).

The review indicates HIV care oriented settings have a greater orientation to client centred practices (Daftary, Calzavara, & Padayatchi, 2015) and may be better suited to integrating OST focused on achieving HIV prevention and treatment goals. Client centred practices that allow for harm reduction focused low threshold care (Strike, Millson, Hopkins, & Smith, 2013) would have long term retention in OST – and in turn HIV treatment and prevention - as a primary goal. OST settings that may more commonly emphasize abstinence may be experienced as restrictive or punitive (Bourgois, 2000) and in so doing place less priority on retention in care, and so HIV treatment. However, a sole focus on HIV care settings for OST integration would limit some clients' preference for abstinence focused care and also

challenges of existing clinic infrastructures. Integrated care may then be best served by prioritizing 'integration' of treatment philosophies (Daftary et al., 2015). A client centred philosophy that is flexible to the needs of individuals (Islam, Topp, Day, Dawson, & Conigrave, 2012) could be the focus for synthesizing delivery cultures of both harm reduction and abstinence strategies within both HIV and OST oriented settings, depending on collaborative decisions over care between providers and clients (Harris & Rhodes, 2012; McKeganey, 2011; Rance & Treloar, 2015).

Health system policies and contexts were described as influencing integrating care, although the literature was varied and referred to a range of barriers. These findings come in the context of considerable evidence for the need for increased funding for harm reduction and care for PWUD (HRI, IDPC, & Alliance, 2014)and recognition of the structural barriers to separate OST and HIV care , such as the legality of OST, bureaucratic demands and the broader criminalization and persecution of PWUD (Bojko et al., 2015; Rhodes & Sarang, 2012). The expert and policy literature brought more insight to the role of context, and suggested directions for managing these barriers. Whilst more documentation of these health system barriers and responses to them is needed, the available policy literature and broader evidence supports the need for policy change to create supportive contexts.

The limited empirical literature found indicates the need to document existing models of care and experiences of access. A specific methodological opportunity is greater use of mixed-methods approaches to study the integration of care. There is considerable quantitative study of OST and HIV care (A. Low et al.), but little use of qualitative methods to document care processes and models that form the context for clinical outcomes (e.g. Conway et al., 2004; Lucas, Weidle, Hader, & Moore, 2004). Documenting experiences of care in low and middle income settings is a priority, as well as focusing more on how gender shapes access.

The expert and policy literature described a greater diversity of care models, drawing attention to the potential for home and community focused delivery, peer and outreach support. Greater consideration should be given to developing these care models linked to rigorous monitoring and evaluation.

The literature identified important themes, although was limited in depth, even if the number of papers cited compares to other similar reviews (Leidel et al., 2015; Thomas & Harden, 2008). The exclusion of non-English language literature may also have limited the depth of the data. We have sought to manage these limitations through including expert and policy literatures to explore and expand on the empirical evidence The thematic synthesis approach used also faces limitations, particularly through how individual findings are decontextualized within themes (Thomas & Harden, 2008); the approach does however serve the policy oriented purpose of giving insight to significant experiences and to questions of care need and appropriateness across diverse contexts (Ring, Ritchie, Mandava, & Jepson, 2011).

Conclusions

These findings complement existing calls for integration of OST and HIV care (Sylla et al) by providing clarity on PWUD and provider views on care. Priority considerations for developing care include: emphasising co-located integrated care, attention to stigma and the need to synthesize treatment philosophies around client centred care. More research is needed to understand a greater range of care models and how contextual factors shape experiences of integration.

Table 1. Citations included in the review

Title	**Country**	**Aim**	**Study methods**	**Population**	**Integrated care model**
1 Batchelder et al. (2013).	USA	To understand HIV treatment adherence experiences amongst people using methadone as a maintenance therapy	In-depth interviews with participants in a clinic based trial of an intervention	People living with HIV (PLHIV) accessing methadone, n=15 (5 women, 10men)	Directly Observed Therapy (DOT) approach to ART in a methadone clinic
2 Chakrapani, et al. (2014).	India	To understand barriers to HIV treatment access in government run ART centres	Focus groups with PWID and key informant interviews	PLHIV, n = 19, all men, 4 on ART. Number on OST not specified. Interviews with 2 physicians and 2 heads of community agencies	OST available by referral from HIV treatment and care clinics.
3 Drainoni, M. et al. (2014).	USA	To evaluate a team based model of	Focus groups with clients and open	40 intervention clients in focus	Primary care integrated mode of substance use

Title	Country	Aim	Study methods	Population	Integrated care model
		integrated OST and HIV care within a primary care site	responses as part of satisfaction surveys	groups, 212 in open response survey; 65% receiving buprenorphine/naloxone (no breakdown by gender given)	treatment and medical care, including buprenorphine/naloxone and HIV risk reduction counselling
4 Egan, et al. (2011).	USA	To describe patient experiences of buprenorphine/naloxone treatment and its integration in to HIV care settings	Semi-structured interviews	33 PLHIV (22 men, 11 women) enrolled at integrated delivery sites from across USA	'Office based' [primary care] delivery of OST and HIV care
5 Korthuis, et al. (2010).	USA	To explore PLHIV attitudes towards OST in 'office based' integrated care settings (that include HIV care) in comparison to	In-depth interviews	29 PLHIV all receiving buprenorphine (23 men, 6 women)	Context of randomized trial of two OST delivery strategies (office based integration with HIV care, OST setting)

Title	Country	Aim	Study methods	Population	Integrated care model
		exclusively OST settings, and then how this influences HIV care			
6 Lin, C., et al. (2014).	China	To evaluate pilot of ART integration within methadone clinics	Focus groups	12 OST service providers from 6 clinics	On-going ART delivery within methadone clinics through directly observed approaches (ART initiation in separate sites)
7 Mimiaga, et al. (2010).	Ukraine	To explore barriers and facilitators to ART adherence for PWID in Ukraine	Focus groups	16 PLHIV (11men,5 women) attending an AIDS care centre, 14 of whom on OST	OST co-located within same building as HIV care centre
8 Morrow and Costello (2004).	USA	To assess needs and women's preferences for	Qualitative study to inform quantitative survey: focus	30 women using methadone (10 in focus	Context of methadone delivery (no specific integration

Title	Country	Aim	Study methods	Population	Integrated care model
		HIV/STI and hepatitis prevention within methadone delivery	groups, dyad interviews and in-depth interviews	groups, 4 in dyad interviews, 16 in interviews)	care pathway described)
9 Sarang, et al. (2013).	Russia	To explore barriers to HIV treatment access among PWUD	Qualitative in-depth interviews	42 PLHIV (26 men, 16 women) none on OST	No integrated care pathway available
10 Strauss, and Mino (2011).	USA	To identify implementation barriers to combined substance use treatment and HIV care	Semi-structured interviews with staff	Staff of substance use treatment programmes (n not specified)	Integration of HIV care in to substance use treatment programmes focused on methadone delivery, linked to maintenance or abstinence focused care
11 Weiss, et al. (2011).	USA	To evaluate the process of integrated OST	Semi-structured interviews	10 site principal investigators, who led	Buprenorphine within HIV care at hospital,

Title	Country	Aim	Study methods	Population	Integrated care model
		within HIV clinical care		implementation of new services	community or HIV care centres

Table 2. Expert experiences and policy literature

Citation	Country	Report aim or focus	Report design or approach	Population	Integrated care model
1 Ambekar, et al. (2014).	India	Survey of experiences of PWUD in drug use and service access	Structured interviews with PWUD	1000 PWUD across 22 sites	Context for survey of 'Targeted Interventions' for PWUD; centres that include OST, NSP and link to HIV care
2 Bruce, et al. 2014	Tanzania	Reflections on lessons learned through implementing integrated OST and HIV care	No particular design; report by programme team	12 member team engaged in delivery or development of the services	MAT site in Tanzania, with integrated HIV care: ART daily dosing alongside observed MAT
3 Curtis. (2009).	Ukraine	WHO commissioned short report of case studies of integration	No particular design; author led consultation and observations	Various providers and service clients across multiple	Various sites in Ukraine: one site of referrals between clinics; MAT

Citation	Country	Report aim or focus	Report design or approach	Population	Integrated care model
				service sites (n not specified).	site in a hospital linked to other clinics; co-location of services within an HIV focused site
4 Demchenko, et al. (2014).	Ukraine	Evaluation of service access for PWUD	Semi-structured interviews and focus groups with clients, in-depth interviews with providers	500 clients of OST	Various sites in Ukraine
5 Grenfell et al (2012)	Portugal	Rapid assessment to assess acceptability and integration of	Mixed-methods rapid assessment including	30 PWID (3 women, 27 men; 26 PLHIV, and 21 currently on	Two models documented: i) all services available within a single

Citation	Country	Report aim or focus	Report design or approach	Population	Integrated care model
		HIV, TB and drug dependency treatment (including OST) in Portugal	mapping, analysis of secondary data and interviews with PWID and providers	treatment; 26 had experienced OST, 24 currently) 7 providers engaged in HIV, TB and OST care	centre, ii) services available through referral between separate facilities, supported by outreach teams
6 Van Laere, et al. (2010).	Indonesia	Baseline evaluation of services in six methadone clinics	Mixed methods evaluation, including interviews with providers, and focus groups	Providers, n not stated	MAT clinics with varying levels of on-site integration of HIV care: HIV prevention (condoms, NSP), VCT. ART only by referral to HIV clinics.

Citation	Country	Report aim or focus	Report design or approach	Population	Integrated care model
7 Tobias, et al. (2000).	USA	Information review on delivery of HIV services for people using drugs	Literature review and key informant interviews	50 key informants (providers, community leaders, government staff, researchers)	Not applicable
8 Pangaea Global AIDS Foundation. 2014	Global	Expert consultation on appropriate models of integrated HIV care for PWID in Africa	Expert perspectives and reports on programme experience	Stakeholders, including providers	Various

Table 3. Summary of review findings and CERQUAL assessment

Theme	**Included citations**	**CERQual assessment of confidence in the evidence**	**Explanation of CERQual assessment**
1 Convenient and comprehensive OST and HIV care through co-located integrated care Having OST and HIV care available at one site, whether through a single provider or team of providers, was welcomed by clients as convenient and facilitating attention to multiple health priorities. There are still limitations described, with access to a single facility itself posing challenges of time and transport.	Drainoni et al 2014, Egan et al 2011, Korthuis et al 2010, Lin et al 2014, Morrow & Costello 2004, Weiss et al 2011	High/moderate	High methodology quality, high relevance, and high coherence, although thin data and narrow range of countries represented.
2 Contrasting philosophies of care Integrated care varied according to different philosophies, centred on harm reduction or sobriety, with clients having different preferences shaped by their experiences and goals for OST.	Drainoni et al 2014, Egan et al 2011, Korthuis et al 2010, Strauss & Mino 2011, Weiss et al 2011	moderate	High relevance, but only moderate methodological quality and coherence, with low range of countries.
3 The challenges of discussing and disclosing HIV and drug use Whilst some reported comfort and willingness to disclosure and discuss HIV status, some found this difficult because of stigma and fears of discrimination, or not considering it necessary to address HIV in OST settings	Batchelder et al 2013, Drainoni et al 2014, Egan et al 2011, Korthuis et al 2010, Lin et al 2014	moderate	High relevance, but moderate quality, and low coherence and range of countries

4 OST enabling HIV treatment OST facilitates overcoming social and structural barriers to addressing HIV for some people, through varying mechanisms	Egan et al 2011, Korthuis et al 2010, Mimiaga et al 2010, Sarang et al 2013, Weiss et al 2011	low	Moderate quality and relevance, but low coherence and low range of countries
5 The health system context for integrated care Contextual policy and system issues shape the potential for, and nature of, integration	Chakrapani et al 2014, Drainoni et al 2014, Lin et al 2014, Strauss & Mino 2011, Weiss et al 2011	Moderate/low	High relevance, but moderate quality and low coherence and adequacy

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