

June 2023 || Version 1

SECONDARY DISTRIBUTION OF STERILE INJECTING EQUIPMENT: A RAPID EVIDENCE REVIEW

Prepared for the WA
Department of Health
Sexual Health and Blood
Borne Virus Program

About SiREN

The Sexual Health and Blood-borne Virus Applied Research and Evaluation Network (**SiREN**) is a partnership between researchers, service providers and policymakers working to strengthen evidence-informed policy and practice in Western Australia.

Under the management of Curtin University School of Population Health, SiREN aims to:

1. Strengthen the research, evaluation and health promotion skills of people working to promote sexual health or prevent or manage blood-borne viruses;
2. Promote and facilitate opportunities for collaboration between sexual health and blood-borne virus service providers, policymakers and researchers; and
3. Foster links with national sexual health and blood-borne virus research centers and contribute to appropriate national research agendas in order to raise the profile of sexual health and blood-borne virus concerns affecting Western Australians.

SiREN receives its core funding from the Western Australia Department of Health's Sexual Health and Blood-borne Virus Program.



This rapid evidence review has been conducted as part of SiREN's contractual deliverables to the Department of Health, with a view to summarising the evidence-base to inform public policy discussions.

Suggested citation:

Vujcich, Daniel. (2023). *Secondary distribution of sterile injecting equipment: a rapid evidence review*. Curtin University, Bentley.

Contents

01	General Executive Summary.....2 Abbreviations.....4	04	Overview of included studies Table of main characteristics 13
02	Background Strategic priorities5 Sterile injecting equipment in WA6 Secondary distribution of sterile injecting equipment8	05	Summary of evidence How common is SDSIE? 20 Arguments in favour of SDSIE..... 22 Arguments against SDSIE..... 24 Conclusions 28
03	Methods Review rationale.....11 Search and screening strategy.....11 Analysis and data extraction.....12	06	References References 29 Legal sources 34

Executive summary

Background

The *Western Australian Hepatitis C Strategy 2019-2023* and the *Western Australian HIV Strategy 2019-2023* have set ambitious goals to reduce the transmission of hepatitis C and virtually eliminate HIV within their respective timeframes. Although progress has been made, further efforts are needed to achieve these targets.

A modeling study published in *The Lancet Gastroenterology and Hepatology* indicates that eliminating hepatitis C transmission associated with injecting drug use (IDU) could prevent 66 percent of new cases in Australia by 2030. In Western Australia (WA), 66 percent of newly acquired hepatitis C cases in 2021 were linked to IDU. While HIV transmission is mainly sexual, 16 cases related to IDU were reported in WA between 2012 and 2021.

The WA Hepatitis C and HIV Strategies prioritise people who inject drugs as a key population and outline actions to increase the availability and distribution of sterile injecting drug equipment (IDE). Data suggest that sterile IDE is not available at every occasion of injecting drug use. In a survey of WA needle and syringe programme (NSP) attendees conducted in 2021, just over one-quarter of the sample reported that they had reused someone else's used needle and syringe in the previous month at least once.

Secondary distribution of sterile injecting equipment (SDSIE) has been proposed as a mechanism for reducing IDE sharing. SDSIE involves individuals acquiring needles, syringes and other injecting equipment from authorised sources and redistributing them to other people who inject drugs.

There is no express legal provision which makes it an offence to provide sterile injecting equipment to another person in WA. However, provisions in the *Misuse of Drugs Act 1981* (WA) and the *Criminal Code* (WA) mean that a person engaging in SDSIE could be deemed to have taken part in committing the offence of using a prohibited drug.

In the Northern Territory, Australian Capital Territory and Tasmania, laws have been amended to offer protections to people engaged in SDSIE. Calls have been made for other jurisdictions to remove legislative barriers that hinder the government's ability to achieve blood-borne virus (BBV) prevention goals.

This report aims to review national and international evidence on SDSIE to inform discussions around legal reform in WA, with a focus on public health outcomes related to BBV prevention and control.

Methods

A rapid review methodology was employed to efficiently synthesise relevant knowledge. The search strategy included the databases MEDLINE, Embase, Web of Science Core Collection, and Google Scholar. A total of 4,925 publications were identified and screened against inclusion criteria. Reference list scanning identified a further 102 potentially relevant studies for screening.

Main findings

Seventy two studies met inclusion criteria, with 56 percent being solely quantitative and 18 percent incorporating a mix of qualitative and quantitative data. The studies covered various research objectives, with SDSIE being only a minor focus in many studies. Three quarters of the studies were conducted outside Australia. The Australian studies were predominantly focused on the eastern states.

SDSIE prevalence

Three studies conducted in Australia aimed to assess the prevalence of SDSIE. The studies estimate that between 30 and 60 percent of respondents distributed sterile injecting equipment to others. These quantitative findings align with qualitative research in Australia, and a large body of international literature.

Main arguments in favour of SDSIE

(1) There is evidence that SDSIE offers options for harm reduction to people who face structural barriers to accessing NSP services. These barriers include distance from NSPs, lack of transportation, the inability to access NSPs during normal hours of operation, a desire for privacy due to the stigma associated with injecting drug use, disability, physical and mental health issues, or lack of financial resources. The qualitative and quantitative evidence suggests that SDSIE reaches populations with different demographic characteristics compared to clients who mainly (or exclusively) access NSPs.

(2) It has also been argued that laws prohibiting SDSIE unfairly criminalise altruistic behaviours. Qualitative literature consistently shows secondary distributors of IDE are motivated by a desire to reduce the transmission of BBVs and associated harms. While instances of individuals engaging in SDSIE as a profit-making activity have been documented, most evidence comes from studies outside Australia. Local surveys indicate that the vast majority of individuals engaging in SDSIE distribution do not accept money in exchange for sterile equipment.

Main arguments against SDSIE

(1) It has been argued that SDSIE reduces the opportunities for people who inject drugs to access other services that may be offered by NSPs; these include brief interventions, health promotion information around safer injecting and wound care, BBV testing, vaccinations, and referrals to other services. However, evidence suggests that secondary distributors also disseminate harm reduction information regarding safe injecting practices, hepatitis C prevention, and treatment options. Bivariate comparisons show that secondary distributors provide similar amounts of harm reduction information as non-distributors but are more likely to offer guidance on obtaining sterile needles, alcohol swabs, and treatment for drug use. On the whole, SDSIE has been shown to complement (rather than undermine) NSP services. According to expert guidance from the United Kingdom National Institute of Clinical Excellence, NSPs should not discourage individuals from taking equipment for others, but instead encourage them to persuade their contacts to use the service directly. The guidance emphasises that achieving high rates of sterile equipment coverage through SDSIE is a key consideration for the prevention and control of BBVs. Training secondary distributors has been suggested as a means of ensuring that accurate harm reduction information is disseminated.

(2) There are some accounts of distributors providing people with non-sterile equipment which is passed off as 'new'. However, all of the examples of this practice arose in the context of studies conducted in North America and were associated with 'street sales' of IDE. There is no evidence to suggest that unauthorised IDE sales are common in Australia; instead, studies suggest that most SDSIE in Australia is altruistically motivated and therefore unlikely to involve deception. Strategies such as individual packaging and safety seals have been recommended to help determine the sterility of IDE obtained from secondary distributors.

(3) There is evidence suggesting that distributors who collect and return used IDE on behalf of others may face an increased risk of needle-stick injuries. Studies in California found that those engaged in secondary

distribution were more likely to report needle-stick injuries compared to non-distributors. Post-exposure prophylaxis programs can be provided to assist secondary distributors who experience needle-stick injuries, and it is suggested that they receive instruction in safety protocols and be provided with appropriate materials for safer syringe handling. However, there is no specific Australian data on the prevalence of needle-stick injuries among people engaged in SDSIE.

(4) There is some evidence that people who obtain equipment through SDSIE may be at a higher risk of BBV acquisition compared to people who predominately rely on NSPs. However, the studies have methodological limitations, and the findings do not support the conclusion that SDSIE *causes* higher rates of BBV prevalence; instead, the results may indicate that people who receive equipment through secondary distribution have different risk profiles.

Conclusions

The balance of the evidence supports arguments that SDSIE helps underserved populations to overcome structural barriers to sterile equipment access. While SDSIE is not a substitute for NSPs which offer ancillary services to assist in the prevention and management of BBVs, the evidence shows that secondary distributors can (and frequently do) disseminate health promotion messages to the individuals they serve.

SDSIE models can be designed in a manner that addresses the key arguments against the practice. In particular: (1) legal barriers to individuals selling sterile equipment to make a profit can be maintained; (2) secondary distributors can be trained to provide accurate harm reduction information and promote NSP services; (3) secondary distributors can be trained in safety protocols for safe syringe handling, provided with safety equipment, and be educated about the availability of post-exposure prophylaxis to mitigate risks of 'occupational' exposure; and (4) equipment provided to secondary distributors can be individually packaged and sealed to increase receivers' confidence that equipment is sterile.

In the absence of a large body of Australian literature regarding SDSIE, the legal reforms in the Australian Capital Territory, Tasmania and the Northern Territory offer a 'natural experiment'. Data from these jurisdictions will be instructive to other Australian states and territories considering similar reforms, and may help to identify key requirements for a successful model.

Abbreviations

AIVL	Australian Injecting and Illicit Drug Users League
BBVs	blood-borne viruses
HIV	human immunodeficiency virus
IDU	injecting drug use
IDE	injecting drug equipment
NSP	needle and syringe programme
MDA	Misuse of Drugs Act 1981 (WA)
MPA	Medicines and Poisons Act 2014 (WA)
SDSIE	secondary distribution of sterile injecting equipment
WA	Western Australia
WAAC	(formerly) Western Australian AIDS Council



Background

Strategic priorities

The **Western Australian Hepatitis C Strategy 2019-2023** aimed for a 90 percent reduction (from 2016 baseline) in the number of newly acquired hepatitis C cases by 2030 (WA Department of Health, 2019a); this target aligns with the World Health Organisation's **Global Health Sector Strategy on Viral Hepatitis, 2016-2021** which was, in turn, endorsed by the Commonwealth Government (World Health Organisation, 2016; Australian Government Department of Health, 2018). Additionally, the **Western Australian HIV Strategy 2019-2023** set the goal of virtually eliminating human immunodeficiency virus (**HIV**) within the life of the Strategy (WA Department of Health, 2019b).

Considerable inroads have been made towards these strategic goals. In Western Australia (**WA**), there has been a 47 percent reduction in the number of cases of newly acquired hepatitis C from 121 cases in 2016 to 64 cases in 2022 (Communicable Disease Control Directorate, 2017; 2023). With respect to HIV, 368 cases were diagnosed in WA between 2017 and 2021, compared to 500 cases in the previous five-year period (Communicable Disease Control Directorate, 2022).

However, concerted public health responses are still required to achieve virtual elimination of hepatitis C and HIV transmission. A modelling study published in *The Lancet Gastroenterology and Hepatology* shows that removing the transmission associated with injecting drug use (**IDU**) could prevent 66 percent of new hepatitis C cases in Australia by 2030 (Trickey et al., 2019). This modelling is consistent with the estimate that 66 percent of newly acquired hepatitis C cases in WA reported IDU as a risk factor in 2021 (Communicable Disease Control Directorate, 2022). In WA, HIV is predominately transmitted sexually; however, 16 IDU-related cases were reported between 2012 and 2021 (Communicable Disease Control Directorate, 2022).

People who inject drugs are identified as a priority population in the current WA Hepatitis C and HIV Strategies, and both Strategies contain actions to increase the availability and distribution of sterile

90%

target for reduction in
new hepatitis C cases
between 2016 and 2030

47%

actual reduction in
newly acquired hepatitis C cases
in WA between 2016 and 2022

66%

estimated reduction in
new hepatitis C cases
in Australia by 2030
if IDU transmission is eliminated

injecting equipment (WA Department of Health 2019a; 2019b).

Sterile injecting equipment in WA

Law governing needle and syringe programs

In 1987, an agreement was made between WA government agencies (including the police) and the WA AIDS Council (now **WAAC**) to facilitate the distribution of sterile injecting equipment from pharmacies and the WA AIDS Council (Newby, 1995). However, the practice remained illegal. At the time, section 36 of the *Poisons Act 1964* (WA) made it an offence to use or attempt to use a drug of addiction for self-administration, and section 7 of the *Criminal Code* (WA) provided that “[e]very person who does ... any act for the purpose of enabling or aiding another person to commit the offence” is “deemed to have taken part in committing the offence and to be guilty of the offence, and may be charged with actually committing it”. Providing injecting equipment to facilitate the self-administration of a drug of addiction could fall within the definition of “enabling or aiding another to commit” an offence. Additionally, section 6(2) of the *Misuse of Drugs Act 1981* (WA) made it an offence for a person to have a prohibited drug in their possession without authority under the *Poisons Act 1964* (WA), and the section could have applied to organisations accepting used equipment containing residual amounts of controlled drugs.

In 1992, the Hon. Kevin Minson MLA (Liberal) noted:

An important health matter is the need for changes to the *Poisons Act* – I will pursue this matter with the Minister for Health. In particular, I refer to the provisions which make it illegal to operate a needle exchange service ... [I]t is of concern that those working in the needle exchange are guilty of an offence and it is only because the police turn a blind eye that these people are not arrested or charged (*Hansard Debates, Legislative Assembly, 1 April 1992*).

In 1994, the *Poisons Amendment Act 1994* (WA) inserted a provision into the *Poisons Act 1964* (WA) which created a defence protecting needle and syringe programmes (NSPs) from prosecution for both: (1) **accepting used** injecting equipment containing residual amounts of prohibited drugs; and (2) **distributing sterile** injecting equipment.

36A. It is a defence in proceedings for an offence against section 36 of this Act or section 6 (2) of the *Misuse of Drugs Act 1981* for the person charged to

prove that the offence occurred by reason only of the person –

(a) supplying any other person with a sterile hypodermic syringe or a sterile hypodermic needle;

(b) doing any act or thing to facilitate the safe disposal of a used hypodermic syringe or a used hypodermic needle.

In 2014, the *Medicines and Poisons Act 2014* (WA) (**MPA**) repealed and replaced the *Poisons Act 1964* (WA) and amended the *Misuse of Drugs Act 1981* (WA) (**MDA**). These 2014 reforms remain in force. The MPA retained the 1994 defences protecting NSPs from prosecution for **accepting used** injecting equipment:

14(4) A person who is in possession of a Schedule 4 or 8 poison commits an offence unless –

(h) the poison is in or on a used hypodermic syringe, a used hypodermic needle or another used thing and the person has the possession of the syringe, needle or other thing for the purposes of disposing of it in accordance with a needle and syringe programme of a type specified in the regulations ...

17. A person who manufactures, supplies, uses or is in possession of a Schedule 9 poison commits an offence unless –

(b) the poison is in or on a used hypodermic syringe, a used hypodermic needle or another used thing and the person has the possession of the syringe, needle or other thing for the purposes of disposing of it in accordance with a needle and syringe programme of a type prescribed by the regulations.

These defences also protect NSPs* from prosecution for offences under section 7B of the MDA relating to possession of any drug paraphernalia “on which there is a prohibited drug”:

7B. (6) A person who is in possession of any drug paraphernalia in or on which there is a prohibited drug or a prohibited plant commits a simple offence. Penalty: a fine of \$36 000 or imprisonment for 3 years or both.

(7) It is a defence to a charge of an offence under subsection (6) to prove –

(a) the accused was authorised by or under this Act, the *Medicines and Poisons Act 2014* or the *Voluntary Assisted Dying Act 2019* to possess the prohibited drug or prohibited plant; or

*There is uncertainty in the sector as to whether the defences could apply to NSP clients. Even if the defences apply, an NSP client seeking to rely on these defences would carry the evidentiary burden of proving that they only possessed the equipment for an authorised purpose.

(b) the accused had possession of the drug paraphernalia –

(i) only for the purpose of delivering it to a person authorised under this Act, the *Medicines and Poisons Act 2014* or the *Voluntary Assisted Dying Act 2019* to have possession of any prohibited drug or prohibited plant in or on it ...

However, NSPs also **supply unused (sterile)** injecting equipment. The MPA does not contain an equivalent to section 36A(a) of the repealed *Poisons Act 1964* (WA) (as amended in 1994) which also created a defence for any prosecutions arising from "**supplying** any other person with a **sterile** hypodermic syringe or ... needle" (emphasis added). However, the definition of a "needle and syringe programme" in the MPA envisages that NSPs will engage in the supply of sterile equipment:

3. needle and syringe programme means a programme to do one or more of the following principally for the purpose of preventing the spread of infectious diseases that are carried in the blood –

(a) to supply people with any of the following –

(i) sterile hypodermic syringes;

(ii) sterile hypodermic needles;

(iii) things that may be used in connection with the administration, by injection, of prohibited drugs (as defined in the *Misuse of Drugs Act 1981* section 3(1)), for example, swabs and spoons;

(b) to facilitate the safe disposal, after use, of any of the things mentioned in paragraph (a);

(c) to advise, counsel or disseminate information to people.

It follows that NSPs approved pursuant to the *Medicines and Poisons Regulations 2016* (WA) are legislatively authorised to supply sterile injecting equipment without risk of prosecution provided that the conditions of the approval are followed.

Needle and syringe program coverage

In 2022, there were 4,388 NSPs nationally, comprising 109 primary NSPs (solely dedicated to the provision of services to people who inject drugs), 833 secondary NSPs (which operate within other health and community services), and 3,032 pharmacy NSPs; these were supplemented by 414 syringe dispensing machines

(Heard et al., 2022); for the purposes of this report all of these modes of distribution will be collectively referred to as NSPs or formal sources, and no distinction will be made between NSPs and NSEPs (needle and syringe exchange programs). As shown in Table 1, in 2022 WA had 20 primary, 107 secondary and 601 pharmacy NSPs, with coverage shown in Figure 1.

TABLE 1. NSP outlet type, by state and territory (2022)

Type	WA	NSW	Qld	Vic	SA	Tas	ACT	NT
Primary	20	31	20	18	8	7	2	3
Secondary	107	245	117	243	77	21	11	27
SDM	7	273	70	27	16	5	8	18
Pharmacy	601	615	873	488	301	91	42	48

SDM = syringe dispensing machines

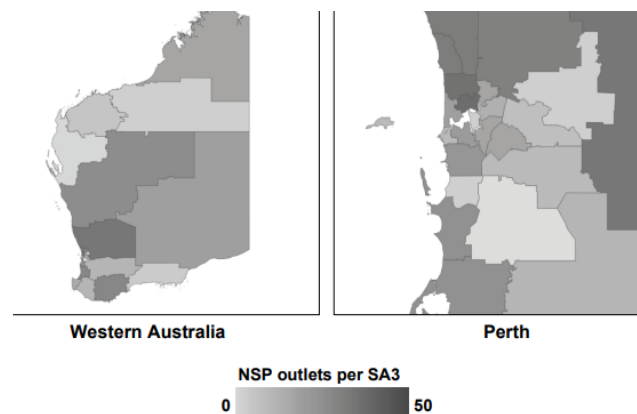


FIGURE 1. Total number of NSP outlets by Australian Statistical Geography Standard Statistical Area 3 in 2022 (WA).

Source: Heard et al. (2022).

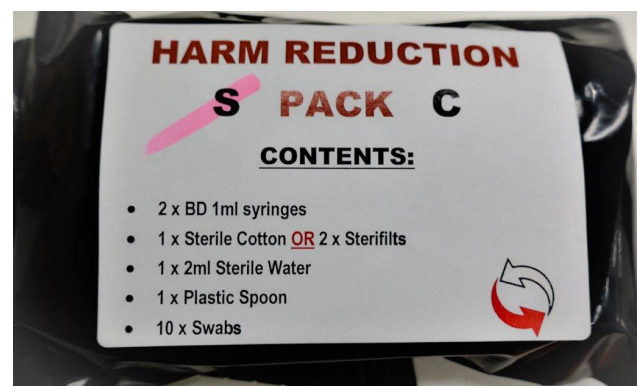


FIGURE 2. Example of a harm reduction pack containing sterile injecting equipment

Source: Peer-based Harm Reduction WA (2018)



In 2020, it is estimated that 5,600,329 sterile needles and syringes were distributed through NSPs in WA; this equates to 3.3 needles and syringes per capita (denominator: Western Australians aged 15–64 years) (Western Australian Department of Health, 2022).

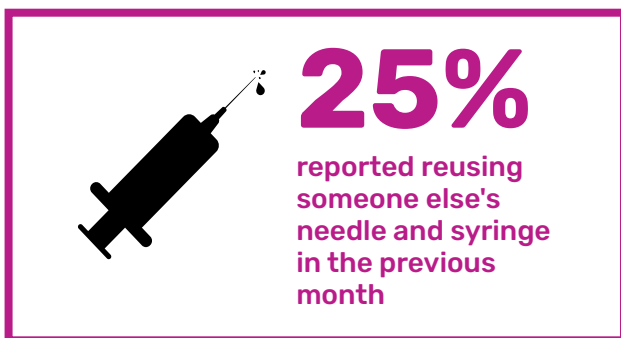
However, data suggest that sterile injecting equipment is not available at every occasion of injecting drug use. In a survey of WA NSP attendees conducted in 2021, just over one-quarter of the sample (n=434) reported that they had reused someone else's used needle and syringe in the previous month at least once (Heard et al., 2022).

Secondary distribution of sterile injecting equipment

Definition

It has been argued that "in order to make changes to the relatively stable and even slightly increasing rates of sharing, other strategies of distributing injecting equipment need to be conceptualised and trialled" (Brener et al., 2018). One strategy is to permit and actively encourage the secondary distribution of sterile injecting equipment (**SDSIE**).

For the purpose of this report, secondary distribution describes the practice of "people acquiring new needles and other injecting equipment from primary or 'safe' sources, such as authorised needle exchange programmes, and redistributing them to other people who inject drugs by selling them, trading them, or giving them away" (Lenton et al., 2006). Other terms for 'secondary distribution' include peer distribution, extended distribution, secondary exchange, collective exchange and satellite exchange; however, care should be taken in using the terms interchangeably. For instance, 'peer distribution' implies that both the person distributing the equipment and the person receiving the equipment identify as people who inject drugs. In practice, the literature suggests that some people who engage in SDSIE do not use prohibited drugs, and may



include individuals who have access to sterile injecting equipment due to health conditions (e.g. diabetes) (Murphy, 1987; Voytek et al., 2003; Riley et al., 2010; Latkin et al., 2005; Stopka et al., 2009; Panda and Sharma, 2006).

Legality

The legality of SDSIE in Australian jurisdictions has been described as a "grey area" (Lancaster et al., 2015). There has been one known conviction of a person engaged in SDSIE. The facts of the case (as described by Schimmel, 2002) were that Mr Cao was approached in a Sydney street by another person (Mr Sutton). Mr Sutton told Mr Cao that he had some heroin and needed a sterile needle and syringe. Mr Cao replied that he had a sterile needle and syringe at his home and that Mr Sutton could have it in exchange for a lift home. After arriving at Mr Cao's home, Mr Cao gave Mr Sutton the needle and syringe. There were conflicting accounts as to whether Mr Sutton injected himself with the heroin in Mr Cao's room or outside. The following morning Mr Sutton was found deceased in a street near Mr Cao's home; his death was related to his use of the heroin. In 1999, Mr Cao was convicted of manslaughter by unlawful and dangerous act in relation to Mr Sutton's death. He received a suspended sentence of three years (Schimmell, 2002).

It is important to note that New South Wales has a legal system that retains some common law criminal offences (i.e., criminal offences that are have been created by the courts rather than by the legislature). Manslaughter by unlawful and dangerous act is an example of a common law offence: *Wilson v The Queen* (1992) 174 CLR 313. By contrast, all criminal offences in WA are created by the legislature and are contained in statutes. The offence of manslaughter is created by section 280 of the *Criminal Code* (WA). It does not follow that the circumstances giving rise to a common law manslaughter conviction in New South Wales would result in a manslaughter conviction under WA's *Criminal Code*.



Even if SDSIE could not give rise to a manslaughter conviction in WA, prosecution for other offences may be possible. There is no legal provision in WA which explicitly makes it an offence to provide sterile injecting equipment to another person. However, section 7 of the *Criminal Code* (WA) provides:

When an offence is committed, each of the following persons is deemed to have taken part in committing the offence and to be guilty of the offence, and may be charged with actually committing it, that is to say –

- (a) Every person who actually does the act or makes the omission which constitutes the offence;
- (b) Every person who does or omits to do any act for the purpose of enabling or aiding another person to commit the offence;
- (c) Every person who aids another person in committing the offence;
- (d) Any person who counsels or procures any other person to commit the offence.

Under section 6(2) of the MDA, "[a] person who has in his or her possession **or uses** a prohibited drug commits a simple offence" (emphasis added). It is therefore possible that a person engaging in SDSIE (outside of the auspices of an NSP) could be deemed to have taken part in committing the offence of using a prohibited drug.

Some jurisdictions in Australia have reformed the law to extend the protections provided to NSPs (see pages 6-7 above) to other persons. For instance, the *Medicines, Poisons and Therapeutic Goods Act 2008* (Australian Capital Territory) provides:

37. A person does not commit an offence under the *Criminal Code*, section 45 (Complicity and common purpose) in relation to an offence committed by another person under subsection (1) or (2) of this section [administering certain declared substances] only because the person supplies sterile injecting equipment to the other person for the purpose of preventing the spread of blood-borne disease.

Similarly, section 56K of the *Public Health Act 1997* (Tasmania) provides:

(3) A person who supplies a needle, or syringe, to another person so that the other person may dispose of the needle or syringe does not, by reason only of that supply, commit, and is not to be taken, by reason only of that supply, to have committed, any crime, or any offence, under the *Misuse of Drugs Act 2001* or the *Poisons Act 1971*.

(5) A person who supplies –

(a) an unused needle or unused syringe; or

(b) other equipment associated with the use of an unused needle or an unused syringe; or

(c) information –

that was supplied under a permit does not, by reason only of that supply, commit, aid, abet or instigate, and is not to be taken, by reason only of that supply, to have committed, aided, abetted or instigated, any crime, or any offence, under the *Misuse of Drugs Act 2001* or the *Poisons Act 1971* or Chapters II or XXXV of the *Criminal Code*.

In the Northern Territory, the reforms were narrower; a defence to SDSIE exists only if it can be shown that the injecting equipment was obtained from an approved source and passed on "as soon as practical":

It is a defence to a prosecution for an offence against subsection (2) [supplying a needle or syringe to another for administration of a prohibited drug] if the defendant obtained the hypodermic syringe or needle from a medical practitioner, nurse practitioner, pharmacist or authorised person mentioned in that subsection for the use of another person in the administration of a dangerous drug to that other person and the defendant supplied it to the other person, in its unused state, as soon as practicable after so obtaining it: *Misuse of Drugs Act 1990* (Northern Territory), section 12(3).

The Australian Injecting and Illicit Drug Users League (2019) and the Australian National Council on Drugs

(2013) have both called for SDSIE to be legalised in all jurisdictions:

“

The existence and consciousness of legislation that places limits on access to sterile injecting equipment places at risk the Australian Government's ability to achieve the goals of the national blood borne virus strategies, while simultaneously providing an environment where preventable [blood-borne viruses] are transmitted. Removing legislative barriers to peer distribution would allow this practice to flourish without fear of prosecution as well as enabling NSPs to encourage and support the practice amongst their clients (Australian Injecting and Illicit Drug Users League, 2019).

Report aim

This report reviews the national and international evidence relating to SDSIE for the purpose of informing discussions around legal reform in WA. The report has been prepared with a focus on public health outcomes concerning the prevention and control of blood-borne viruses (**BBVs**); separate analyses may be required to understand other socio-economic implications of law reform in this area.



Methods

Review rationale

A preliminary search of the literature suggests that no review relating to SDSIE has been conducted to date. For the purpose of this review, a rapid review methodology was adopted. A rapid review is "a form of knowledge synthesis that accelerates the process of conducting a traditional systematic review through streamlining or omitting various methods to produce evidence for stakeholders in a resource-efficient manner" (Hamel et al., 2021).

Search and screening strategy

Following the advice of Bramer and colleagues (2017), the databases MEDLINE (Ovid), Embase, Web of Science Core Collection, and Google Scholar were searched on the basis that they have been shown to provide adequate and efficient coverage. Searches were conducted on 27 March 2023. The search terms used for each database are set out in Box 1 (right). References were imported into the software Rayyan.

A total of 4,925 publications were identified using the search strategies in Box 1 (right). After 1,429 duplicates were deleted, the titles and abstracts of the remaining 3,496 references were screened by a single researcher against the broad criteria below:

Include

- Any publication containing information in which SDSIE is defined, measured or described, including information on health and social impacts of allowing or prohibiting SDSIE

Exclude

- Non-English language publications
- Conference abstracts / posters

After title and abstract screening, 54 studies were identified for potential inclusion and the full texts were

BOX 1: Search terms, by database

MEDLINE

(drug*.mp OR substance*.mp OR exp Substance-Related Disorders/ OR exp Substance Abuse, Intravenous/ or exp Drug Users/ or inject*.mp) AND [(secondary adj5 (distribut* OR exchange* OR suppl*)).mp OR (peer adj5 (distribut* OR exchange* OR suppl*)).mp OR (extended adj5 (distribut* OR exchange* OR suppl*))].mp

Embase

(exp injection drug user/ OR exp intravenous drug administration/ OR drug*.mp OR exp drug abuse/ OR exp recreational drug/ OR exp "recreational drug use"/ or exp illicit drug/ OR substance*.mp OR exp "substance use"/ OR exp substance abuse/ OR exp injection drug user/ OR inject*.mp) AND [(secondary adj5 (distribut* OR exchange* OR suppl*)).mp OR (peer adj5 (distribut* OR exchange* OR suppl*)).mp OR (extended adj5 (distribut* OR exchange* OR suppl*))].mp

Web of Science Core Collection

((AB=(secondary NEAR/5 (distribution OR exchange OR supply))) OR AB=(peer NEAR/5 (distribution OR exchange OR supply))) OR AB=(extended NEAR/5 distribution OR exchange OR supply)) AND AB=(drug OR substance OR inject OR intravenous)

Google Scholar

peer secondary distribution supply equipment syringes

reviewed against the above criteria; the reference lists of the 54 studies were also scanned and a further 102 studies were screened through this process. Fourteen studies could not be located.

Sub-themes were developed inductively and results were presented and synthesised in narrative form (commencing page 20). No critical appraisal of study quality was conducted.

Data extraction and analysis

Studies which met the inclusion criteria (see Table 2, page 13) were then reviewed and the following data were extracted:

1. Study characteristics (site, design and aim);
2. Definitions of SDSIE;
3. Information on the prevalence of SDSIE;
4. Arguments in favour of SDSIE and relevant data to assess argument merits; and
5. Arguments against SDSIE and relevant data to assess argument merits.



Overview of included studies

As shown in Table 2, 72 studies were identified for inclusion, with the majority (n=40; 56 percent) having study designs which were solely quantitative, and a further 18 percent (n=13) incorporating a mix of qualitative and quantitative data. The studies had a diverse range of research objectives, with many having only a minor focus on SDSIE. Most studies (n=54; 75 percent) were conducted outside of Australia. Of the Australian studies (highlighted in grey in the table), the majority (69 per cent) were exclusively focused on the eastern states of Australia. Only two studies were specifically focused on WA, although five national studies included WA data. The themes from the studies (as they relate to SDSIE) are synthesised in the next section (commencing page 20).

TABLE 2. Main characteristics of included studies

Number	Citation	Study site	Study design	Main aim (as reported)
1	Anderson et al., 2003	California, USA	Mixed methods	To describe the programmatic features of the Sacramento Area Needle Exchange.
2	Aponte-Melende et al., 2021	New York, USA	Quantitative	To examine how COVID-19 affected people who inject drugs in New York City across four domains.
3	Bluthenthal et al., 2007	California, USA	Quantitative	To determine whether syringe exchange programs' (SEPs) dispensation policy is associated with syringe coverage among SEP clients.
4	Braine et al., 2008	Pittsburgh, USA	Quantitative	To explore connections among race, network characteristics, and neighbourhoods.
5	Brener et al., 2018	Sydney, Australia	Quantitative	To describe patterns of distribution of injecting equipment among those who participated in an SDSIE trial.
6	Broadhead et al., 2014	Connecticut, USA	Mixed methods	To examine the impact of the termination of an established needle exchange program.
7	Brothers, 2016	California, USA	Qualitative	To examine how secondary syringe exchangers utilise syringes to improve their mental and material wellbeing.
8	Bryant & Hopwood, 2009	Sydney, Australia	Mixed methods	To: (1) describe the extent and patterns of SDSIE in south east Sydney; (2) describe characteristics of people who engage in SDSIE and to highlight contexts in which it occurs; (3) examine whether SDSIE is independently associated with BBV risk practices.
9	Bryant & Treloar, 2006	Sydney, Australia	Quantitative	To characterise and compare the socio-demographic and drug using profiles and BBV risk practices of people who inject drugs who report their main source of sterile needles to be their personal networks, and compare them to those who mainly attend pharmacies.

TABLE 2. Main characteristics of included studies

Number	Citation	Study site	Study design	Main aim (as reported)
10	Bryant & Treloar, 2007	New South Wales and Queensland, Australia	Quantitative	To explore differences between women's and men's first experience of injecting in relation to socio-demographic context, drug use, and the role of others.
11	Bryant et al., 2010	New South Wales, Australia	Quantitative	To collect information from pharmacy NSP clients about demographic profile, patterns of acquisition of sterile needles and syringes, risk behaviours for the transmission of BBVs, self-reported testing for hepatitis C and HIV, and testing outcomes.
12	Bryant et al., 2019	Sydney, Australia	Qualitative	To examine how people who inject drugs are constructed in the discourse of some of the key stakeholders involved in the SDSIE debate in New South Wales.
13	Buxton et al., 2008	British Columbia, Canada	Mixed methods	To analyse distribution of harm reduction products by site using Geographic Information Systems and to investigate the range, adequacy and methods of product distribution using qualitative interviews.
14	Carruthers, 2018	Four Australian jurisdictions (including WA)	Qualitative	To understand the advantages and disadvantages related to each of the NSP service models (peer-based, secondary and pharmacy based NSPs).
15	Craine et al., 2010	Wales, United Kingdom	Quantitative	To examine patterns of NSP use within Wales.
16	De et al., 2008	Montreal, Canada	Quantitative	To investigate how social network characteristics are associated with SDSIE, with a focus on the individuals who receive sterile syringes from their injecting peers.
17	Dechman, 2015	Nova Scotia, Canada	Qualitative	To describe the challenges associated with injecting drug use and peer support.
18	Des Jarlais & Hopkins, 1985	New York, USA	Qualitative	To report on two developments involving "free" sterile needles that are a response to the AIDS epidemic among people who inject drugs in New York City.
19	Finlinson et al., 1999	Puerto Rico	Qualitative	To collect information on sources of sterile syringes.
20	Finlinson et al., 2000	Puerto Rico and New York, USA	Mixed methods	To further understanding of: (1) differences in drug-related HIV risk behaviors of Puerto Rican people who inject drugs living in New York and Puerto Rico; and (2) acquisition of syringes from alternative sources.
21	Fisher et al., 2013	Sydney, Australia	Quantitative	To describe the characteristics of those who regularly engage in SDSIE in Sydney, and their levels of knowledge about harm reduction.
22	Fisher et al., 2017	Northern (rural) New South Wales, Australia	Quantitative	To better understand issues related to access to injecting equipment for people who inject drugs in a rural area of New South Wales.

TABLE 2. Main characteristics of included studies

Number	Citation	Study site	Study design	Main aim (as reported)
23	Fraser, 2004	Sydney, Australia	Qualitative	To examine a sample of safe injecting and hepatitis C prevention health promotion materials, and interview data gathered from people who inject drugs to consider the ways in which the notion of individual responsibility functions within them.
24	Friedman et al., 1998	New York, USA	Quantitative	To: measure "role behaviors" of people who inject drugs; describe which people are more likely to engage in such role behaviours; and determine whether roles are related to elements of HIV risk.
25	Friedman et al., 2007	New York City, Rotterdam, Buenos Aires, and sites in Central Asia	Mixed methods	To discuss the user side of harm reduction through a series of vignettes about user activities in different localities, focusing primarily upon the HIV/AIDS epidemic.
26	Glass et al., 2019	England and Wales, United Kingdom	Quantitative	To estimate the current extent and nature of the SDSIE from English and Welsh NSPs by people injecting image and performance enhancing drugs.
27	Gleghorn et al., 1995	Baltimore, USA	Quantitative	To determine how people who inject drugs in Baltimore obtain and use needles and syringes for drug injection, before the opening of a needle exchange program.
28	Green et al., 201	Hartford, Oakland and Chicago, USA	Quantitative	To: (1) quantify and characterise transition probabilities of SEP attendance typologies; (2) identify factors associated with (a) change in typology, and (b) becoming and maintaining direct SEP use; and (3) quantify and characterise transition probabilities of SEP attendance before and after changes in policy designed to increase access.
29	Grund et al., 1992	Rotterdam, Netherlands	Mixed methods	To describe a community-based approach to needle exchange that is built on empowerment of, and intense participation by, known people who use drugs to target unknown people who use drugs for delivery of sterile needles.
30	Heard, Iversen, & Maher, 2022	Australia (national)	Quantitative	To provide serial point prevalence estimates of HIV and hepatitis C virus (antibody and RNA) and sexual and injecting risk behaviour among people who inject drugs in Australia.
31	Huo et al., 2005	Chicago, USA	Quantitative	To examine HIV risk practices associated with SDSIE.
32	Irwin et al., 2006	Russia	Quantitative	To describe the characteristics and results of a SDSIE model.

TABLE 2. Main characteristics of included studies

Number	Citation	Study site	Study design	Main aim (as reported)
33	Iversen & Maher, 2012	Australia (national)	Quantitative	To provide serial point prevalence estimates of HIV and hepatitis C virus (antibody and RNA) and sexual and injecting risk behaviour among people who inject drugs in Australia.
34	Kimergård & McVeigh, 2014	England and Wales, United Kingdom	Qualitative	To explore harm reduction for people who use anabolic steroids, focusing on needle distribution policies and harm reduction interventions developed specifically for this population.
35	Kuyper et al., 2000	Vancouver, Canada	Quantitative	To determine the prevalence of syringe buying and selling among people who inject drugs in the presence of North America's largest government-funded SEP and to identify behavioral and demographic characteristics of people who inject drugs and buy/sell syringes.
36	Latkin & Forman, 2001	Baltimore, USA	Mixed methods	To examine factors associated with obtaining syringes from a needle exchange program and other safer sources in Baltimore.
37	Latkin et al., 2003	Baltimore, USA	Quantitative	To assess the acquisition of syringes from the Baltimore City Needle Exchange Program as well as factors associated with obtaining syringes from the program.
38	Latkin et al., 2005	Baltimore, USA	Quantitative	To explore the role of needle selling in a community of people who inject drugs.
39	Latkin et al., 2006	Baltimore, USA	Quantitative	To examine types and frequencies of social interactions among people who inject drugs who sell needles, compared with individuals who do not sell needles.
40	Lenton & Tan-Quigley, 1997	Western Australia	Quantitative	To describe the characteristics, HIV related knowledge, risk behaviours and service views of people who use the "Fitpack" syringe and needle-kits distributed through WA pharmacies.
41	Lenton et al., 2006	Western Australia	Review of qualitative and quantitative sources	To review data and literature concerning SDSIE as a means of facilitating needle and syringe exchange programs to reach a wider population of people who inject drugs in WA.
42	Liu et al., 2007	Sichuan and Guangxi provinces, China	Mixed methods	To provide an overview of needle exchange programme models used in China and factors associated with their use by people who inject drugs.
43	Lorvick et al., 2006	California, USA	Quantitative	To examine whether elevated HIV risks are observed among SDSIE participants and whether program attributes impact SDSIE practices.
44	Memedovic et al., 2017	Australia (national)	Quantitative	To provide serial point prevalence estimates of HIV and hepatitis C virus (antibody and RNA) and sexual and injecting risk behaviour among people who inject drugs in Australia.

TABLE 2. Main characteristics of included studies

Number	Citation	Study site	Study design	Main aim (as reported)
45	Murphy et al., 2004	California, USA	Mixed methods	To describe participants (including secondary distributors) in a syringe exchange program.
46	National Centre in HIV Epidemiology and Clinical Research, 2010	Australia (national)	Quantitative	To provide serial point prevalence estimates of HIV and hepatitis C virus (antibody and RNA) and sexual and injecting risk behaviour among people who inject drugs in Australia.
47	National Institute for Health Care Excellence, 2014	United Kingdom	Review of qualitative and quantitative sources	To set out national guidelines for needle and syringe programmes.
48	Newland et al., 2016	New South Wales, Australia	Qualitative	To investigate the dynamics of the distribution of sterile injecting equipment among networks of people who inject drugs in four sites in New South Wales.
49	Noroozi et al., 2017	Kermanshah, Iran	Quantitative	To characterise and compare the risk behaviors of people who inject drugs according to their primary sources of sterile needles and syringes.
50	O'Keefe et al., 2018	Melbourne, Australia	Quantitative	To assess the structure of individual-level needle and syringe coverage measurement formula, and to estimate the impact of coverage-related behaviours/parameters (instances of syringe acquisition, total syringes acquired, peer-to-peer syringe distribution, injecting frequency) on overall coverage.
51	Panda & Sharma, 2006	South Asia	Mixed methods	To examine sources from where people obtain injection equipment, destination of injecting equipment after use, and barriers to acquiring sterile syringe and needles.
52	Pierce, 1999	Washington, DC, USA	Qualitative	To examine network dynamics of young White people who use heroin.
53	Power et al., 1996	England, United Kingdom	Qualitative	To investigate the lifestyles and coping strategies of people who inject drugs but are not in contact with treatment services.
54	Rains et al., 2022	Illinois (rural), USA	Qualitative	To explore: (1) attitudes of people who inject drugs toward the pandemic and COVID-19 vaccination efforts; and (2) community strategies for maintaining health and safety, such as SDSIE.
55	Riehman et al., 2004	California, USA	Quantitative	To examine whether sexual partner injecting drug use status, injecting risk behaviour, or sexual risk behaviour were associated with SDSIE among female and male people who inject drugs.

TABLE 2. Main characteristics of included studies

Number	Citation	Study site	Study design	Main aim (as reported)
56	Riley et al., 2010	California, USA	Quantitative	To determine the extent of pharmacy uptake in accessing syringes among people who inject drugs and estimate associations between pharmacy uptake and safer injection/disposal practices.
57	Romo et al., 2023	Rural New England, USA	Quantitative	To examine: (1) the association of primary syringe source (e.g., NSP, secondary exchange, pharmacy, other sources) with hepatitis C serostatus; (2) the relationship between primary syringe sources and three injection sharing practices: borrowing used syringes, borrowing used injection equipment, and backloading.
58	Sarang et al., 2008	Moscow, Barnaul, and Volgograd, Russia	Mixed methods	To explore factors influencing syringe access via pharmacies and dedicated syringe exchange projects in Russia.
59	Seaman et al., 2021	Rural Oregon, USA	Qualitative	To explore how people who inject drugs in rural communities experienced access to NSPs and may have adapted their drug use practices during the COVID-19 pandemic.
60	Sears et al., 2001	California, USA	Quantitative	To assess the proportion of homeless young people who inject drugs who were reached by a SDSIE program and to describe the association between the intervention and HIV risk behaviours.
61	Sherman et al., 2004	Baltimore, USA	Quantitative	To examine the relationship between syringe use patterns and the acquisition and disposal practices of people who inject drugs in Maryland.
62	Shrestha et al., 2006	Baltimore, USA	Quantitative	To detect sharing in 2,512 syringes exchanged by 315 people in the Baltimore needle exchange program.
63	Singer et al., 2000	Hartford, New Haven, and Springfield, USA	Qualitative	To report on a set of six qualitative methods that have been developed for use as part of a larger ethnoepidemiologic study of the acquisition, use, and discarding of injection equipment.
64	Snead et al., 2003	California, USA	Qualitative	To describe some of the reasons why people who inject drugs use SDSIE, the ways in which SDSIE is conducted, the relationships between SDSIE providers and recipients, and some implications for an HIV prevention peer education intervention to reduce risk behaviours.
65	Stopka et al., 2003	Hartford, USA	Qualitative	To help elucidate the public health risks and benefits of street syringe sellers.
66	Strike et al., 2005	Toronto, Canada	Qualitative	To answer the following: From where or whom do people who inject drugs obtain syringes? What programmatic, social or economic factors influence these patterns of acquisition? What is the relationship, if any, with HIV risk behaviours?
67	Trubnikov et al., 2003	Moscow, Russia	Quantitative	To identify the sources of injecting equipment for people who inject drugs.

TABLE 2. Main characteristics of included studies

Number	Citation	Study site	Study design	Main aim (as reported)
68	Tyndall et al., 2002	Vancouver and Montreal, Canada	Quantitative	To compare sources of needles, trends in needle distribution, and the practice of SDSIE among people who inject drugs in Vancouver and Montreal.
69	Valente et al., 1998	Baltimore, USA	Quantitative	To: (1) develop an index of SDSIE and then determine whether secondary exchangers differed demographically or behaviorally from other people who inject drugs; (2) determine the degree that secondary exchangers contributed to needle exchange program effectiveness.
70	Valente et al., 2001	Baltimore, USA	Quantitative	To: (1) evaluate the impact of NSP use patterns; (2) determine the factors associated with NSP use and whether the NSP was differentially effective for different users; (3) ascertain whether NSP use influences syringe circulation time and syringe relay behaviour.
71	Voytek et al., 2003	Baltimore, USA	Qualitative	To examine the motivations for people who provide sterile injecting equipment to other people who inject drugs and the reasons why some people do not use the NSP.
72	Wenger et al., 2021	USA (multiple sites)	Qualitative	To understand the social context within which NSPs operated during the COVID-19 pandemic.



Summary of evidence

How common is SDSIE?

Available data suggest that injecting drug equipment (**IDE**) is frequently distributed in ways that are not formally authorised in most Australian states and territories. A cohort study of 518 people who inject drugs in Melbourne found a high correlation between total number of sterile syringes acquired and syringe distribution practices suggesting "that many [people] are purposely acquiring additional syringes to distribute to peers" (O'Keefe et al., 2018). Additionally, Figure 3 shows the proportion of respondents in the Australian NSP surveys (2007-2021) who reported obtaining needles/syringes from 'personal' and 'other' sources (hereafter referred to as **informal sources**, i.e., not

a primary-, secondary- or pharmacy-NSP, or vending machine) in the previous month. In WA, the proportion of survey respondents obtaining needles/syringes from informal sources in the previous month has ranged from 14 percent (2012) to 36 percent (2007). An earlier WA survey of 511 people who inject drugs conducted by Lenton and Tan-Quigley (1997) reported that 11% of respondents reported usually getting needles from other people who inject drugs, and people who deal drugs.

It is likely that reports of informal distribution and acquisition of IDE include the transfer of non-sterile equipment. The data therefore do not provide an accurate estimate of the scale of SDSIE which (for the purposes of this report) is defined as "people acquiring **new** needles and other injecting equipment from primary or 'safe' sources, such as authorised needle exchange programmes, and redistributing them to other people who inject drugs by selling them, trading them, or giving them away" (Lenton et al., 2006, emphasis added).

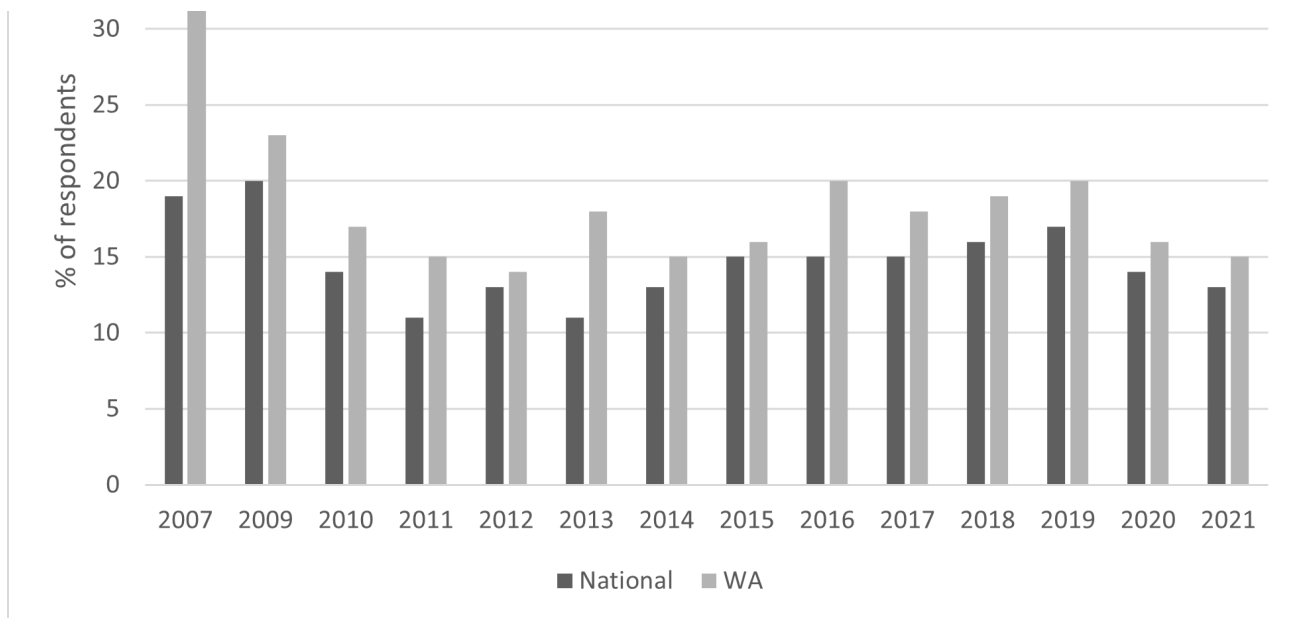


FIGURE 3. Percentage of respondents who reported obtaining needles/syringes from a source other than an NSP, pharmacy or vending machine in the last month, by year (national and WA data)

Sources: Heard et al., 2022; Memedovic et al., 2017; Iverson and Maher, 2012.

Notes: Data not reported for 2008. Denominator is respondents who reported injecting in the last month.

A similar issue arises from the question in Figure 5 (below) which was contained in the 2007 and 2009 Australian NSP Surveys. The *Australian NSP Survey National Data Report 2005-2009* indicated that 53 percent of respondents in 2007 and 37 percent in 2009 reported "secondary exchange (onward supply) of needles/syringes last month" (National Centre in HIV Epidemiology and Clinical Research, 2010); however, it is important to note that the survey question implied (without expressly stating) that the needles/syringes were unused at the point of onward supply, and the report aggregates the onward supply of equipment obtained from both authorised and informal sources. These methodological challenges are also a common feature of other Australian and international studies of SDSIE (e.g. Latkin et al., 2003; Riley et al., 2010; Valente et al., 2001; Latkin and Forman, 2001; Sherman et al., 2004; Friedman et al., 1998; Bryant and Treloar, 2007; Gleghorn et al., 1995; Finlinson et al., 2000; Broadhead et al., 1999; Trubinkov et al., 2003).

There have been three studies in Australia which have specifically attempted to gauge the extent to which sterile IDE is being distributed by secondary sources. In a study conducted in 2006 in south east Sydney, pharmacy staff were asked to distribute a self-complete survey to any person buying or exchanging needles and syringes at the pharmacy (Bryant and Hopwood, 2009). The final sample comprised 229 valid surveys, of which 54 percent reported SDSIE in the form of "passing on and/or receiving sterile needles and syringes"; of these respondents, 40 percent reported being engaged in 'passing on' only, and 36 percent reported being engaged in reciprocal SDSIE (both 'passing on' and receiving).

The study was repeated in 2008 but expanded to include pharmacies in all of the metropolitan Sydney area, in addition to pharmacies in the Newcastle/Hunter Valley region of New South Wales (Bryant et al., 2010; Fisher et al., 2013). Of the 602 surveys included in the analysis, 30 percent of respondents reported that they had "distributed sterile needles and syringes obtained from a pharmacy to other people", and 19 percent reported regularly engaging in secondary distribution of needles and syringes obtained from the pharmacy (note: 'regularly' was not defined in the survey).

In 2012, a further iteration of the study was conducted, with a focus on people attending secondary NSP outlets (e.g., NSPs operating within other health and community services) in the rural Hunter New England Local Health District of New South Wales (Fisher et al., 2017). Of the sample of 190 respondents, 60% reported collecting "sterile equipment for others" at least weekly.



These quantitative findings are consistent with qualitative research conducted in Australia (e.g., Carruthers, 2018; Newland et al., 2016). For instance, in interviews with 32 participants recruited through NSPs in Sydney and rural New South Wales, Newland and colleagues (2016) found that "[a]ll but one of the research participants ... reported engaging in the distribution of sterile injecting equipment among peers in their social networks in the months prior to interview".

SDSIE has also been found to be common in international studies conducted in the United Kingdom (Power et al., 1996; Craine et al., 2010; Glass et al., 2019), Canada (Tyndall et al., 2002; Strike et al., 2005; Kuyper et al., 2006; De et al., 2008; Buxton et al., 2008), the United States of America (Des Jarlais and Hopkins, 1985; Valente et al., 1998; Finlinson et al., 1999; Snead et al., 2003; Voytek et al., 2003; Murphy et al., 2004; Huo et al., 2005; Bluthenthal et al., 2007; Braine et al., 2008; Stopka et al., 2009; Seaman et al., 2021; Rains et al., 2022; Romo et al., 2023), China (Liu et al., 2007), Iran (Noroozi et al., 2017), Russia (Sarang et al., 2008), Kyrgyzstan and Tajikistan (Friedman et al., 2007). However, metasynthesis of the results of these studies would not be meaningful

Excluding today, the last time you obtained needles and syringes from the following sources, how many did you get and how many did you give away or sell? (If you got a "box" specify the number of syringes in the box. Write "0" if none)

	How many did you get?	How many did you give away or sell?
Pharmacy/chemist		
Needle/syringe program		
Vending machine		
Friend/family/dealer		
Other		

FIGURE 5. SDSIE questions from 2007 and 2009 Australian NSP Surveys

Source: National Centre in HIV Epidemiology and Clinical Research, 2010

on account of the differences in sample populations, recruitment methods, definitions of SDSIE, and varying socio-legal contexts.

What are the arguments in favour of SDSIE?

SDSIE increases access to sterile equipment

While NSPs provide an important public health function, they are necessarily limited in their ability to serve all people, in all places, and at all times. Four reasons for accessing IDE through informal sources can be discerned in the literature – namely, (1) geography; (2) timing; (3) stigma; and (4) means/ability.

1. Geography

In the WA context, it has been preferred that SDSIE "may be particularly salient with reference to nonmetropolitan areas ... and in areas where other services are not necessarily available" (Lenton et al., 2006). A similar observation has been made in relation to rural New South Wales:

[M]any factors compromise access to services like needle and syringe programs ... in rural locations. Primary NSP outlets are generally confined to metropolitan areas ... Rural locations typically have secondary NSP outlets ... These are located within existing hospital and community health care settings, where the provision of injecting equipment is not the primary purpose ... (Fisher et al., 2017).

In San Francisco, one primary NSP is reported to have leveraged SDSIE to extend program reach across a large geographical area with minimal resources. Anderson and colleagues (2003), noted that "using other modalities would require either a large number of fixed sites or a large number of staff with paggers and vehicles for delivery."

While primary NSPs are more common in urban contexts, they are not always located in places that are convenient for, or acceptable to, people who inject drugs (Voytek et al., 2003; Murphy et al., 2004; Finlinson et al., 1999). For instance, in an ethnographic study in urban Puerto Rican communities, it was observed that some people inject drugs close to the place of purchase; consequently, people "who do not have a syringe at the time they buy drugs are often unable to make a 15–20 minute roundtrip to either the pharmacy or the [NSP]" (Finlinson et al., 1999). A North American study also noted that "[s]everal informants preferred getting needles and drugs at the

same place and injecting them to avoid carrying drugs and paraphernalia around" in case of encounters with law enforcement (Voytek et al., 2003).

2. Timing

Even if NSPs are located in areas that are accessible and acceptable to people who inject drugs, they may not offer services at times that meet their needs. Kuyper and colleagues' (2006) analysed the syringe acquisition behaviours of 468 Vancouver-based people who inject drugs. Vancouver's largest fixed-site NSP operated between the hours of 8:00am and 8:00pm. The study found that, of those who purchased syringes from informal (non-NSP) sources, 41 percent most often did so between midnight and 8:00am. Similarly, in an ethnographic study conducted in Connecticut, one participant who sold IDE explained:

We see the needle exchange bus don't come on Saturdays or Sundays. That's when you make mad money right there, but from Monday to Friday, between the hours of 8–9 you can't sell them because the needle exchange bus is there, but after they leave, up to 3 o'clock wow, a lot of people come (Stopka et al., 2003).

A person who reported purchasing IDE from informal sources in Baltimore described it as "a matter of convenience":

[I]t's 10:00 at night and the stores are closed where you can buy them at ... (but) houses are open basically as long as someone knock on the door 24–7 (Voytek et al., 2003).

3. Stigma

Studies also show that SDSIE is preferred by some people who inject drugs because it offers a less public way of accessing sterile equipment. In some international settings where NSPs operate illegally, accessing the services carry a risk of detection by law enforcement (Brener et al., 2018).

In settings where NSPs are legally sanctioned, people who inject drugs may still opt for informal supply sources to avoid stigma and maintain privacy. In a survey of 82 San Franciscan residents engaged in SDSIE, 43 percent said that their primary barrier to using an NSP was public exposure, as supported by the following quotes from qualitative interviews:

My [drug] use is really private, and I'd rather it stay that way (man, aged 33; Murphy et al., 2004).

Where they have it [the NSP], it's kind of like putting it ... under a spotlight. Like right in front of somewhere, like really crowded? I just don't like people to really know how many drugs I do (woman, aged 23; Murphy et al., 2004).

These findings are echoed by respondents in other North American qualitative studies:

[W]hen I started [injecting drugs], the needle exchange bus came. I didn't want none of my family knowing that I shoot up, so I wouldn't go the van ... And there's still people out there like that (woman, aged 32; Stopka et al., 2009).

We have a lot of friends who don't want to appear like they are doing what they are doing - they don't want to go to the wrong place, they don't want to go to the exchange, because they don't want people to see them (woman, aged 20-29; Brothers et al., 2016).

Additionally, Newland and colleagues' (2016) study of secondary distribution networks in New South Wales found that anonymity was considered particularly important for people who inject drugs in smaller, rural communities:

[If I lived elsewhere] I wouldn't give a shit I'd go wherever but I live here [a rural town], work here, so I've got to be careful (man, aged 42; Newland et al., 2016).

4. Means/Ability

Finally, there is evidence that SDSIE serves populations who are physically unable to access NSPs for reasons other than timing and geography. In Bryant and colleagues' (2019) evaluation of a New South Wales SDSIE pilot program, respondents "identified it as a way to help people who couldn't get to an NSP due to being sick". This is consistent with one North American study in which 12 percent of respondents who relied on SDSIE reported illness as the primary barrier to NSP engagement (Murphy et al. 2004), and another in which 33 percent explained that they asked other people to obtain IDE on their behalf due to their physical/mental state, and/or problems with transportation (De et al., 2008). Studies also described how SDSIE could be used to limit exposure to COVID-19 and increase access to equipment during a pandemic (Seaman et al., 2021; Aponte-Melendez et al., 2021; Wenger et al., 2021).

Other factors influencing reliance on SDSIE include disability (Newland et al., 2016; Brothers et al., 2016), mental health issues (Brothers et al., 2016), lack of transportation (Bryant and Hopwood, 2009; Bryant et al., 2019), and lack of money (Rains et al., 2022). Lack of money is particularly relevant in the context of NSP

services which do not distribute free equipment (Rains et al., 2022).



In addition to the predominantly qualitative evidence described, quantitative studies show that SDSIE can reach populations with different demographic characteristics, when compared to NSP clients. Bryant and Treloar's (2006) study of 227 people who inject drugs in Sydney found that those who usually obtained their equipment through SDSIE (as opposed to pharmacies) were statistically significantly more likely to identify as gay lesbian or bisexual (28 percent compared to 16 percent, $p=0.04$) and live in unstable housing (22 percent compared to 8 percent, $p<0.01$). Meanwhile, Gleghorn and colleagues' (1995) comparison of a cohort of pharmacy NSP clients ($n=139$) with a cohort who obtained injecting equipment from diabetics ($n=76$) found that the SDSIE group were more likely to be younger and female.

Harm-reducing, altruistic behaviours should not be criminalised

A consistent theme in the qualitative literature (as evidenced in the following illustrative quotes) is that many people provide sterile IDE to others out of a desire to reduce the transmission of BBVs, and other harms associated with equipment re-use (Newland et al., 2016; Snead et al., 2003; Voytek et al., 2003; Stopka et al., 2009; Fraser et al., 2004; Rains et al., 2022; Seaman et al., 2021):

If someone comes and we haven't got enough clean syringes? Oh I will carry clean ones with me all the time. Just to give someone a clean one (quoted in Fraser et al., 2004).

[S]ick of seeing [my friends] use the same needle twice or more. They won't come in [to an NSP] and get it. So that's why I pick up extra (quoted in Newland et al., 2016).

I caught Hep C from using a dirty needle ... If I can give somebody clean needles so they do not have to catch it like I did, I will give them clean needles (quoted in Rains et al., 2022).

In a Sydney study of people who reported supplying IDE

to others (n=114), the primary motivations of respondents were: to prevent hepatitis C (50 percent), to help people who could not travel to an NSP (30 percent); and to prevent others from feeling embarrassed (15 percent); by contrast, 6 percent noted that their primary motivation was financial gain (Fisher et al., 2013).

Examples of SDSIE motivated (wholly or in part) by financial gain (hereafter referred to as **unauthorised IDE sales**) can be found in the literature (Braine et al., 2008; Brothers, 2016; Latkin et al., 2006; Snead et al., 2003; Voytek et al., 2003; Stopka et al., 2009; Gleghorn et al., 1995; Finlinson et al., 1999; Finlinson et al., 2000; Friedman et al., 1998; Murphy et al., 2004; Grund et al., 1992; Lovrick et al., 2006; Fisher et al., 2013; Brener et al., 2018).

Lenton and colleagues (2006) observed that:

[I]n a setting such as Western Australia, there is a concern that vulnerable public and political support for authorised [NSPs] could be undermined and a community backlash fueled by a perception that some in the illicit drug use community are profiting from trading in needles originally provided by agencies funded by the public purse.*

However, the majority of studies which provide evidence of IDE selling were conducted outside of Australia. The exceptions are two surveys conducted in Sydney. Fisher and colleagues (2013) found that 89 percent of 114 people who were regularly engaged in SDSIE **did not** accept money for the IDE they provided to others. Similarly, Brener and colleagues' (2018) evaluation of a SDSIE trial found that 97 percent of those providing IDE to others **did not** accept money in exchange, while the remaining three percent reported that they traded IDE for some other item.

Altruism is a commonly reported motivation for SDSIE.

There is **no evidence** that unauthorised IDE sales are common in Australia.



**It is important to note that the unauthorised sale of drug paraphernalia is an offence under section 7B of the Misuse of Drugs Act 1981 (WA). People who sell drug paraphernalia to an adult are liable to a fine of \$10,000, and those who sell paraphernalia to children are liable to a fine of \$24,000 and/or imprisonment for 2 years. It would be possible to maintain this provision while decriminalising the practice of SDSIE where no sale of paraphernalia occurs.*

What are the arguments against SDSIE?

SDSIE occurs in isolation from other services

It has been argued that SDSIE reduces the opportunities for people who inject drugs to access other services that may be offered by NSPs; these include brief interventions, health promotion information around safer injecting and wound care, BBV testing, vaccinations, and referrals to other services (Lovrick et al., 2006; Kimergård & McVeigh, 2014; Huo et al., 2005; Anderson et al., 2003; Green et al., 2010).

There is evidence to suggest that some people who distribute sterile IDE are also engaged in disseminating health information. In Fisher and colleagues' (2013) survey of people who identified as secondary distributors of IDE, the following proportions provided others with information about:

- safe injecting (47%);
- hepatitis C (32%);
- where to get sterile needles (64%);
- where to get filters and alcohol swabs for injecting (41%);
- where to get tested for hepatitis C (18%);
- where to see a doctor who is friendly to people who use drugs (23%);
- how to find websites about hepatitis C and injecting (4%);
- how to get hepatitis C treatment (14%); and
- preventing overdoses (18%).

Bivariate comparisons found that:

Overall, participants who were secondary distributors, and those who were not, both provided similar amounts of harm reduction information to other users (3.03 versus 2.54, $p=0.91$). The only significant difference between the two groups was that the secondary distributors were more likely to provide information regarding where to get sterile needles (64.0% versus 45.8%, $p=0.001$), alcohol swabs or filters for injecting (41.2% versus 25.9%, $p=0.001$), and telling others about how to get treatment for drug use (40.4% versus 30.2%, $p=0.04$). Furthermore, knowledge about [hepatitis C] transmission and its consequences was generally good across the sample, with most respondents knowing that it was not safe to share needles and other equipment. No significant differences were found between the knowledge of those who regularly engaged in secondary distribution and those who did not (Fisher et al., 2013).

These findings are supported by qualitative studies in which people who distribute sterile IDE report engaging in conversations around health and harm reduction, as evidenced in the following quotes:

I talk to them all. I talk to people about safer ways to use (quoted in Dechman, 2015).

I talk to them and let them know what I've learnt from the [NSP] program and some of them take the ideas and use them (quoted in Voyatek et al., 2003)

I've given 'em a lot of information from the [NSP]. I think I've helped a lot of people over the years (quoted in Snead et al., 2003).

However, evidence of misinformation was reported in one North American study with Brothers (2016) noting that some people who were engaged in SDSIE "distribute[d] inaccurate information on infection risk, such as describing [hepatitis C] transmission as inevitable, and the use of alcohol pads as unimportant." Studies also report that some secondary distributors do engage in higher risk injecting behaviours themselves (Glass et al, 2019; Lorvick et al., 2006; Riehman et al., 2004; Fisher et al., 2013).

Numerous studies suggest that people who distribute sterile IDE can play an important educational role which complements formal NSPs, and that providing secondary distributors with 'peer educator' training can help to ensure that accurate information is disseminated (Lorvick et al., 2006; Craine et al., 2010; De et al., 2008; Huo et al., 2005; Latkin et al., 2006; Latkin et al., 2005; Stopka et al., 2009; Glass et al., 2019; Brothers, 2016; Voytek et al., 2003). Training was embedded in reported examples of SDSIE models in Russia and North America (Anderson et al., 2003; Irwin et al., 2006; Sears et al., 2001).

According to De and colleagues (2008):

[SDSIE] should not be discouraged but rather developed as a way to encourage in-person attendance while concomitantly using [SDSIE] networks more effectively for disseminating prevention messages, building skills, and creating norms of safer injecting in their personal networks. Interventions could include training [NSP] clients as peer mentors to teach safer injecting practices to their injecting partners or by encouraging clients to bring their injecting network members to [NSP]s.

This approach has been adopted in the United Kingdom National Institute for Health and Care Excellence (2014) public health guidelines on NSPs which recommend that services should "[n]ot discourage people from taking equipment for others ... but, rather, ask them to encourage those people to use the service themselves". In explaining the rationale, the guidelines stated:

[The Public Health Advisory Committee] noted the need to balance the number of people who have a sterile needle and syringe for each injection (coverage), with the number of people in direct contact with the NSP. Overall, members felt it was more important to achieve high rates of coverage, because this is the biggest predictor of sterile needle and syringe use. On this basis, the Committee felt that it was acceptable to knowingly provide equipment for secondary distribution (whereby drug users pass on sterile needles and syringes to others) (National Institute for Health and Care Excellence, 2014).

It is also apparent from the literature that many people who obtain IDE through secondary distributors do not do so exclusively. Rather, some equipment is also obtained through visits to NSPs (see for instance page 21 above for findings from Bryant and Hopwood, 2009); this means that opportunities for formal education and service engagement still exist (albeit less frequent).

There is evidence that people who distribute sterile IDE **actively initiate health promotion conversations.**

Information accuracy can be improved by training secondary distributors.

Secondary distributors should be **encouraged to link their network members into NSP services.**



Equipment sterility cannot be guaranteed

There are some accounts of 'distributors' providing people with non-sterile IDE which is passed off as 'new' (Kuyper et al., 2006; Latkin et al., 2006; Pierce, 1999; Latkin and Forman, 2001; Singer et al., 2000; Finlinson et al., 2000; Broadhead et al., 2014). In their study of distribution practices in Baltimore, Latkin and Forman (2001) reported the following:

[W]e asked people whether the participants had ever bought what looked like a new needle but later suspected it had been used previously. Of the 18 injectors sampled, 9 (50%) reported that they had purchased needles that, after taking off the cap, did not appear to be new ... Four of the five needle-sellers reported that it was relatively easy to fool buyers into believing a needle was new; two admitted ever selling needles they had known were used. They reported that they were able to do this by thoroughly cleaning and drying the inside of the syringe and by carefully aligning the components.*

However, all of the examples of this practice arose in the context of studies conducted in North America and were associated with 'street sales' of IDE. As has been noted on page 24 above, there is no evidence to suggest that unauthorised IDE sales are common in Australia; instead, studies suggest that most SDSIE in Australia is altruistically motivated and therefore unlikely to involve deception.

Individual packaging and the use of safety seals have been recommended as strategies to assist people to ascertain whether IDE obtained from secondary distributors are sterile (Latkin and Forman, 2001; Latkin et al., 2005; Latkin et al., 2006; Stopka et al, 2009; Lenton et al., 2006).

The **sterility** of equipment obtained through SDSIE **cannot be guaranteed.**

However, the **issue** tends to arise in the context of unauthorised IDE **sales** which are **uncommon in Australia.**



**Singer and colleagues (2000) proposed a method to empirically confirm the practice - namely, purchasing syringes from 'street sources' in North American cities, and then testing them for the presence of human beta-globin DNA product to ascertain whether they had been previously used.*

Secondary distributors are at risk of needle-stick injuries

There is a small body of evidence to suggest that distributors who collect and return used IDE on behalf of others may be at increased risk of needle-stick injuries. A person engaged in secondary distribution in Brothers' (2016) qualitative study reported becoming infected with hepatitis C after stepping on a used needle that he intended to dispose of on behalf of another person. Furthermore, a quantitative study of 539 people who inject drugs in California found that those engaged in SDSIE were statistically significantly more likely to report a needle-stick injury in the last 6 months when compared to non-SDSIE respondents (17 percent vs 6 percent, $p < 0.002$) (Lorvick et al., 2006). In California, several NSPs operate on a strict one-for-one exchange basis, meaning that people engaged in secondary distribution cannot obtain sterile equipment unless they return used equipment (Lorvick et al., 2006).

There is no Australian evidence on the prevalence of needle-stick injuries among people who engage in SDSIE. Lorvick and colleagues (2006) note that post-exposure prophylaxis programs can be offered to assist secondary distributors who experience a needle-stick injury; they also suggest that people who participate in SDSIE "should receive instruction in the same safety protocols that needle exchange staff use and should be given materials for safer syringe handling (biohazardous waste containers, gloves, etc.)" (see also Latkin et al., 2005).

There is **limited data** on the **prevalence of needle-stick injuries** among people who engage in SDSIE.

Mitigation strategies have been **suggested to minimise risk of injury** to people who engage in SDSIE.



It is unclear whether SDSIE reduces BBV prevalence

As shown in Table 3 below, there is some evidence to suggest that people who obtain equipment through SDSIE may be at a higher risk of BBV acquisition compared to people who predominately rely on NSPs. However, the studies have methodological limitations. Notably, none of the studies specify when BBVs were acquired. Since SDSIE serves populations who have traditionally not had access to sterile injecting equipment (see page 23 above), it is possible that HIV or hepatitis C transmission occurred through equipment sharing practices that pre-dated access to sterile equipment through secondary distributors. Indeed, Romo and colleagues (2023) note that "many of these [HCV] cases may have developed long before we measured participants' primary syringe source, and perhaps even before [NSPs] or nonprescription pharmacy syringe sales were available in the study area."

It is also important to note that the findings do not support the conclusion that SDSIE *causes* higher rates of BBV prevalence; instead, the results may indicate that people who receive equipment through secondary distribution have different risk profiles to individuals who predominantly access NSPs. Indeed, each of the studies explicitly state that their findings do not offer evidence against the practice of SDSIE:

[O]ur findings should not be interpreted to mean that secondary syringe exchange should be discouraged in rural settings ... [S]trong evidence supports that secondary exchange increases the number of people

served by [NSPs] by reaching [people] who are unable or unwilling to attend an SSP in person ... (Romo et al., 2023).

[T]he results of this study in no way undermine or contradict Kaplan's circulation theory [that wider syringe distribution should decrease circulation time and therefore decrease HIV risk at a population level] (Valente et al., 2001).

SSE should not be discouraged (De et al., 2008).

Instead, De and colleagues (2008) posit that the prevalence of BBVs in SDSIE communities may be partly attributable to a dose-effect:

Considering that sharing of equipment still occurs, the quantity of clean syringes and other equipment may be insufficient, especially for injectors who inject frequently.

While there are currently no caps on the number of syringes that can be acquired through [NSPs] in Montreal, there is also no consistent practice across [NPSs] regarding the use of [SDSIE] as a sanctioned risk-reduction strategy.

Studies suggesting that people who obtain equipment through SDSIE may be at a higher risk of BBV acquisition **must be read in context.**

None of these studies argue against SDSIE as a legitimate aspect of the public health response to BBVs.

TABLE 2. Summary of studies exploring association between SSDIE and BBV prevalence

Citation	Main findings	Reported study limitations
Valente et al., 2000	Participants who returned syringes obtained from others had a higher risk of HIV seroconversion (odds ratio 2.73, significant at 90% confidence interval but not 95%). This increased risk was significant only for women.	The low number of HIV cases in the evaluation subsample (n = 12) limits the ability to draw conclusions about the impact of SDSIE on HIV transmission. The analysis was limited to data obtained from a needle exchange program.
De et al., 2008	Recipients of SDSIE were more likely to self-report a HIV diagnosis (adjusted odds ratio 3.56, significant at 95% confidence interval), and to have drug injecting network members who are sexual partners, inject daily, and share syringes.	The majority of the sample comprised individuals recruited through an exchange program, and their risk profile may differ from that of other people who inject drugs.
Romo et al., 2023	Compared to people whose most common primary syringe source was 'other', obtaining most syringes from pharmacies or directly from NSPs was associated with a 15% and 11% lower HCV seroprevalence, respectively. However, there was no significant difference for those obtaining syringes indirectly (via SDSIE) compared to 'other' sources.	The measure of participants' primary syringe source is prone to misclassification, as they may not know the original source of syringes obtained from friends, spouses, relatives, or street sellers. This could lead to an underestimation of individuals acquiring syringes through SDSIE.

Conclusions

While there is a relative dearth of Australian studies regarding SDSIE, there is a large body of international evidence on the subject. The balance of the available evidence supports arguments that SDSIE helps underserved populations to overcome structural barriers to sterile equipment access. Those who engage in SDSIE in Australia are largely motivated by altruistic reasons, and unauthorised sales of equipment obtained from NSPs are rare.

While SDSIE is not a substitute for NSPs which offer ancillary services to assist in the prevention and management of BBVs, the evidence shows that secondary distributors can (and frequently do) disseminate health promotion messages to the individuals they serve. Based on their expert review of the available evidence, the United Kingdom National Institute for Clinical Excellence has determined that SDSIE should not be discouraged; instead, secondary distributors should be supported to connect members of their networks with NSPs.

SDSIE models can be designed in a manner that addresses the key arguments against the practice. In particular:

- in response to concerns that individuals may profit "from trading in needles originally provided by agencies funded by the public purse" (Lenton et al., 2006), the unauthorised sale of sterile injecting equipment could continue to be prohibited under section 7B of the *Misuse of Drugs Act 1981* (WA);
- secondary distributors could be trained to provide accurate health promotion and harm reduction information to enable others to benefit from education, advice, and services provided by NSPs;
- secondary distributors could be trained in safety protocols for safe syringe handling, provided with safety equipment such as sharps containers, and be educated about the availability of post-exposure prophylaxis to mitigate risks of 'occupational' exposure;
- equipment provided to secondary distributors should be individually packaged and sealed to increase receivers' confidence that equipment is sterile; and
- to ensure that sufficient amounts of sterile equipment are available in the community, conservative restrictions should not be placed on the volume of equipment that can be provided to secondary distributors (however, NSP attendance

may need to be monitored to ensure that increases in SDSIE do not result in reduced NSP attendance).

In the absence of a large body of Australian literature regarding SDSIE, the legal reforms in the Australian Capital Territory, Tasmania and the Northern Territory offer a 'natural experiment'. Data from these jurisdictions will be instructive to other Australian states and territories considering similar reforms, and may help to identify key requirements for a successful model.

In the absence of authorised SDSIE, alternative approaches to scaling up access to sterile injecting equipment may need to be explored; these may include, but are not limited to, increased geographical coverage of NSPs, increased NSP operating hours, increased mobile NSP outreach, greater use of postal NSP services, and increased access to needle and syringe vending machines. An assessment of the relative merits and the feasibility of these alternative approaches lies beyond the scope of this review.

While this report represents the first known review of the evidence around SDSIE, it should be read in the context of its limitations. Some relevant studies may have been overlooked due to the 'rapid review' method adopted, and the absence of critical quality appraisal means that methodological shortcomings of the included studies may not have been reported. Economic, political, law enforcement, and other social considerations around SDSIE merit further investigation.

SiREN will use this report to inform the development of a protocol to conduct a systematic review of the literature, with a view to publishing the findings.

References

*indicates a study that met review inclusion criteria (n=72)

- *Anderson, R., Clancy, L., Flynn, N., Kral, A., & Bluthenthal, R. (2003). Delivering syringe exchange services through "satellite exchangers": The Sacramento Area Needle Exchange, USA. *Int J Drug Policy*, 14(5), 461-463.
- *Aponte-Melendez, Y., Mateu-Gelabert, P., Fong, C., Eckhardt, B., Kapadia, S., Marks, K. (2021). The impact of COVID-19 on people who inject drugs in New York City: Increased risk and decreased access to services. *Harm Reduct J*, 18, 118.
- Australian Department of Health. (2018). Fifth National Hepatitis C Strategy 2018-2022. Canberra: Commonwealth of Australia.
- Australian Injecting and Illicit Drug Users League. (2019). Hidden harms: Methamphetamine use and routes of transmission of blood born viruses and sexually transmissible infections. Canberra: Australian Injecting and Illicit Drug Users League.
- Australian National Council on Drugs. (2013). ANCD Position Paper: Needle and Syringe Programs. Canberra: ANCD.
- *Bluthenthal, R. N., Ridgeway, G., Schell, T., Anderson, R., Flynn, N. M., & Kral, A. H. (2007). Examination of the association between syringe exchange program (SEP) dispensation policy and SEP client-level syringe coverage among injection drug users. *Addiction*, 102(4), 638-646.
- *Braine, N., Acker, C., Goldblatt, C., Yi, H., Friedman, S., & Desjarlais, D. C. (2008). Neighborhood history as a factor shaping syringe distribution networks among drug users at a U.S. syringe exchange. *Soc Networks*, 30(3), 235-246.
- Bramer, W. M., Rethlefsen, M. L., Kleijnen, J., & Franco, O. H. (2017). Optimal database combinations for literature searches in systematic reviews: a prospective exploratory study. *Syst Rev*, 6(1), 245.
- *Brenner, L., Bryant, J., Cama, E., Pepolin, L., & Harrod, M. E. (2018). Patterns of peer distribution of injecting equipment at an authorized distribution site in Sydney, Australia. *Subst Use Misuse*, 53(14).
- Broadhead, R. S., Van Hulst, Y., & Heckathorn, D. D. (2014). Termination of an established needle-exchange: A study of claims and their impact. *Social Problems*, 46(1), 48-66.
- Brothers, S. (2016). Merchants, samaritans, and public health workers: Secondary syringe exchanger discursive practices. *Int J Drug Policy*, 37, 1-8.
- Bryant, J., Brenner, L., Pepolin, L., & Harrod, M. E. (2019). Care, agency and criminality: Making sense of authorised extended distribution in the accounts of key stakeholders. *Int J Drug Policy*, 71, 56-61.
- *Bryant, J., & Hopwood, M. (2009). Secondary exchange of sterile injecting equipment in a high distribution environment: A mixed method analysis in south east Sydney, Australia. *Int J Drug Policy*, 20(4), 324-328.
- *Bryant, J., & Treloar, C. (2006). Risk practices and other characteristics of injecting drug users who obtain injecting equipment from pharmacies and personal networks. *Int J Drug Policy*, 17(5), 418-424.
- *Bryant, J., & Treloar, C. (2007). The gendered context of initiation to injecting drug use: Evidence for women as active initiates. *Drug Alcohol Rev*, 26(3), 287-293.
- *Bryant, J., Wilson, H., Hull, P., & Treloar, C. (2010). Pharmacy Needle and Syringe Survey, New South Wales 2006-2008. Sydney: National Centre in HIV Social Research.
- *Buxton, J. A., Preston, E. C., Mak, S., Harvard, S., Barley, J., Strategies, B. C. H. R., & Services, C. (2008). More than just needles: An evidence-informed approach to enhancing harm reduction supply distribution in British Columbia. *Harm Reduct J*, 5(1), 37.
- *Carruthers, S. (2018). Needle and Syringe Programs in Australia: Peer-led best practice. Canberra: Australian Injecting and Illicit Drug Users League.
- Communicable Disease Control Directorate. (2017). The epidemiology of sexually transmitted infections and blood-borne viruses in Western Australia 2016. Perth: Government of Western Australia.
- Communicable Disease Control Directorate. (2022). The epidemiology of sexually transmitted infections and blood-borne viruses in Western Australia 2021. Perth: Government of Western Australia.
- Communicable Disease Control Directorate. (2023). Quarterly surveillance report: Notifiable sexually transmissible infections and blood-borne viruses in Western Australia. Perth: Government of Western Australia.

- *Craine, N., Hickman, M., Parry, J. V., Smith, J., McDonald, T., & Lyons, M. (2010). Characteristics of injecting drug users accessing different types of needle and syringe programme or using secondary distribution. *J Public Health*, 32(3), 328-335.
- *De, P., Cox, J., Boivin, J. F., Platt, R. W., & Jolly, A. M. (2008). Social network-related risk factors for bloodborne virus infections among injection drug users receiving syringes through secondary exchange. *J Urban Health*, 85(1), 77-89.
- *Dechman, M. K. (2015). Peer helpers' struggles to care for "others" who inject drugs. *Int J Drug Policy*, 26(5), 492-500.
- *Des Jarlais, D. C., & Hopkins, W. (1985). "Free" needles for intravenous drug users at risk for AIDS: current developments in New York City. *NEJM*, 313 23, 1476.
- *Finlinson, H. A., Colón, H. M., Robles, R. R., Deren, S., López, M. S., & Muñoz, A. (1999). Access to Sterile Syringes by Injection Drug Users in Puerto Rico. *Human Organization*, 58(2), 201-211.
- *Finlinson, H. A., Oliver-Vélez, D., Colón, H. M., Deren, S., Robles, R. R., Beardsley, M., Cant, J. G. H., Andía, J., & López, M. S. (2000). Syringe acquisition and use of syringe exchange programs by Puerto Rican drug injectors in New York and Puerto Rico: Comparisons based on quantitative and qualitative Methods. *AIDS and Behavior*, 4(4), 341-351.
- *Fisher, D. G., Wilson, H., & Bryant, J. (2013). Harm reduction knowledge and information exchange among secondary distributors in Sydney, Australia. *Drugs*, 20(1), 67-73.
- *Fisher, K., Smith, T., Nairn, K., & Anderson, D. (2017). Rural people who inject drugs: A cross-sectional survey addressing the dimensions of access to secondary needle and syringe program outlets. *Aust J Rural Health*, 25(2), 94-101.
- *Fraser, S. (2004). 'It's your life!': injecting drug users, individual responsibility and hepatitis C prevention. *Health (London)*, 8(2), 199-221.
- *Friedman, S. R., de Jong, W., Rossi, D., Touzé, G., Rockwell, R., Des Jarlais, D. C., & Elovich, R. (2007). Harm reduction theory: Users' culture, micro-social indigenous harm reduction, and the self-organization and outside-organizing of users' groups. *Int J Drug Policy*, 18(2), 107-117.
- *Friedman, S. R., Furst, R. T., Jose, B., Curtis, R., Neaigus, A., Des Jarlais, D. C., Goldstein, M. F., & Ildefonso, G. (1998). Drug scene roles and HIV risk. *Addiction*, 93(9), 1403-1416.
- *Glass, R., Hope, V. D., Njoroge, J., Edmundson, C., Smith, J., McVeigh, J., Parry, J., & Desai, M. (2019). Secondary distribution of injecting equipment obtained from needle and syringe programmes by people injecting image and performance enhancing drugs: England and Wales, 2012-15. *Drug Alcohol Depend*, 195, 40-44.
- Gleghorn, A. A., Jones, T. S., Doherty, M. C., Celentano, D. D., & Vlahov, D. (1995). Acquisition and use of needles and syringes by injecting drug users in Baltimore, Maryland. *J Acquir Immune Defic Syndr Hum Retrovirol*, 10(1), 97-103.
- *Green, T. C., Bluthenthal, R. N., Singer, M., Beletsky, L., Grau, L. E., Marshall, P., & Heimer, R. (2010). Prevalence and predictors of transitions to and away from syringe exchange use over time in 3 US cities with varied syringe dispensing policies. *Drug Alcohol Depend*, 111(1-2), 74-81.
- *Grund, J.-P. C., Blanken, P., Adriaans, N. F. P., Kaplan, C. D., Barendregt, C., & Meeuwssen, M. (1992). Reaching the unreached: Targeting hidden IDU populations with clean needles via known user groups. *J Psychoactive Drugs*, 24(1), 41-47.
- Hamel, C., Michaud, A., Thuku, M., Skidmore, B., Stevens, A., Nussbaumer-Streit, B., & Garritty, C. (2021). Defining rapid reviews: A systematic scoping review and thematic analysis of definitions and defining characteristics of rapid reviews. *J Clin Epidemiol*, 129, 74-85.
- Heard, S., Iversen, J., Geddes, L., Kwon, J., & Maher, L. (2022). Needle Syringe Program national minimum data collection: National data report 2022. Sydney: Kirby Institute.
- *Heard, S., Iversen, J., & Maher, L. (2022). Australian Needle Syringe Program national minimum data collection: National data report: Prevalence of HIV, HCV and injecting and sexual behaviour among NSP attendees. Sydney: Kirby Institute.
- *Huo, D., Bailey, S. L., Hershov, R. C., & Ouellet, L. (2005). Drug use and HIV risk practices of secondary and primary needle exchange users. *AIDS Educ Prev*, 17(2), 170-184.
- *Irwin, K., Karchevsky, E., Heimer, R., & Badrieva, L. (2006). Secondary syringe exchange as a model for HIV prevention programs in the Russian Federation. *Subst Use Misuse*, 41(6-7), 979-999.

- *Iversen, J., & Maher, L. (2012). Australian Needle and Syringe Program national data report 2007-2011. Sydney: Kirby Institute.
- *Kimergård, A., & McVeigh, J. (2014). Variability and dilemmas in harm reduction for anabolic steroid users in the UK: a multi-area interview study. *Harm Reduction J*, 11(1), 19.
- *Kuyper, L. M., Kerr, T., Li, K., Hogg, R. S., Tyndall, M. W., Montaner, J. S., & Wood, E. (2006). Factors associated with buying and selling syringes among injection drug users in a setting of one of North America's largest syringe exchange programs. *Subst Use Misuse*, 41(6-7), 883-899.
- Lancaster, K., Seear, K., & Treloar, C. (2015). Laws prohibiting peer distribution of injecting equipment in Australia: A critical analysis of their effects. *Int J Drug Policy*, 26(12), 1198-1206.
- *Latkin, C. A., Davey, M. A., & Hua, W. (2006). Social context of needle selling in Baltimore, Maryland. *Subst Use Misuse*, 41(6-7), 901-913.
- *Latkin, C. A., & Forman, V. L. (2001). Patterns of needle acquisition and sociobehavioral correlates of needle exchange program attendance in Baltimore, Maryland, U.S.A. *J Acquir Immune Defic Syndr*, 27(4), 398-404.
- *Latkin, C. A., Hua, W., & Davey, M. A. (2005). Exploring the role of needle selling in a drug-using community in Baltimore, Maryland. *J Acquir Immune Defic Syndr*, 38(1), 57-60.
- Latkin, C. A., Hua, W., Davey, M. A., & Sherman, S. G. (2003). Direct and indirect acquisition of syringes from syringe exchange programmes in Baltimore, Maryland, USA. *Int J Drug Policy*, 14(5), 449-451.
- *Lenton, S., Bevan, J., & Lamond, T. (2006). Threat or opportunity? Secondary exchange in a setting with widespread availability of needles. *Subst Use Misuse*, 41(6-7), 845-864.
- *Lenton, S., & Tan-Quigley, A. (1997). *The Fitpack Study: A survey of "hidden" drug injectors with minimal drug treatment experience*. Perth: Curtin University of Technology.
- *Liu, B., Sullivan, S. G., & Wu, Z. (2007). An evaluation of needle exchange programmes in China. *AIDS*, 21 Suppl 8, S123-128.
- *Lorvick, J., Bluthenthal, R. N., Scott, A., Gilbert, M. L., Riehman, K. S., Anderson, R. L., Flynn, N. M., & Kral, A. H. (2006). Secondary syringe exchange among users of 23 California syringe exchange programs. *Subst Use Misuse*, 41(6-7), 865-882.
- *Memedovic, S., Iversen, J., Geddes, L., & Maher, L. (2017). Australian Needle Syringe Program survey national data report 2012-2016: Prevalence of HIV, HCV and injecting and sexual behaviour among NSP attendees. Sydney: Kirby Institute.
- Murphy, S. (1987). Intravenous drug use and AIDS: Notes on the social economy of needle sharing drugs, alcohol, and AIDS. *Contemp. Drug Probs.*, 14, 373.
- *Murphy, S., Kelley, M. S., & Lune, H. (2004). The health benefits of secondary syringe exchange. *J Drug Issues*, 34(2), 245-268.
- *National Centre in HIV Epidemiology and Clinical Research. (2010). Australian NSP survey national data report 2005-2009. Sydney: National Centre in HIV Epidemiology and Clinical Research.
- National Institute for Health Care Excellence. (2014). *Needle and syringe programs: Public health guideline*. London: NICE, Retrieved 27 June 2023 from <https://www.nice.org.uk/guidance/ph52>
- Newby, H. (1995). *The supply of needles and syringes to injecting drug users: Attitudes and practices of pharmacists in Western Australia*. Perth: Edith Cowan University [thesis].
- *Newland, J., Newman, C., & Treloar, C. (2016). "We get by with a little help from our friends": Small-scale informal and large-scale formal peer distribution networks of sterile injecting equipment in Australia. *Int J Drug Policy*, 34, 65-71.
- *Noroozi, A., Mirzazadeh, A., Hajebi, A., Farhoudian, A., Sharifi, H., Higgs, P., & Noroozi, M. (2017). Comparing profile of people who inject drugs (PWID) accessing different types of needle and syringe programs or secondary distribution in Kermanshah, Iran *J Substance Use*, 22(3), 304-309.
- O'Keefe, D., Scott, N., Aitken, C., & Dietze, P. (2018). Assessing individual-level needle and syringe coverage parameters and the measurement of coverage in Melbourne, Australia: Methods and impacts. *J Public Health*, 40(3), e336-e342.

- *Panda, S., & Sharma, M. (2006). Needle syringe acquisition and HIV prevention among injecting drug users: A treatise on the "good" and "not so good" public health practices in South Asia. *Subst Use Misuse*, 41(6-7), 953-977.
- Peer Based Harm Reduction WA. (2018). News and updates. Retrieved 16 June 2023 from <https://harmreductionwa.org/nsep/>
- *Pierce, T. G. (1999). Gen-X junkie: Ethnographic research with young White heroin users in Washington, DC. *Subst Use Misuse*, 34(14), 2095-2114.
- *Power, R., Jones, S., Kearns, G., & Ward, J. (1996). An ethnography of risk management amongst illicit drug injectors and its implications for the development of community-based interventions. *Sociol Health Illn*, 18(1), 86-106.
- *Rains, A., York, M., Bolinski, R., Ezell, J., Ouellet, L. J., Jenkins, W. D., & Pho, M. T. (2022). Attitudes toward harm reduction and low-threshold healthcare during the COVID-19 pandemic: Qualitative interviews with people who use drugs in rural southern Illinois. *Harm Reduction J*, 19(1), 128.
- *Riehm, K. S., Kral, A. H., Anderson, R., Flynn, N., & Bluthenthal, R. N. (2004). Sexual relationships, secondary syringe exchange, and gender differences in HIV risk among drug injectors. *J Urban Health*, 81(2), 249-259.
- Riley, E. D., Kral, A. H., Stopka, T. J., Garfein, R. S., Reuckhaus, P., & Bluthenthal, R. N. (2010). Access to sterile syringes through San Francisco pharmacies and the association with HIV risk behavior among injection drug users. *J Urban Health*, 87(4), 534-542.
- *Romo, E., Rudolph, A. E., Stopka, T. J., Wang, B., Jesdale, B. M., & Friedmann, P. D. (2023). HCV serostatus and injection sharing practices among those who obtain syringes from pharmacies and directly and indirectly from syringe services programs in rural New England. *Addict Sci Clin Pract*, 18(1), 2.
- *Sarang, A., Rhodes, T., & Platt, L. (2008). Access to syringes in three Russian cities: implications for syringe distribution and coverage. *Int J Drug Policy*, 19 Suppl 1, S25-36.
- Schimmel, J. (2002). Heroin, homicide and public health. *Curr Iss Crim Justice*, 14(2), 135-158.
- *Seaman, A., Leichtling, G., Stack, E., Gray, M., Pope, J., Larsen, J. E., Leahy, J. M., Gelberg, L., & Korhuis, P. T. (2021). Harm reduction and adaptations among PWUD in rural Oregon during COVID-19. *AIDS Behav*, 25(5), 1331-1339.
- *Sears, C., Guydish, J. R., Weltzien, E. K., & Lum, P. J. (2001). Investigation of a secondary syringe exchange program for homeless young adult injection drug users in San Francisco, California, U.S.A. *J Acquir Immune Defic Syndr*, 27(2), 193-201.
- *Sherman, S. G., Rusch, M., & Golub, E. T. (2004). Correlates of safe syringe acquisition and disposal practices among young IDUs: Broadening our notion of risk. *J Drug Issues*, 34(4), 895-912.
- *Shrestha S., Smith, M. W., Broman, K. W., Farzadegan, H., Vlahov, D., Strathdee, S. A. (2006). Multiperson use of syringes among injection drug users in a needle exchange program: a gene-based molecular epidemiologic analysis. *J Acquir Immune Defic Syndr*, 43(3):335-43.
- *Singer, M., Stopka, T., Siano, C., Springer, K., Barton, G., Khoshnood, K., Gorry de Puga, A., & Heimer, R. (2000). The social geography of AIDS and hepatitis risk: Qualitative approaches for assessing local differences in sterile-syringe access among injection drug users. *Am J Public Health*, 90(7), 1049-1056.
- *Snead, J., Downing, M., Lorvick, J., Garcia, B., Thawley, R., Kegeles, S., & Edlin, B. R. (2003). Secondary syringe exchange among injection drug users. *J Urban Health*, 80(2), 330-348.
- *Stopka, T. J., Singer, M., Santelices, C., & Eiserman, J. (2003). Public health interventionists, penny capitalists, or sources of risk?: Assessing street syringe sellers in Hartford, Connecticut. *Subst Use Misuse*, 38(9), 1345-1377.
- *Strike, C., Cavalieri, W., Bright, R., Myers, T., Calzavara, L., & Millson, M. (2005). Syringe acquisition, peer exchange and HIV risk. *Contemp Drug Probl*, 32(2), 319-340.
- Trickey, A., Fraser, H., Lim, A. G., Peacock, A., Colledge, S., Walker, J. G., Leung, J., Grebely, J., Larney, S., Martin, N. K., Hickman, M., Degenhardt, L., May, M. T., & Vickerman, P. (2019). The contribution of injection drug use to hepatitis C virus transmission globally, regionally, and at country level: a modelling study. *Lancet Gastroenterol Hepatol*, 4(6), 435-444.
- Trubnikov, M. N., Khodakevich, L. N., Barkov, D. A., & Blagovo, D. V. (2003). Sources of injecting equipment for drug users in Moscow, Russia. *Int J Drug Policy*, 14(5), 453-455.
- *Tyndall, M. W., Bruneau, J., Brogly, S., Spittal, P., O'Shaughnessy, M. V., & Schechter, M. T. (2002). Satellite needle distribution among injection drug users: policy and practice in two Canadian cities. *J Acquir Immune Defic Syndr*, 31(1), 98-105.

*Valente, T. W., Foreman, R. K., Junge, B., & Vlahov, D. (1998). Satellite exchange in the Baltimore Needle Exchange Program. *Public Health Rep*, 113 Suppl 1(Suppl 1), 90-96.

*Voytek, C., Sherman, S. G., & Junge, B. (2003). A matter of convenience: factors influencing secondary syringe exchange in Baltimore, Maryland, USA. *Int J Drug Policy*, 14(5), 465-467.

*Wenger, L. D., Kral, A. H., Bluthenthal, R. N., Morris, T., Ongais, L., & Lambdin, B. H. (2021). Ingenuity and resiliency of syringe service programs on the front lines of the opioid overdose and COVID-19 crises. *J Lab Clin*, 234, 159-173

Western Australian Department of Health. (2019a). *Western Australian Hepatitis C Strategy 2019-2023*. Perth: Government of Western Australia.

Western Australian Department of Health. (2019b). *Western Australian HIV Strategy 2019-2023*. Perth: Government of Western Australia.

Western Australian Department of Health. (2022). *Needle and syringe distribution in Western Australia, 2011 to 2020*. Perth: Government of Western Australia.

Western Australian Department of Health. (n.d.). *Guidelines for the establishment and operation of a needle and syringe program*. Perth: Government of Western Australia.

World Health Organisation. (2016). *Global health sector strategy on viral hepatitis 2016-2021. Towards ending viral hepatitis*. Geneva: World Health Organisation.



Legal sources

Criminal Code (WA)

Medicines and Poisons Act 2014 (WA)

Medicines and Poisons Regulations 2016 (WA)

Medicines, Poisons and Therapeutic Goods Act 2008 (ACT)

Misuse of Drugs Act 1981 (WA)

Misuse of Drugs Act 1981 (NT)

Poisons Act 1964 (WA)

Poisons Amendment Act 1994 (WA)

Public Health Act 1997 (ACT)

Wilson v The Queen (1992) 174 CLR 313



About SiREN

SiREN is the WA Sexual Health and Blood-borne Virus Applied Research and Evaluation Network. SiREN is a partnership between researchers, service providers and policymakers working to strengthen evidence-informed policy and practice in Western Australia.

SiREN aims to:

1. Strengthen the research, evaluation and health promotion skills of people working to promote sexual health or prevent or manage blood-borne viruses.
2. Promote and facilitate opportunities for collaboration between sexual health and blood-borne virus service providers, policymakers and researchers; and
3. Foster links with national sexual health and blood-borne virus research centers and contribute to appropriate national research agendas in order to raise the profile of SHBBV concerns affecting WA.

Contact

Email: siren@curtin.edu.au

siren.org.au

Proudly supported by



Copyright information

© SiREN 2023

Except as permitted by the Copyright Act 1968, this material may not be reproduced, stored or transmitted without the permission of the copyright owner. All enquiries must be directed to SiREN.