Report on the National Audit of Community Needle and Syringe Disposal Facilities

LEGISLATION AND LITERATURE REVIEW

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WASTEAUDIT

Waste Audit and Consultancy Services (Aust) Pty Ltd

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REPORT ON THE NATIONAL AUDIT OF COMMUNITY NEEDLE AND SYRINGE DISPOSAL FACILITIES

Legislation Review

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Legislation Review

The following summarises the legislation applicable in each State and Territory as it applies to the issues surrounding discarded N&S and NSP. This review applies to legislation that is currently in force within each State and Territory at the time this report was prepared. Definitions and/or sections of legislation have in some instances been edited to only include those sections or sub-sections that are specifically pertinent to the management of needles and syringes (ie. numbers may appear out of order, or the word “and” left at the end of a sentence). This has been done to indicate that the relevant section of an Act/Regulation does contain more provisions, but none relevant to this project and as such not included to conserve space and relevancy.

This review is not a legal interpretation of the various legislation as it applies to individuals or organisations in relation to issues associated with discarded N&S and the function of NSP’s particularly in relation to used N&S. This review is provided as an overview of the identified key areas of legislation that are of applicable interest to this project. Individuals/organisations are advised to seek legal advice on the applicability of specific legislation to their activities and not rely on this document.

Classification of used needles and syringes

Needles and syringes are generally defined as “sharps” within State and Territory waste management legislation. The following provides a summary as to the definitions within each jurisdiction and how the legislation is applied.

In summary, all States/Territories have legislation that controls the management of clinical and related waste (which includes sharps). However, in the main, this legislation has been enacted to control “commercial and industrial” sources of those wastes (ie., hospitals and other healthcare facilities), for which the specific requirements have been developed – not domestic sources. As a consequence, it is not absolutely clear as to whether sharps that have been generated within domestic settings (eg., by IDU or even people with Diabetes), and have been collected by a NSP for disposal can be classified under legislative provisions.

Verbal advice from officers of State and Territory Environment and/or Health government agencies has indicated that administrative arrangements have been developed so that as long as the NSP is managing sharps waste in accord with the legislative requirements (eg., utilising treatment technologies that have been approved for sharps), then the NSP is not required to undertake requirements such as obtaining storage licences or using transport certificates. Due primarily to lack of clarity in being required to do so, most NSPs utilise the same transport and treatment systems that healthcare facilities do, or are managing used N&S via a healthcare facility's waste system.

However, there does seem to be an expectation that when N&S are collected from a NSP by a waste contractor, that the administrative requirements (eg., Transport Certificates), are met and that transport of the waste is conducted with the same requirements as if the waste had been collected from a healthcare facility.

It is also important to stress that even if the status of sharps waste from a NSP has not been clarified, there are pollution and litter offences within each State and Territory jurisdiction that could be applied should such wastes be disposed of in a manner that could cause an injury to any person or negative impact to the environment.

Health and/or local government legislation also may contain provisions for public health/nuisance control. These provisions could also be used to manage discarded N&S should they be found to constitute a risk to the health and welfare of the community. It could be argued that mental health (eg. feeling threatened as a result of seeing N&S in public areas or by receiving a needlestick injury), could be a catalyst for the use of these legislative provisions.

Local governments are also beginning to consider the issue of disposal of sharps into domestic waste and recycling containers. While local governments do have broad powers to deal with this issue, they do in fact need to enact a "local law". During this review of legislation, only one council (Hobart City Council), indicated that they were in the process of preparing a local law to prohibit the deposition of clinical waste into domestic waste/recycling streams. Conversations with an officer from this council indicated that there was still some uncertainty as to how this local law could be applied to IDU.

Australian Capital Territory

Legislation	*Clinical Waste Act 1990*
Definitions	"**clinical waste**" means— (a) waste consisting of any catheter, hypodermic needle, intravenous set, pipette or scalpel; or
Applicability to NSP	Sharps not classified as clinical waste from NSP.

New South Wales

Legislation	*Protection of the Environment Operations Act 1997* Note: the legislation is currently under review.
Definitions	Clinical waste is a "controlled waste". However, delegation of responsibility for aspects of management of clinical waste has been given to NSW Health with their requirements contained in "*Waste Management Guidelines for Health Care Facilities*" According to NSW Health; "**clinical waste**" is waste that has the potential to cause sharps injury, infection or offence. "**sharps**" any object capable of inflicting a penetrating injury, which may or may not be contaminated with blood or body substances. This includes needles and any other sharp objects or instruments designed to perform penetrating procedures. Under the Protection of the *Environment Operations Act 1997*; "**sharps waste**" means any waste resulting from medical, nursing, dental, veterinary, pharmaceutical, skin penetration or other related clinical activity, and that contains instruments or devices: (a) that have sharp points or edges capable of cutting, piercing or penetrating the skin (eg needles, syringes with needles or surgical instruments), and (b) that are designed for such a purpose, and (c) that have the potential to cause injury or infection, but does not include any such waste that has been treated by a method approved in writing by the Director-General of the Department of Health.
Applicability to NSP	NSW Health state that the "*Guidelines*" apply to community health centres. NSW Health, through the Area Health Services requires management of NSP sharps as a clinical waste. NSP sharps administratively not classified as a Controlled Waste.

Northern Territory

Legislation	*Waste Management and Pollution Control Act* Schedule 2 – Activities that Require Approval or Licence 2. Collecting, transporting, storing, re-cycling, treating or disposing of a listed waste on a commercial or fee for service basis, other than in or for the purpose of a sewerage treatment plant. *Waste Management and Pollution Control (Administration) Regulations* Schedule 2 –Clinical waste is a listed waste
Definitions	*Interim Policy for the Disposal of Departmental Clinical and Medical Waste 19 June 1995* Definitions: "**Medical Waste**" Medical waste means waste consisting of sharps; "**Sharps**" Sharps are a form of medical waste consisting of objects or devices having acute rigid corners, edges, points or protuberances capable of cutting or penetrating the skin. This includes a needle, syringe with needle, surgical instrument or other article that is discarded in the course of medical, dental or veterinary practice or research and has a sharp edge or point capable of inflicting a penetrating injury on a person coming into contact with it.
Applicability to NSP	NSP sharps not classified as a Listed Waste. Sites receiving waste are required to have a management plan approved. Therefore, if a landfill was to accept sharps waste from a NSP, there would have to be an approved management plan for this waste type.

Queensland

Legislation	*Environmental Protection (Waste Management) Regulation 2000* *Environmental Protection (Waste Management) Policy 2000*
Definitions	"**clinical waste**" means waste that has the potential to cause disease, including, for example, the following- (a) animal waste; (b) discarded sharps; (c) human tissue waste; (d) laboratory waste. This Regulation provides details for the management of clinical waste. Provides for the management of wastes including Regulated Wastes.
Applicability to NSP	NSP sharps administratively not classified as Regulated Waste. While not specifically stating it, the legislation implies that sharps disposed or discarded into public areas or toilets may be classified as a clinical waste, and thus managed accordingly

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South Australia

Legislation	*Environment Protection Act 1993* **Schedule 1 Prescribed activities of environmental significance** **(4) Activities Producing Listed wastes** an activity in which any of the substances or things listed in Part B of this Schedule are produced as or become waste other than any of the following activities: (o) medical practice, not being the practice of pathology; (t) operation of an immunisation clinic; (u) operation of a hospital with a capacity of less than 40 beds; *Environment Protection (Waste Management) Policy 1994* Provides the details of how medical waste generated from "prescribed activities" as indicated in Schedule 1 of the Act are to be managed.
Definitions	**Part B Listed wastes** Medical waste of (a) a needle, syringe with needle, surgical instrument or other article that is discarded in the course of medical*, dental or veterinary practice or research and has a sharp edge or point capable of inflicting a penetrating injury on a person who comes into contact with it; or
Applicability to NSP	NSP waste not classified as a Listed Waste.

Tasmania

Legislation	*Environmental Management and Pollution Control (Waste Management) Regulations 2000* 5. For the purposes of the definition of "controlled waste" in section 3 of the Act, a waste is prescribed as a controlled waste if it exhibits an environmentally significant characteristic and is one of the following: (f) any other waste declared by the Director, by notice published in the Gazette, to be waste consisting of, or containing a quantity of, a pollutant that when placed in, or discharged into, the environment may – (i) directly or indirectly cause environmental harm; or (ii) give rise to the abnormal concentration of any substance in any plant, animal or organism above natural concentrations; or (iii) adversely affect the use or value of the receiving waters for recreational, commercial, domestic, agricultural or industrial purposes; or (iv) contain sufficient heat, or be likely to generate sufficient heat by itself or in combination with other matter, to ignite or cause fire; or (v) give rise to undesirable, abnormal or harmful growth of a plant, animal, virus or organism.

Definitions	*Environmental Management and Pollution Control Act 1994* "**controlled waste**" means – (b) a substance that is prescribed by the regulations to be controlled waste;
Applicability to NSP	Strictly classified as a clinical waste, but not administratively pursued. DPIWE has indicated in "Controlling Waste: A Six-Point Action Plan", that they will be improving the management of clinical and related waste. An "Approved Management Method" for these wastes will be prepared under the Environmental Management and Pollution Control (Waste Management) Regulations 2000. A draft of this has been released in March 2005.

Victoria

Legislation	*Environment Protection (Prescribed Waste) Regulations 1998.*
Definitions	This Regulation defines what are Prescribed Industrial Wastes, and establishes detailed requirements for their management. Regulation 7 Prescribed industrial waste For the purposes of the Act a waste that— (a)) is an industrial waste— (i)) that arises from an industrial, commercial or trade activity or from a laboratory; or (ii)) that is potentially harmful to human beings or equipment and arises from a hospital; and (b)) is listed in Part B of Schedule 1— and any mixture containing an industrial waste that is listed in Part B of Schedule 1 are prescribed industrial wastes. Clinical waste – sharps: Sharps include syringes, needles, lancets, scalpel blades and anything capable of cutting or penetrating the skin. Where items such as disposable glassware and dentists' drill bits are contaminated (eg by blood, body fluids, cultures, etc) and are disposed of in a fashion which could lead to breakage or are still sufficiently sharp to penetrate the skin if mishandled, they should be disposed of as sharps rather than in the normal clinical waste stream.
Applicability to NSP	Prescribed Industrial Waste applies to premises that generate wastes listed in Part B of Schedule 1 of the Regulations. While it has been advised that an NSP meets this criteria, and as such the Prescribed Waste Regulations apply, administratively they would not be required to meet the Regulatory requirements.

Western Australia

Legislation	*The Environmental Protection (Controlled Waste) Regulations 2004*
Definitions	Clinical waste from the generators listed (medical, nursing, dental, veterinary, pharmaceutical or other related activity) is the only clinical waste that has its transport regulated. That is, these waste generators must engage a licensed Controlled Waste Carrier to collect and transport their clinical waste to an approved disposal site/treatment plant. Schedule 1 of the Regulations lists clinical waste and waste pharmaceuticals medicines and drugs as controlled waste. In the Regulations clinical waste has been defined as follows; "means waste generated by medical, nursing, dental, veterinary, pharmaceutical or other related activity[19] which is: (a) poisonous or infectious; (b) likely to cause injury to public health; or (c) contains human tissue or body parts"
Applicability to NSP	Clinical waste from other sources including local government collection programs, collection of sharps from public areas, schools, etc. do not currently fall under the Controlled Waste Regulations. Therefore, they can transport their own clinical waste without the need to be licensed. It should be noted that all clinical waste whether from a licensed Carrier or an unlicensed Carrier does need to be disposed of, to a licensed clinical waste disposal site or treatment plant. Landfill of untreated sharps is not acceptable. A policy is being considered whereby all waste generators producing clinical waste will require a licensed Controlled Waste Carrier to collect and transport the waste to an approved location. The only Carriers not to be licenced are those operating for no gain or reward – do not want to go down the path of licensing private persons taking their needles to an exchange program, and organisations that provide free collection services for clinical waste from home healthcare. Local governments who collect sharps containers from public areas will need to be licensed.

19 The term "related activity" is not defined, but interpretation would relate back to the examples of generators provided.

Disposal of Needles and Syringes

The following summarises general requirements for disposal of N&S as could be applied to N&S generated by an IDU. Generally, if legislation exists that is specific to disposal of N&S by IDU, then essentially it advises disposal via placement into a rigid container and then placement into domestic waste stream. Care should be taken to avoid injury to any person.

Australian Capital Territory

Legislative Requirements	No specific legislation except for what is contained in the Regulations on Recycling and Garbage 2003 and the Clinical Waste Act 1990.

New South Wales

Legislative Requirements	No specific legislation applies to the disposal of N&S.

Northern Territory

Legislative Requirements	*Misuse of Drugs Act* s12(4) A person who possesses a hypodermic syringe or needle who fails to use all reasonable care and take all reasonable precautions with it so as to avoid danger to the life, safety or health of another person is guilty of an offence. *Misuse of Drugs Regulations* s3. Disposal of syringes or needles For the purposes of section 12(5) of the Act, a hypodermic syringe or needle that has been used in the unlawful administration[20] of a dangerous drug shall be disposed of – (a) by depositing it in a rigid walled and puncture resistant container that is sealed or securely closed in such a manner that the contents are incapable of causing injury to any person; and (b) by either – (i) placing the container with its contents in a household or other refuse bin; or (ii) handing it or causing it to be handed to a person referred to in section 12(2) of the Act.

20 Not specifically defined, but interpreted to mean that a person administers a dangerous drug without authority to do so.

Queensland

Legislative Requirements	*Criminal Code* s280 (6) A person must take reasonable care and precautions with a needle to avoid danger to life, safety or health of anyone else. s280 (7) A person must dispose of a used needle in the way prescribed under a regulation. *Drugs Misuse Act 1986* s10 (3) and (4) require hypodermic syringes and needles to be disposed of in accord with procedures prescribed by regulation and to take reasonable care and precautions with a needle to avoid danger to life, safety or health of anyone else. *Drugs Misuse Regulation 1987* reg 3 For the purposes of section 10(4A) of the Act, the prescribed procedures for the disposal of a hypodermic syringe or needle shall be as follows- (a) by placing the hypodermic syringe or needle in a rigid wall, puncture resistant container and that container is sealed or securely closed in such a manner that its contents are incapable of causing injury to any person; or (b) by giving the hypodermic syringe or needle to a person who is a medical practitioner, pharmacist or person or a member of a class of persons referred to as authorised in section 10(3) of the Act. *Environment Protection (Waste Management) Regulation 2000* reg 49(1) Subsection (2) applies to a person who- (a) discards, at domestic premises, a hypodermic needle that has been in contact with human or animal tissue or body fluids; or (2) the person must- (a) place the needle or sharp in a rigid walled, puncture resistant container; and (b) seal or securely close the container.

South Australia

Legislative Requirements	No specific legislation applies to the disposal of N&S.

Tasmania

Legislative Requirements	*HIV/AIDS Preventive Measures Act 1993* s33. A person who obtains a syringe or needle from the holder of a permit must give to that person any used syringe or needle in that person's possession in exchange for the syringe or needle obtained. s35. A person must dispose of a used syringe or needle – (a) by placing the syringe or needle in a container that – (i) has rigid walls; and (ii) is resistant to puncture; and (iii) is capable of being sealed or securely closed in such a way that its contents are not capable of causing injury; or (b) by such other method as the Secretary may determine. s36. A person who is in possession of a syringe or needle must use all reasonable care and take all reasonable precautions in respect of that syringe or needle so as to avoid danger to the life, safety or health of another person.

Victoria

Legislative R equirements	No specific legislation applies to the disposal of N&S.

Western Australia

Legislative Requirements	*Poisons Regulations 1965* reg12F. Requirements relating to used hypodermic needles and syringes (1) A person shall not, in the course of the conduct of an approved needle and syringe programme, accept any used hypodermic syringe or used hypodermic needle unless the syringe or needle has been exhausted. (2) For the purposes of subregulation (1), a hypodermic syringe or a hypodermic needle shall be taken to have been exhausted if it contains no more than the residue of any drug. (3) A person who, in the course of the conduct of an approved needle and syringe programme, receives any used hypodermic needle or used hypodermic syringe shall immediately place the needle and syringe in a receptacle of a type approved by the Commissioner of Health and the Commissioner of Police.

Domestic Waste Disposal

In summary, discarding of needles and syringes in domestic waste/recycling systems varies in regards to legislative requirements. While the legislation may not be specific as to allowing (or not), disposal of used N&S in the domestic waste stream, advice issued by most government agencies suggests that this disposal route is not preferred. However, same agencies prefer this option, especially where all other options available to an IDU are deemed to pose a higher risk to the community.

Australian Capital Territory

Legislation	*Regulations on Recycling and Garbage 2003*
Advice Provided	Plastic bags or film plastics, disposable nappies, motor oil, syringes, crockery, drinking glasses, light globes, window or mirror glass, car parts, garbage, kitchen and food scraps, clothes, garden waste, or non-recyclable materials should not be put into the recycling bin or hopper. A specific program was conducted to actively discourage disposal of N&S into both domestic waste and recycling streams.

New South Wales

Legislation	No specific legislation applies to the disposal of N&S in domestic waste/recycling streams.
Advice Provided	However, advice provided is based around it being recommended not to do so unless no other option (advice from NSP is to place N&S into rigid walled containers if there is no other safe option other than disposal into domestic waste streams).

Northern Territory

Legislation	*Misuse of Drugs Regulations*
Advice Provided	s3. Disposal of syringes or needles For the purposes of section 12(5) of the Act, a hypodermic syringe or needle that has been used in the unlawful administration of a dangerous drug shall be disposed of – (a) by depositing it in a rigid walled and puncture resistant container that is sealed or securely closed in such a manner that the contents are incapable of causing injury to any person; and (b) by either – (i) placing the container with its contents in a household or other refuse bin; or (ii) handing it or causing it to be handed to a person referred to in section 12(2) of the Act.

Queensland

Legislation	*Environment Protection (Waste Management) Regulation 2000*
Advice Provided	reg 49(1) Subsection (2) applies to a person who- (b) discards, at domestic premises, a hypodermic needle that has been in contact with human or animal tissue or body fluids; or (2) the person must- (a) place the needle or sharp in a rigid walled, puncture resistant container; and (b) seal or securely close the container.

South Australia

Legislation	No specific legislation applies to the disposal of N&S in domestic waste/recycling streams.
Advice Provided	Discouraged

Tasmania

Legislation	No specific legislation applies to the disposal of N&S in domestic waste/recycling streams.
Advice Provided	Not recommended to dispose of sharps containers and/or loose needles and syringes within the domestic waste or recycling system.

Victoria

Legislation	No specific legislation applies to the disposal of N&S in domestic waste/recycling streams in respect to allowing it (with conditions), or prohibiting the practice.
Advice Provided	Not encouraged

Western Australia

Legislation	No specific legislation apart from *Health (Rottnest Island) By-Laws 1989*.
Advice Provided	Recommended by Department of Health to dispose of needles and syringes in the domestic waste stream. Generators advised to deposit needles and syringes into a container such as a juice bottle prior to disposal. An example of where this lies in legislation is provided in: *Health (Rottnest Island) By-Laws 1989* 12. Refuse to be deposited in receptacles The occupier of premises shall: (a) subject to paragraph (c), cause all refuse to be deposited in a receptacle; (b) at all times keep the lid of the receptacle tightly closed except when depositing refuse; (c) not deposit or permit to be deposited in a receptacle (vii) syringes, needles, surgical hardware, broken glass or other sharp objects, unless first wrapped in non-absorbent or impervious material or placed in a sealed impervious container;

Litter

In summary, discarding of needles and syringes in public areas would be an offence under litter management legislation.

Australian Capital Territory

Applicability

Provisions could apply to any person who discards needles/syringes in public areas – not in a designated container.

Legislation	Definition	Penalty
Litter Act 2004	s7 Meaning of litter In this Act: **litter** includes any solid or liquid waste, whether domestic or commercial, and also includes, for example— (a) any glass, metal, cigarette butt, plastic, paper, fabric, wood, food, abandoned vehicle and vehicle part, construction or demolition material, garden remnants and clippings, soil, sand or rocks; and (b) any material, substance or thing deposited at a place if its size, shape, nature or volume makes the place untidy or adversely affects the proper use of the place.	

Australian Capital Territory continued

	Legislation/Definition	Penalty
Litter Act 2004 continued	s8 Littering (1) A person must not deposit litter at a public place. (2) A person commits an offence if— (a) the person deposits litter anywhere; and (b) it escapes, or is likely to escape, into or onto a public place. (6) For subsection (2), **escape** into or onto a public place includes fall, descend and percolate, and be blown or washed, into or onto the place. (7) An offence against this section is a strict liability offence. s9 Aggravated littering A person commits the offence of aggravated littering if the person intentionally deposits at a public place litter that, by its nature or the way it is deposited, is likely to cause injury to a person or animal, or to damage property.	Maximum penalty: 10 penalty units. Maximum penalty: 10 penalty units. Maximum penalty: 50 penalty units, imprisonment for 6 months or both.

New South Wales

Applicability

Provisions could apply to any person who discards needles/syringes in public areas – not in a designated container.

Legislation	Definition	Penalty
Protection of the Environment Operations Act 1997	"**litter includes**": (a) any solid or liquid domestic or commercial refuse, debris or rubbish and, without limiting the generality of the above, includes any glass, metal, cigarette butts, paper, fabric, wood, food, abandoned vehicles, abandoned vehicle parts, construction or demolition material, garden remnants and clippings, soil, sand or rocks, and (b) any other material, substance or thing deposited in or on a place if its size, shape, nature or volume makes the place where it is deposited disorderly or detrimentally affects the proper use of that place, deposited in or on a place, whether or not it has any value when or after being deposited in or on the place. "syringe" means a hypodermic syringe, and includes anything designed for use or intended to be used as part of such a syringe, and also includes a needle designed for use or intended to be used in connection with such a syringe.	

New South Wales continued

Legislation	Definition	Penalty
Protection of the Environment Operations Act 1997 continued	s145 Littering generally (1) Offence of littering A person who deposits litter in or on a public place or an open private place is guilty of an offence. (3) Exceptions: public places Subsection (1) does not apply to a person who deposited the litter in or on a public place, if the person: (a) deposited the litter in or on the place: (i) in a receptacle provided by the custodian of the place for the depositing of litter, and (ii) in accordance with any conditions specified by the custodian, by means of a notice displayed on or in the vicinity of the receptacle, in relation to the depositing of litter in the receptacle, or	Maximum penalty: 10 penalty units.
	s145A Aggravated littering (1) Aggravated littering A person is guilty of the offence of aggravated littering under this section if the person commits an offence under section 145 in circumstances of aggravation. (2) Circumstances of aggravation For the purposes of this section, circumstances of aggravation means circumstances in which the litter deposited by the alleged offender: (a) caused or contributed to appreciable danger or harm to any persons, animals, premises or property, or (b) was reasonably likely to cause or contribute to such danger or harm (whether or not any such danger or harm was actually caused), because of the volume or kind of litter deposited, or the manner in which it was deposited, or the place in or on which it was deposited. (4) For the purposes of this section, circumstances of aggravation also means circumstances in which the litter deposited by the alleged offender comprised or included a syringe. It is not necessary to establish, in relation to those circumstances, the matters referred to in subsection (2).	Maximum penalty (instead of any penalty under section 145): • in the case of a corporation— 50 penalty units, or • in the case of an individual— 30 penalty units.

Northern Territory

Applicability

Provisions could apply to any person who discards needles/syringes in public areas – not in a designated container.

Legislation	Definition	Penalty
Litter Act	"**litter**" means litter, garbage, rubbish, refuse or waste matter, and includes the body of a dead animal; s6. Litter (1) Subject to this section, a person shall not leave, throw, deposit or abandon litter in, onto or from a public place or vacant Crown land elsewhere than into an authorized receptacle.	Penalty: $2,000. S6(4) The penalty for an offence against this section is a fine not exceeding $2,000 but, where a person is found guilty of an offence against this section and the litter left, thrown, deposited or abandoned was, in the opinion of the court, liable to cause injury to, or danger to the health of, a person using the public place or vacant Crown land or damage to property, the court may impose a fine not exceeding $3,000 for the offence.

Queensland

Applicability

Applies to any person who throws, drops or otherwise puts the litter or waste on the place.

This regulation would apply to a person who disposes of a hypodermic needle in a park and does not place that hypodermic needle in a container at the place, but disposes of it onto the ground.

Legislation	Definition	Penalty
Environment Protection (Waste Management) Regulation 2000 Part 2	s8 a person must not unlawfully dispose of litter at a place	20 penalty units.
Environment Protection (Waste Management) Regulation 2000 reg 49(1)	"**sharp**" means an object or device having sharp points, protuberances or cutting edges that are capable of causing a penetrating injury to humans.	20 penalty units.

South Australia

Applicability

Provisions could apply to any person who discards needles/syringes in public areas – not in a designated container.

Legislation	Definition	Penalty
Local Government Act 1999 *Zero Waste SA Act 2004* **s6 Functions of Zero Waste SA** The functions of Zero Waste SA are (iii) programs for the prevention of litter and illegal dumping;	"**litter**" includes bottles, cans, cartons, packages, paper, glass and food stuffs; "rubbish" includes litter and waste matter; **s235 Deposit of rubbish etc** (1) A person who, without the council's authorisation or permit (a) deposits rubbish on a public road or public place; or (b) deposits goods, materials, earth, stone, gravel, or any other substance on a public road or public place, is guilty of an offence.	Maximum penalty: $5 000. Expiation fee: $315.

Tasmania

Applicability

Provision could apply to any person who deposits or casts litter onto any land not owned by them and it is not deposited into the correct receptacle.

It is most likely that a person would be "littering" if they deposited a needle/syringe into a public waste, recycling or litter container as the container would not have been "intended" for these wastes.

Legislation	Definition	Penalty
Litter Act 1973	Note that there is a review of this Act in progress. "litter" includes rubbish, refuse, junk, filth, garbage, scrap, or other articles or material abandoned or unwanted by the owner or possessor thereof	Deposit of litter generally –20 penalty units.

Victoria

Applicability

Provisions could apply to any person who discards needles/syringes in public areas – not in a designated container.

It is most likely that a person would not be "littering" if they deposited a needle/syringe into a public waste, recycling or litter container.

Legislation	Definition	Penalty
Environment Protection Act 1970, Part VIIA—Litter and Material that May Become Litter	"**litter**" includes any solid or liquid domestic or commercial waste, refuse, debris or rubbish and, without limiting the generality of the above, includes any waste glass, metal, plastic, paper, fabric, wood, food, soil, sand, concrete or rocks, abandoned vehicles, abandoned vehicle parts and garden remnants and clippings, but does not include any gases, dust or smoke or any waste that is produced or emitted during, or as a result of, any of the normal operations of the mining, building or manufacturing industry or of any primary industry.	Deposit of litter generally –40 penalty units. Aggravated littering (b) the intentional deposit of litter that was a danger to any person or animal or to any land, waters or vehicle; 60 penalty units or imprisonment for 1 month or both.

Western Australia

Applicability

Provisions could apply to any person who discards needles/syringes in public areas – not in a designated container.

Legislation	Definition	Penalty
Litter Act 1979	"**litter**" includes (a) all kinds of rubbish, refuse, junk, garbage or scrap; and (b) any articles or material abandoned or unwanted by the owner or the person in possession thereof, but does not include dust, smoke or other like products emitted or produced during the normal operations of any mining, extractive, primary or manufacturing industry;	
	s23. Littering Any person who deposits litter, or causes litter to be deposited, on any land or on or into any waters commits an offence unless the litter is deposited (a) on private land by consent; (b) in an appointed area; (c) in a place or receptacle set aside or provided for that purpose; or (d) on land adjacent to private land by arrangement with, or at the invitation of, a public authority with a view to the litter being collected and removed by the public authority.	Penalty: $1,000
Litter Regulations 1981	s6. Domestic or commercial waste not to be deposited in litter receptacle (1) Except with the consent of a public authority a person shall not deposit any domestic or commercial waste in a public litter receptacle. (2) In this regulation : "commercial waste" means waste material of any kind generated by shops, offices, industrial premises, hotels, restaurants and hospitals; "domestic waste" means waste material of any kind generated by private dwellings and includes garbage, lawn clippings and old furnishings.	

General Pollution Provisions

The following summarises State and Territory pollution prevention provisions that could be used against a NSP for inappropriate disposal of N&S. The application of these provisions to IDU for discarding N&S into public areas is unclear as these provisions are generally targeted towards commercial/industrial waste generators. However, such interpretation would ultimately rest with the relevant agency responsible for administering the legislation.

Australian Capital Territory

Legislation	*Environment Protection Act 1997* s22 General environmental duty (1) A person shall take such steps as are practicable and reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person. s141 Causing environmental nuisance A person shall not cause an environmental nuisance. Maximum penalty: 50 penalty units. **environmental nuisance** means an unreasonable interference with the enjoyment by the public, a section of the public or a person of a place or area, being an interference caused or likely to be caused by— (a) dust, fumes, light, noise, odour or smoke; or (b) an unhealthy, unsightly or otherwise offensive condition because of pollution.

New South Wales

Legislation	*Protection of the Environment Operations Act 1997* While the Protection of the Environment Operations Act 1997 contains provisions relating to pollution, these are unlikely to be used in the event of N&S being deposited in a manner to cause harm to the environment or public health. It is more probable that the litter provisions of this Act would apply.

Northern Territory

Legislation	*Waste Management and Pollution Control Act* s12. General environmental duty (1) A person who – (a) conducts an activity that causes or is likely to cause pollution resulting in environmental harm or that generates or is likely to generate waste; or (b) performs an action that causes or is likely to cause pollution resulting in environmental harm or that generates or is likely to generate waste, must take all measures that are reasonable and practicable to – (c) prevent or minimise the pollution or environmental harm; and (d) reduce the amount of the waste.

Queensland

Legislation	*Environmental Protection Act 1994* s36(1) A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the "general environmental duty"). s14(1) Environmental harm is any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value.

South Australia

Legislation	*Environment Protection Act 1993* s4 Responsibility for pollution For the purposes of this Act, the occupier or person in charge of a place or vehicle at or from which a pollutant escapes or is discharged, emitted or deposited will be taken to have polluted the environment with the pollutant (but without affecting the liability of any other person in respect of the escape, discharge, emission or depositing of the pollutant).

South Australia continued

Legislation continued	s25 General environmental duty (1) A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm. s82 Causing environmental nuisance A person who causes an environmental nuisance by polluting the environment intentionally or recklessly and with the knowledge that an environmental nuisance will or might result is guilty of an offence. Penalty: Division 3 fine. **Environmental nuisance** means (a) any adverse effect on an amenity value of an area that (i) is caused by noise, smoke, dust, fumes or odour; and (ii) unreasonably interferes with or is likely to interfere unreasonably with the enjoyment of the area by persons occupying a place within, or lawfully resorting to, the area; or (b) any unsightly or offensive condition caused by waste;

Tasmania

Legislation	*Environmental Management and Pollution Control Act 1994* Environmental harm 5. (1) For the purposes of this Act, environmental harm is any adverse effect on the environment (of whatever degree or duration) and includes an environmental nuisance. Responsibility for pollution 6. For the purposes of this Act, the occupier or person in charge of a place or vehicle at or from which a pollutant escapes or is discharged, emitted or deposited is taken to have polluted the environment with the pollutant (but without affecting the liability of any other person in respect of the escape, discharge, emission or depositing of the pollutant). General environmental duty 23A. (1) A person must take such steps as are practicable or reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person.

Victoria

Legislation	*Environment Protection Act 1993* s45. Pollution of land (1) A person shall not pollute land so that the condition of the land is so changed as to make or be reasonably expected to make the land or the produce of the land— (b) harmful or potentially harmful to the health or welfare of human beings; (e) obnoxious or unduly offensive to the senses of human beings; or (3) A person who contravenes any of the provisions of this section shall be guilty of an indictable offence against this Act and liable to a penalty of not more than 2400 penalty units and in the case of a continuing offence to a daily penalty of not more than 1200 penalty units for each day the offence continues after conviction or after service by the Authority of notice of contravention of this section. s59E. Offence of aggravated pollution A person who intentionally, recklessly or negligently pollutes the environment or intentionally, recklessly or negligently causes or permits an environmental hazard which results in— (a) serious damage to the environment; or (b) a serious threat to public health; or (c) a substantial risk of serious damage to the environment; or (d) a substantial risk of a serious threat to public health— is guilty of an indictable offence. In the case of an individual, a fine of 2500 penalty units or 7 years imprisonment or both. In the case of a body corporate, a fine of 10 000 penalty units.

Western Australia

Legislation	*Environment Protection Act 1986* s49. Causing pollution and unreasonable emissions (2) A person who intentionally or with criminal negligence (a) causes pollution; or (b) allows pollution to be caused, commits an offence. (3) A person who causes pollution or allows pollution to be caused commits an offence. s50. Discharge of waste in circumstances in which it is likely to cause pollution (1) A person who intentionally or with criminal negligence (a) causes waste to be placed; or (b) allows waste to be placed, in any position from which the waste (c) could reasonably be expected to gain access to any portion of the environment; and (d) would in so gaining access be likely to result in pollution, commits an offence. (2) A person who causes or allows waste to be placed in any position from which the waste (a) could reasonably be expected to gain access to any portion of the environment; and (b) would in so gaining access be likely to result in pollution, commits an offence. "**pollution**" means direct or indirect alteration of the environment.

Public Health Provisions

The following summarises State and Territory protection of public health provisions that could be used in relation to the inappropriate disposal of N&S. It must be noted that while these provisions exist, laws may have to be enacted (eg. by local government), so that they actually have the specific powers to enforce compliance. It should also be noted that there are generally provisions contained in a broad range of Acts and Regulations that allow for the protection of public health. Some of these have been summarised here (eg. pollution prevention).

Australian Capital Territory

Legislation	*Public Health Act 1997* s18 Public health risk activities and procedures—declaration (1) The Minister may, in writing, declare an activity that may result in the transmission of disease, or that may otherwise adversely affect the health of individuals in the context of the wider health of the community, to be a public health risk activity. s113 Public health directions—issue (1) Where the chief health officer has reasonable grounds for believing that it is necessary to prevent or alleviate a significant public health hazard, he or she may issue any or all of the following directions to a person for that purpose: (a) a direction requiring a person to refrain from behaviour, or an activity, that significantly contributes, or that could so contribute, to the hazard;

New South Wales

Legislation	*Local Government Act 1993* Chapter 6 What are the service functions of councils? Introduction. This Chapter confers on councils their service or non-regulatory functions. Examples of these functions include the provision, management or operation of: • public health services and facilities • environment conservation, protection and improvement services and facilities • waste removal, treatment and disposal services and facilities This list of examples is not exhaustive. The Public Health Act 1991 also contains provisions for the control/ management of public health, but it is unlikely that these would be used in relation to disposal of N&S.

Northern Territory

Legislation	*Public Health Act* s7C. Chief Health Officer may require risk to public health to be rectified (1) Where, in the opinion of the Chief Health Officer, an owner or occupier of land has committed an offence against this Act or the Regulations which, in the opinion of the Chief Health Officer, causes or may cause a risk to public health, the Chief Health Officer may, if he is of the opinion that the offence is continuing, by notice in writing, require the owner or occupier of the land to cause the risk to be removed within such time as he specifies in the notice. s10. Regulations The Administrator may make regulations, not inconsistent with this Act, prescribing all matters which by this Act are required or permitted to be prescribed, or which are necessary or convenient to be prescribed for carrying out or giving effect to this Act, and in particular prescribing matters for or in relation to – (b) the maintenance of health; (c) sanitation; (j) garbage, refuse, trade waste and night soil and the making of charges for and in relation to the collection and disposal of garbage, refuse, trade waste and night soil;

Queensland

Legislation	*Health Act 1937* s9 of this Act can require local governments under the direction of the Governor in council undertake activities to "…. necessary for promoting and maintaining the health of the local government's area and its inhabitants". ss77 – 92 provide powers for local governments to detect and control "nuisances".

South Australia

Legislation	*Public and Environmental Health Act 1987* s18. Discharge of wastes in a public place (1) A person who discharges waste into a public place is guilty of an offence. Penalty: Division 3 fine. (2) A person who, without lawful permission, discharges waste into premises of which he or she is not an owner is guilty of an offence. Penalty: Division 3 fine

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Tasmania

Legislation	*Criminal Code Act 1924* Common nuisance defined 140. (1) A common nuisance is an unlawful act or an omission to discharge a legal duty, such act or omission being one which endangers the lives, safety, health, property, or comfort of the public, or by which the public are obstructed in the exercise or enjoyment of any right common to all His Majesty's subjects. (2) For the purposes of this section the comfort of the public shall be deemed to be affected by any pollution of the environment within the meaning of the Environmental Management and Pollution Control Act 1994. Common nuisances that are punishable 141. (1) A person who commits any common nuisance which endangers the lives, safety, or health of the public, or which occasions injury to the person of any individual, is guilty of a crime. Charge: Creating a nuisance. (2) A person who commits a common nuisance of a kind mentioned in subsection (1) and causes or suffers it to continue is guilty of a crime. Charge: Creating and continuing a nuisance. (3) A person who commits a common nuisance of a kind not mentioned in subsection (1) and causes or suffers it to continue is guilty of a crime. Charge: Continuing a nuisance. (4) A person guilty of a crime under subsection (3) is not liable to be punished otherwise than as provided in chapter XLIIA.

Victoria

Legislation	*Health Act 1958* s29A. Functions of councils The function of every council under this Act is to seek to prevent diseases, prolong life and promote public health through organised programs including the prevention and control of— (a) environmental health dangers; and (b) diseases; and (h) ensuring that the municipal district is maintained in a clean and sanitary condition

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Western Australia

Legislation	*Health Act 1911* 15. Power of Executive Director, Public Health to act in emergencies (1) In any emergency or necessity, of the existence of which emergency or necessity the Executive Director, Public Health shall be sole and final judge, the Executive Director, Public Health may (b) Make any regulations for the abatement and prevention of nuisances, for the protection from pollution of water used for domestic purposes, and for securing the healthfulness of persons collected in any encampment or otherwise; (c) Make such other regulations as he may deem necessary to cope with the emergency or necessity.

Possession of Needles and Syringes

Generally States/Territories (with Western Australia the exception), have provisions in legislation that do not make it an offence to have a N&S in your possession.

Australian Capital Territory

Legislation and Policies/ Guidelines	No specific legislation exists.
Summary of Requirements	

New South Wales

Legislation and Policies/ Guidelines	*Drug Misuse and Trafficking Act 1985*
Summary of Requirements	s11 Possession of equipment for administration of prohibited drugs (1) A person who has in his or her possession any item of equipment for use in the administration of a prohibited drug is guilty of an offence. (1A) Subsection (1) does not apply to or in respect of a hypodermic syringe or a hypodermic needle.

Northern Territory

Legislation and Policies/ Guidelines	*Misuse of Drugs Act*
Summary of Requirements	s12. Possession of things for administering dangerous drugs (1) A person who unlawfully possesses a thing (other than a hypodermic syringe or needle) for use in the administration of a dangerous drug is guilty of an offence.

Queensland

Legislation and Policies/ Guidelines	*Criminal Code 1995*
Summary of Requirements	s280 (3) excludes the possession of a needle from the offence of possessing a thing in relation to the administration of a dangerous drug.

South Australia

Legislation and Policies/ Guidelines	*Controlled Substances Act 1984* *Controlled Substances (Exemptions) Regulations 2004*
Summary of Requirements	s31. Prohibition of possession or consumption of drug of dependence and prohibited substance (1) A person must not— (c) have in his or her possession any piece of equipment for use in connection with the smoking, consumption or administration of such a drug or substance, or the preparation of such a drug or substance for smoking, consumption or administration. (3) Nothing in this section renders unlawful the possession of a drug of dependence or any equipment by— (a) a medical practitioner, dentist, veterinary surgeon, pharmacist or nurse acting in the ordinary course of his or her profession; or (c) a person for or to whom the drug has been lawfully prescribed or supplied; or (d) a person licensed to have the drug or equipment in his or her possession by the Minister s4 Exemption from prohibition of possession of injecting equipment Section 31(1)(c) of the Act does not apply to a person having in his or her possession a syringe or needle for use in connection with the administration of a drug of dependence or a prohibited substance.

Tasmania

Legislation and Policies/ Guidelines	*HIV/AIDS Preventive Measures Act 1993*
Summary of Requirements	s37. A person who is in possession of a syringe or needle is not, by reason only of that possession, taken to have committed an offence under the Misuse of Drugs Act 2001 or Poisons Act 1971. Possession of trace elements of certain substances s38. (1) In this section, "**substance**" means – (a) a controlled substance; or (b) a narcotic substance or raw narcotic that is not a controlled substance. (2) A person who is in possession of any trace element of a substance that is contained in a syringe or needle is not, by reason only of that possession, taken to have committed an offence under the Misuse of Drugs Act 2001 or Poisons Act 1971.

Victoria

Legislation and Policies/ Guidelines	No specific legislation exists.
Summary of Requirements	s75 of the Drugs, Poisons and Controlled Substances Act 1981 makes using a drug of dependence an offence. While carrying a syringe is not an offence, there is a concern that possession of such may support the above offence.

Western Australia

Legislation and Policies/ Guidelines	*Public Transport Authority Regulations 2003*
Summary of Requirements	s21. Possessing certain things prohibited A person, other than an authorised person, a security officer or a member of the Police Force in the proper exercise of his or her duties, who, without lawful excuse, possesses any one or more of the following things on or in Authority property commits an offence (b) a syringe other than a syringe for the administration by or for a person of a medication obtained by prescription;

NSP Enabling/Authorisation Legislation

Predominantly, legislation in most States/Territories makes it an offence to sell N&S unless it is part of your professional role (ie. a pharmacist or doctor), or that you (or your organisation), has been "authorised" under relevant legislation to distribute N&S.

Australian Capital Territory

Legislation and Policies/ Guidelines	*Drugs of Dependence Act 1989*
Summary of Requirements	"**syringe**" includes the needle section or the plunger section of a syringe. s86 Distribution of syringes—approval (1) A doctor, pharmacist, nurse or health worker may apply to the chief health officer for approval to supply syringes. (3) If, on an application in accordance with this section, the chief health officer is satisfied that— (a) having regard to— (i) the desirability of preventing the spread of disease; and (ii) the number of approved persons; there is a need for an additional person to be approved; and (b) the applicant has attended a course of instruction; and (c) the applicant is a fit and proper person to be approved; the chief health officer shall grant an approval to the applicant. (4) An approval shall specify— (a) the full name and address of the approved person; and (b) the capacity in which the person is approved; and (c) an identifying number; and (d) the period for which the approval is granted. (5) An approval granted to a health worker may be made subject to the condition that the health worker attend a further course of instruction. Division 7.2 Supply of syringes by vending machine "**approved person**" means a person who holds a current vending machine approval. "**vending machine**" means any machine or mechanical device used or able to be used for selling or supplying syringes without the personal manipulation or attention of the seller or supplier, or the seller's or supplier's employee or agent, at the time of the sale or supply. s94B Application for vending machine approval A person may apply in writing to the chief health officer for approval to supply syringes by way of vending machine. s94E Vending machine approval—conditions

New South Wales

Legislation and Policies/ Guidelines	*Drug Misuse and Trafficking Regulation 2000*
Summary of Requirements	**"approved needle exchange program"** means a program approved by the Director-General of the Department of Health, as referred to in clause 4. s4 Approval by Director-General of Health of needle exchange programs (1) The Director-General of the Department of Health may authorise a specified person or specified class of persons to participate in a program approved by the Director-General to facilitate: (a) the supply to intravenous drug users of sterile hypodermic syringes and sterile hypodermic needles, and any associated equipment, to prevent the spread of contagious disease and minimise health risks associated with intravenous drug use, and s7 General exemption for pharmacists and staff A pharmacist acting in the ordinary course of his or her profession, and any person acting under the supervision of the pharmacist, is exempt from the provisions of sections 11, 19 and 20 of the Act, to the extent necessary to authorise the pharmacist or person: (a) to have in his or her possession, and to distribute, hypodermic syringes and hypodermic needles, and any associated equipment, for use in the administration of a prohibited drug capable of being so administered

Northern Territory

Legislation and Policies/ Guidelines	*Misuse of Drugs Act*
Summary of Requirements	s12 (2) A person, other than a medical practitioner, a pharmacist or a member of a class of persons authorized so to do by the Minister who supplies a hypodermic syringe or needle to another person, whether or not the other person is in the Territory, for use in the administration of a dangerous drug to that or another person is guilty of an offence. Penalty: $2,000 or imprisonment for 2 years.

Queensland

Legislation and Policies/ Guidelines	*Criminal Code* *Drug Misuse Act 1986*
Summary of Requirements	s280(4) A person must not supply a needle to anyone for use in connection with the administration of a dangerous drug, whether the other person is in Queensland or elsewhere. s280(5) Subsection (4) does not apply to the supply of a needle by a doctor, pharmacist or authorised person. s10 (3) A person (other than a medical practitioner, pharmacist or person or member of a class of persons authorised to do by the Minister administering the Health Act 1937) who supplies a hypodermic syringe or needle to another, whether or not such other person is in Queensland, for use in connection with the administration of a dangerous drug commits and offence against this Act.

South Australia

Legislation and Policies/ Guidelines	*Controlled Substances (Exemptions) Regulations 2004*
Summary of Requirements	s5 Exemption from aiding and abetting etc (1) Section 41 of the Act does not prevent the sale or supply of syringes or needles or the giving of advice or instruction on the safe use of syringes or needles by (a) a medical practitioner; or (b) a pharmacist; or (c) a nurse acting in the course of a health risk minimisation program; or (d) a person licensed to be in possession of syringes and needles under section 31(3)(d) of the Act acting in the course of a health risk minimisation program and in accordance with the conditions of the licence.

Tasmania

Legislation and Policies/ Guidelines	*HIV/AIDS Preventive Measures Act 1993*
Summary of Requirements	s25. (1) A person who is not the holder of a permit must not supply a syringe or needle to another person for the purpose of administering – (a) a controlled substance; or (b) a narcotic substance or raw narcotic that is not a controlled substance. (2) Subsection (1) does not apply to – (a) the supply and use of syringes and needles for lawful medical purposes or veterinary treatment purposes; and (b) a person authorized under section 26(6) to supply syringes and needles. s26. (1) A medical practitioner, pharmacist, nurse or needle exchange officer may apply to the Secretary for a permit to supply syringes and needles. (2) An application is to – (a) be in writing; and (b) state the full name and business and private address of the applicant; and (c) set out details of the applicant's occupation or business. (3) If satisfied that an applicant is an appropriate person to participate in a needle exchange programme, the Secretary may grant the application and issue a permit for such period as the Secretary determines. (4) A permit may be issued subject to such conditions and for such purposes as the Secretary considers appropriate. (6) The holder of a permit may authorize an employee or other person working for the holder of a permit to supply a syringe or needle in accordance with this part.

Victoria

Legislation and Policies/ Guidelines	*Drugs, Poisons and Controlled Substances Act 1981*
Summary of Requirements	s80(5) A person who sells or supplies a hypodermic needle or a syringe is not guilty of an offence under this section by reason only of that sale or supply— (a) if the person is, or is engaged or employed by, a pharmacist and the sale or supply is made in the course of the lawful practice of a pharmacist; or (b) if the sale or supply is by a specified person or organisation or specified class of persons or organisations in specified circumstances as authorised by Order in council published in the Government Gazette.

Western Australia

Legislation and Policies/ Guidelines	*Poisons Act 1964* *Poisons Regulations 1965*
Summary of Requirements	"**needle and syringe programme**" means a programme to do one or more of the following: (a) to supply persons with sterile hypodermic syringes or sterile hypodermic needles; (b) to facilitate the safe disposal of used hypodermic syringes or used hypodermic needles; or (c) to advise, counsel or disseminate information to persons, principally for the purpose of preventing the spread of bloodborne infectious diseases; s36A. Defence for persons participating in the conduct of needle and syringe programmes 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; or (c) advising, counselling or disseminating information to any other person, in the course of the conduct of a needle and syringe programme approved by the Commissioner of Health. s64. Regulations (2) Without limiting the generality of the powers conferred by subsection (1), the Governor may make regulations for or with respect to (sb) needle and syringe programmes including conditions and requirements relating to the approval and conduct of such programmes s12A provides for the approval of a needle and syringe program and requires application to be made on the Form14 specified in Appendix A of these Regulations.

Local Government

Local government have broad powers to make a number of by-laws and other associated tools. The following summarises the powers/functions/duties of local governments in each jurisdiction in regards to the power to manage discarded N&S. ACT and NT governments are in effect similar to State governments.

Australian Capital Territory

Legislation	*Australian Capital Territory (Self Government) Act 1988* s22 Power of Assembly to make laws (1) Subject to this Part and Part VA, the Assembly has power to make laws for the peace, order and good government of the Territory. (2) The power to make laws extends to the power to make laws with respect to the exercise of powers by the Executive. **Note: This is an Australian Government Act.**

New South Wales

Legislation	*Local Government Act 1993* Chapter 6 What are the service functions of councils? Introduction. This Chapter confers on councils their service or non-regulatory functions. Examples of these functions include the provision, management or operation of: • public health services and facilities • environment conservation, protection and improvement services and facilities • waste removal, treatment and disposal services and facilities This list of examples is not exhaustive.

Northern Territory

Legislation	*Local Government Act* 120. Councils charged with peace, order and good government of area A council, in the performance of its functions, is charged with the peace, order and good government of its council area and has the control and management of that good government. SCHEDULE 2 Sections 121(2) and 122(1A) and (1B) FUNCTIONS OF LOCAL GOVERNMENT 22C. Public Safety and Security 36. Public Conveniences 37. Sanitation and Garbage 38. Litter Control

Queensland

Legislation	*Local Government Act 1993* s20 In exercising its jurisdiction of local government, a local government has- (a) a law making role for local laws; and (b) an executive role for; (i) adoption and implementation of policy (ii) administration of local government; and (iii) enforcement of its local laws.

South Australia

Legislation	*Local Government Act 1999* s7 Functions of a council The functions of a council include (b) to provide services and facilities that benefit its area, its ratepayers and residents, and visitors to its area (including general public services or facilities (including electricity, gas and water services, and waste collection, control or disposal services or facilities), health, welfare or community services or facilities, and cultural or recreational services or facilities); (c) to provide for the welfare, well-being and interests of individuals and groups within its community; (f) to provide infrastructure for its community and for development within its area (including infrastructure that helps to protect any part of the local or broader community from any hazard or other event, or that assists in the management of any area); (k) to undertake other functions and activities conferred by or under an Act.

Tasmania

Legislation	*Local Government Act 1993* s20. (1) The council of a municipal area has the following functions: (a) to formulate, implement and monitor policies, plans and programmes for the provision of appropriate services and facilities to meet the present and future needs of the community; (e) to provide for the health, safety and welfare of the community; (f) to represent and promote the interests of the community; (g) to provide for the peace, order and good government of the municipal area. (2) In performing its functions, the council may do any one or more of the following either within or outside its municipal area: (a) develop, implement and monitor programmes to ensure adequate levels of its accountability to the community; s93. (1) A council may make a service rate for a financial year on rateable land for any, all or a combination of the following services: (d) waste management; The range of services councils provide is diverse and spans a broad range of areas including: the environment; planning and development; infrastructure and recycling & waste management (Local Government Association of Tasmania).

Victoria

Legislation	*Local Government Act 1989* 3C. Objectives of a council (1) The primary objective of a council is to endeavour to achieve the best outcomes for the local community having regard to the long term and cumulative effects of decisions. 2) In seeking to achieve its primary objective, a council must have regard to the following facilitating objectives— (a) to promote the social, economic and environmental viability and sustainability of the municipal district; (c) to improve the overall quality of life of people in the local community; 3E. What are the functions of a council? (1) The functions of a council include— (a) advocating and promoting proposals which are in the best interests of the local community; (b) planning for and providing services and facilities for the local community; (f) making and enforcing local laws;

Western Australia

Legislation	Local Government Act 1995 s3.1. General function (1) The general function of a local government is to provide for the good government of persons in its district. (2) The scope of the general function of a local government is to be construed in the context of its other functions under this Act or any other written law and any constraints imposed by this Act or any other written law on the performance of its functions. (3) A liberal approach is to be taken to the construction of the scope of the general function of a local government. s3.5. Legislative power of local governments (1) A local government may make local laws under this Act prescribing all matters that are required or permitted to be prescribed by a local law, or are necessary or convenient to be so prescribed, for it to perform any of its functions under this Act. (3) The power conferred on a local government by subsection (1) is in addition to any power to make local laws conferred on it by any other Act. (4) Regulations may set out (a) matters about which, or purposes for which, local laws are not to be made

REPORT ON THE NATIONAL AUDIT OF COMMUNITY NEEDLE AND SYRINGE DISPOSAL FACILITIES

Literature Review

Literature Review

Literature Review

Introduction

There is a lack of pertinent literature both from Australia and internationally on the topic of community needle and syringe disposal issues. The bulk of the literature deals with the use of Needle and Syringe Programs (NSP), in preventing spread of bloodborne pathogens between Injecting Drug Users (IDU), as well as the advantages/successes of NSP.

Needles[21] and syringes (N&S), pose a hazard due to the potential to cause penetrating injuries. Many N&S contain pharmaceutical substances, and there is an equal risk that these substances can also be "injected" into a person through an accident. However, with discarded N&S from an IDU, this risk is virtually negligible as the substance is usually fully expended from the syringe (personal communication 2005).

There are several Australian media articles in relation to N&S being found in community areas and the resulting publicity is often emotive. The following reported quote by National Hepatitis Chairman Professor Bob Batey in response to the statement that in the 12 months ending June 2003, almost 1.7 million needles and syringes were issued through the Needle and Syringe Program in Northern New South Wales alone – "so that could mean, yes, there are significant thousands, if not millions of syringes lying around having been disposed of inappropriately". This was on a website providing information on a NBN news special on "The Needlestick Scourge" (NBN 2004).

Several Australian and international authors made mention of the community reactions to discarded N&S and/or the presence of a NSP to increase the actual numbers of N&S discarded. The data from studies (mostly international), does demonstrate that there is not any increase in discarded N&S following the introduction of a NSP – in fact reductions have been recorded. While this is so, some studies did indicate that access to appropriate disposal facilities needs to be improved so that discards do not happen. However, if the wider community perceives that the risk is greater than it actually is, it does not mean that their opinion should be ignored. The perceived risk must be managed as well.

21 Needles are also referred to as Sharps within the literature.

Only one firm conclusion can be drawn from the literature, that there is no conclusive evidence to state with a high degree of certainty as to the presence or the absence of risk(s) to the public, the environment and waste workers in managing and disposal of discarded N&S in public areas. However, based on what information is available and extrapolating data/information from related studies, the risk to the community of bloodborne infections from discarded N&S is extremely low.

In an extensive review of the Australian and international literature on NSPs, Ksobiech (2004a), it was concluded that there were a number of weaknesses in studies reported by authors into NSPs. A number of recommendations were made in regards to NSP studies to improve their outcomes, not just justifying their existence. One difficulty being faced is the lack of consistency in approaches so as to be able to compare data and a broad range of variables.

NSP programs have been well documented to reduce transmission of bloodborne pathogens between IDU. Stancliff (2003), states that NSPs have been extremely effective in preventing disease. In addition, limited studies have also indicated lowering blood titers of HIV, HBV and HCV in syringes used by IDU. Therefore it can be reasonably concluded that NSP programs are also reducing risks to the community from infection post-needlestick injury.

The following provides an overview of the literature review in respect to the scope of the Australian Department of Health and Ageing “National Audit of Community Needle and Syringe Disposal Facilities”.

Methodology

The literature review was conducted in the following manner:

(a) A search of Deakin University’s library journal databases was conducted for journal articles. The searches were restricted to refereed journal articles as the database possessed that limiting capability.

(b) A review of publications held in the Deakin University library for references on community needle and syringe disposal issues.

(c) Personal communication was made to various personnel who have demonstrated expertise/experience in community needle and syringe disposal issues to ascertain their understanding of the latest literature on this topic.

The literature searches and interviews were conducted with the express purpose of determining:

1. Current and best-practice disposal of N&S.
2. Community concerns in relation to discarded N&S in public areas.

3. Issues and barriers for disposal of N&S.

4. Hazards associated with disposal of N&S.

Notes: The literature review initially focussed on refereed articles published post 2000 and of studies/data relevant to developed countries (so that extrapolations could be made to Australian conditions). However, given the dearth of publications, those from earlier dates were also referred if they provided the only relevant information (ie., there were no later studies/publications).

It should also be noted that several articles reviewed provided an overview analysis of existing literature – as most of these were published in peer review journals, the conclusions contained within were accepted.

Several publications referred to the term “sharp”, rather than N&S. When this has been done, the original term is used. NSP was also referred to as needle exchange programs, in these instances the term NSP has been used.

Current Needle and Syringe Waste Disposal Practices

Current Practices

Based on discussions with NSP coordinators, there are a variety of practices employed and/or recommended for the disposal of N&S. These variations in practice have resulted largely from a lack of clarity of State and Territory legislative requirements for the management of N&S deposited at a NSP or community sharps container for disposal. While legislative requirements for management of similar wastes from a healthcare centre are quite clear, most jurisdictions have elected to “administratively” exempt NSP services from these requirements – in essence this is not documented so may not provide the relief necessary should an adverse incident occur. Miller (2001), also makes comment on the unpredictable manner in which many of the “waste laws” are enforced in Australia.

However, each jurisdiction and local government has legislation that could be used to prosecute a NSP under broad “pollution”, “litter”, “public health” and “nuisance” provisions. Again it is unclear as to how and when these provisions could be used.

Essentially, used N&S deposited at a NSP or into a sharps container located in public areas are disposed of in accord with requirements imposed on healthcare facilities. That is, use of a waste contractor to transport the sharps containers to a treatment facility. In some jurisdictions, landfilling of untreated clinical waste is allowed and the N&S may be disposed of via this process.

While IDU are generally encouraged to return used N&S when obtaining new supplies, this is not an absolute requirement. Given that that NSP program was established on the principles of "harm minimisation" for the spread of bloodborne pathogens, not supplying new equipment should used N&S not be returned would compromise these initial aims of the NSP program.

As a consequence, used N&S from IDU in many States are often disposed of in domestic waste/recycling systems. In some jurisdictions such as Western Australia, this is actively promoted. Others allow it but do not promote it, with the remaining jurisdictions generally providing some guidance as to how it is to occur. Olowokure (2003), reports that disposal of N&S into domestic waste streams has the potential to:

- Create concern in the community over this waste in domestic waste containers
- Containers used are often punctured during landfill compacting processes
- Containers with N&S are placed into the recycling stream posing risks to recycling contractor staff (eg., at material recovery facilities)

Best Practice

Best practice management of needles and syringes is predicated on the hazards associated with these waste products. It must be noted that the hazards exist to human health (with those at risk ranging from IDU, NSP staff, waste management staff and the wider community), generally via exposure to needles. In addition, there could be environmental hazards (eg., from the content of syringes), but this is probably quite minimal. It should also be noted that in risk management, perceived risks should be just as actively managed as identified risks.

Therefore, management of N&S needs to be based on all risks (as identified further on within this literature review).

It is also essential that in evaluating waste disposal methodologies, full costings of all aspects of the various methods be conducted. This includes costs of providing training to staff (Drain 2003). Some current disposal strategies rely on "in kind" support from NSP sites, particularly those located within healthcare facilities and so the costs associated with waste management are not understood. Given the recommendations of several Australian and international authors in regards to development of community N&S disposal systems, it is not only the costs of the service that needs to be determined, but also the savings resulting from the protocols implemented post-needlestick injury to a member of the community (Drain 2003, Law 2003, Ekwueme 2002, Macalino 1998, Gold 1997).

Best practice management of N&S requires (ANZCWMIG 2004):

- Containerisation of the N&S at source (ie., where the N&S becomes a waste product);
- Use of containers that meet relevant Australian Standards (ie., colour coded, signed and strength);
- Use of containers that are sufficiently sized for the expected waste volumes;
- Containers are secured to prevent removal as well as access to contents;
- Regular replacement of containers at locations;
- No manual emptying of contents;
- Managed in accord with the philosophy specified by State and Territory government agencies for N&S generated within healthcare facilities;
- Disposal of container contents via a recognised treatment process (eg., those that are approved by State and Territory environmental agencies for N&S generated within healthcare facilities);
- No landfilling of untreated N&S;
- No disposal of N&S into domestic waste/recycling streams (ie., due to risk of needlestick injuries to waste contractor staff).

One of the issues highlighted by Kermode (2003), is what is defined as “safe” and “unsafe” disposal and hence what is best practice. Some jurisdictions advocate the disposal of N&S via rigid containers and these then placed into the domestic waste stream. However, this advice does not necessarily factor in trends in waste management that has seen a growth of sorting facilities whereby the N&S poses risks to staff manning these facilities. Clearly all approaches and advice in regards to N&S disposal should only occur following extensive consultation between all stakeholders.

In addition, Kelsall (2002) discusses the concept of “safe disposal” as perceived by Australian IDU and what could be construed as altruistic attempts to prevent reuse of the N&S by other IDU. Surveys of IDU have clearly demonstrated that there is a clear intent by the vast majority to ensure safe disposal of used N&S – what is of concern is that there are different concepts of what is safe. It must also be noted that good intents can be undermined by the fear of Police enforcement activity.

Community Concerns in Respect to Needle and Syringe Disposal

According to Thompson (2003), while there can be significant quantities and types of litter discarded in public areas, it is the fear of a needlestick injury from a discarded N&S that causes significant concern. This fear is heightened when the N&S is observed in areas such as playgrounds and schools.

Other factors reported by Kermode (2003), in regards to community concerns over community-acquired needlestick injuries include:

- Inconvenience.
- Anxiety and distress for the affected person and family.
- Costs associated with follow up procedures.

In addition, as reported by Gontasezewski (2003), discarded N&S can come from other sources than IDU such as; pet owners, people with Diabetes and those on home based medications. To a member of the community that has read about the issue of disease transmission, it is logical to assume however, that any injecting equipment is a N&S and that it comes from an IDU.

A survey undertaken of various stakeholders including the general community demonstrated some concern with the establishment of N&S collection boxes to be located in public areas in East Baltimore USA. Following implementation of these boxes, a survey was then re-conducted. This second survey showed greater community support for the boxes as concerns (eg. condoning drug use, loitering), were not realised. In addition, counts of discarded needles reduced in the project areas as compared to control areas (ie., those without boxes installed (Riley 1998).

Research undertaken internationally has demonstrated that there is not an increase of discarded N&S in the community from the establishment of NSPs (MacGowan 1998).

An additional study conducted in America concluded that there was an actual decrease of discarded needles based on an analysis of needles, drug vials and bottles measured prior to the opening of the NSP and during a two year period after. Based on the geographical area studied, there was no difference in the number of discarded needles by distance from the NSP (Doherty 2000). This study was a follow up study of an original one that compared results after two months of the opening of the NSP and arrived at similar conclusions (Doherty 1997).

A review of needle return studies (using predominantly international data), by Ksobiech (2004b), has concluded that concern over the increased availability of contaminated needles in NSP communities appears unfounded. That is the siting of a NSP does not lead to increases in discarded N&S in the locale.

Kermode (2003), indicates that community concern is inter alia based on a perception that all discarded N&S in the community arises from IDU. However, the true source of these discarded N&S is rarely known. This article also indicates that perceptions associated with discarded N&S and needlestick injuries, and NSP activities threaten the viability of the NSP program(s).

In Kermode's (2003) article, an example of a community driven closure of an NSP resulted from a child receiving a needlestick injury (the source of the N&S was not able to be determined). Based on the studies reported by Kermode (2003), it is the discarded N&S that are more of a concern than the NSP program. This article provides some demonstration of the fragility of community concerns over NSP programs and the absolute need to ensure all N&S are effectively managed to avoid needlestick injuries.

In other factors relating to the communities concerns over NSP (and hence concern over discarded N&S), the following was found:

- No increase in crime in the areas neighbouring an NSP following its establishment (Strathdee 2004).

Issues and Barriers Associated with Needle and Syringe Disposal

The following summarises the key issues.

Needlestick Injuries

Macalino (1998), cites a study conducted in England and Wales that showed the following breakdown (by location), of needlestick injuries (based on 958 injuries over a 4 year period):

- Streets – 16%
- Contact with rubbish – 12%
- Parks – 6%
- Beach – 4%

Russell (2002), reports that in Melbourne, Australia the following breakdown by location:

- 30% – public park
- 18% – street
- 6% – beach
- 5% – carpark

This article also indicated that waste workers (outside healthcare workers), were most prone to needlestick injuries. However, there was no distinction made as to the source of the N&S as to whether from IDU or other sources.

Kelsall (2002) provided an estimate of approximately 50 needlestick injuries occurring in the community every month in Australia, with no reported seroconversion or infection.

An interesting comparison is provided by Philipp (1993), who analysed those people having Hepatitis B Immune Globulin as a prophylaxis against Hepatitis B infection. In the analysis, of those receiving a needlestick injury and having this treatment (and completing survey forms), 51% of accidental exposures occurred in the community and 45% in hospitals. Of the locations, the following was reported for community exposures:

- 53% – accidents (not defined)
- 16% – street
- 12% – contact with rubbish
- 4% – beach

Needle and Syringe Return & Disposal

By marking needles, a study measured the return rate of needles distributed by a NSP in the USA (Guydish 1991). Approximately 50% were returned within a two week period and 61% returned during the study period. This study also found that return rates were higher for stationary NSP than for mobile/roving sites (Guydish 1991). Another study reported in 1992 (Kelsall 2002), demonstrated a reduction in discarded needles from 5.14 needles/month to 1.9 after 20 months following the opening of an NSP in Portland USA.

Wood (2004a), found similar results in Canada, with a mean daily average of discarded needles declining from 11.5 to 5.4. This study also factored a range of variables such as weather and Police presence in the area of the NSP. Of interest was that disposal into public sharps containers rose after opening of the NSP.

A study undertaken of the literature on NSP return rate data was conducted (Ksobiech 2004b). The conclusions reached from the analysis of the literature were:

- NSP are relatively effective as a disposal site for used needles.
- Average worldwide return rate was 90%, with the range from 15-112%.

- A study reported in this article showed a 41% return rate for Australia (no date was provided as to when this specific study was conducted). Gontasezewski (2003), indicates a return rate in Western Australia of >95%. PSA (2002), reports a return rate of 99% in Tasmania (additional data reported 2,800 syringes distributed for every report of discarded N&S equipment in 1997/98). In Brisbane, approximately 0.1% of injecting equipment distributed was discarded (equating to 871 pieces).
- Data on return rates clearly indicate that studies conducted on larger numbers of needles distributed have a higher percentage rate of needles returned. The above Australian percentage was based on a distribution of 6,306 needles (which was relatively small compared to other studies.
- Given that there were some reported return rates in excess of 100%, needles are obviously being obtained elsewhere, but returned to NSP. Therefore, it could be concluded that data on return rates could effectively be lower due to "imported" needles being included in return data.
- Data indicating that a percentage of needles are not returned to NSP does not indicate that they are discarded. Use of public area sharps containers and disposal into domestic waste/recycling streams are other methods of disposing of used needles.

In 2001, Miller reported on a study conducted in Geelong, Victoria on N&S provision and disposal. This author concluded that while discarded N&S are a significant community concern, "the vast majority of needles and syringes are not discarded". The study showed that while there were a variety of methods used to dispose of used N&S, only approximately 0.38% of the N&S dispensed were collected by council staff (from community reports of them being discarded). While this number is still of a community concern, it does show that the majority of IDU do not discard used N&S into public areas.

A study by the Australian Injecting and Illicit Drug Users League (AIVL)(undated), showed that in a self reporting survey, IDU indicated that they felt that they safely dispose of used N&S 97.3% of the time (it was not clearly defined as what is determined as "safe" – however, discarding into public places was not considered as safe). In this report, many respondents indicated that they had to dispose of used N&S into full bins, thus requiring them to manually push waste into the container, and 57.7% reported that disposal container availability was not sufficient.

School of Public Health, University of California (undated) concluded that NSP in the United States have not been shown to increase the total number of discarded N&S and can be expected to result in fewer discarded N&S. In addition this report cited:

- In Toronto Canada, the numbers of discarded N&S collected since the opening of the NSP has decreased.
- This latter study is important as it actually answers criticism that opening of a NSP may reduce discarded N&S in the vicinity, by demonstrating that they are actually discarded elsewhere. This conclusion is supported by other authors (Ksobiech 2004b, Doherty 2000, Riley 1998, MacGowan 1998).
- In Amsterdam, increased reports of discarded N&S following the opening of a NSP, is thought to be attributed to increased awareness of needle-borne infections.

However, an article reviewing the impact of the closure of a NSP in Connecticut, America (Broadhead 1999), showed that the volume of discarded used N&S in the community did not rise.

NSP provide a forum whereby issues including safe disposal of N&S can be discussed (as well as providing the actual venue for such safe disposal (Stancliff 2003). In this article it is concluded also that IDU are more inclined to adopt safe N&S disposal if the actual obtaining of new N&S is conducted legally (eg. at a NSP or even able to be purchased from pharmacies). Latkin (2005), looked at the role of needle sellers in Maryland USA, and concluded that this sector is more likely to disseminate used N&S, so all IDU need to be educated as to safe disposal so as to prevent the used N&S being available to others.

Kermode (2003), cites several studies whereby it has been assumed that following self-reporting surveys, IDU indicate that they do dispose of N&S safely (this is for those N&S not returned to a NSP). However, as the disposal methods include; burying, burning, flushing down toilets and placement in drains and garbage bins – many of these would not be considered “safe” by others.

The City of Melbourne (MCC 2004), reports that the numbers of discarded N&S was reduced following the implementation of the council’s “Syringe Management Plan 2001-2003”. This plan provided a coordinated framework inter alia for providing public disposal boxes for N&S.

The Northern Territory report (2002), indicated that of approximately 500,000 N&S distributed in 2000, there were 132 reports of discarded N&S across the whole Northern Territory. This represents 0.003% of those distributed. As other authors have indicated, the origin of these N&S cannot be accurately determined.

The study conducted for AIVL by Kelsall (2002), provided a broad range of reasons as to why IDU do not dispose of N&S appropriately – these conclusions were based on a literature review by the authors. They include:

- Fear of Police action based on having N&S found on them. Data quoted ranged from 16%-30% of IDU stating Police "fear" as a barrier to safe disposal.
- Not wanting to go to a pharmacy for new N&S (and thus returning used N&S).
- NSP not open at needed times.
- Fear of disclosure of being an IDU to friends/family.
- Other reasons included; access to services, stigma attached to accessing NSP, being "stoned", apathy, inexperience and lack of knowledge as to safe disposal.

The NSW Health Department (2004), has estimated of the 28 million N&S distributed annually in NSW (through National Diabetes Services Scheme and from NSP), approximately 20 million may end up in the domestic waste stream, with a very small number (not provided), ending up as what would be termed discarded.

Australian and international authors have provided comment on the harm minimisation aspects of the NSP programs implemented. There is a consistent finding that through these programs the number of N&S being discarded has declined and that the probability of disease transmission has also declined. What may have occurred though is a greater community awareness of the issues facing management of IDU and as a consequence, all discarded N&S (and other equipment), is linked in the community's mind to IDU activity.

Police Activity

Wood (2004b), investigated the impact of Police "crackdown" on IDU in a specific area of Vancouver. This study concluded that this Police enforcement activity significantly increased unsafe N&S disposal (particularly in areas not necessarily sites for discarding of N&S), from 784 to 1,253 in a three month period. In addition there was a reduction of N&S being disposed of at NSP within the crackdown area – with reductions in the use of public sharp containers within the area as well (from a monthly average of 865 to 502 used syringes deposited into these containers). Wood (2004), also found that the proportion of N&S distributed and not returned to the NSP increased from 4.0% in the three months prior to the Police activity to 8.1% in the three months following.

Kermode (2003), also cites several studies (mainly international ones), that indicate that fear of Police harassment is a major barrier to safe disposal of N&S. Macalino (1998), indicates that while many IDU choose a disposal method for used N&S that will perceivably reduce harm to others in the community, fear of either arrest for possession of N&S or that this possession will identify them as an IDU leads to N&S being discarded.

Based on the conclusions reached by these authors and commented on by others reviewing their work, Police activity clearly has a negative influence on safe disposal of N&S – leading to increased instances of discarding into public areas.

Legislation

Legislative impacts on both safe disposal of N&S as well as prevention of disease are based on two types of laws. Laws that prohibit the possession of drug equipment as well as prescription laws that prohibit the obtaining of N&S without specific approval encourage N&S reuse and discarding in public areas (MCC 2004, School of Public Health, University of California (undated), Springer 1999).

Having different waste legislative requirements as well as lack of clarity in regards to obligations by the different participants in a NSP program compounds the problem of creating safe uniform avenues of needles disposal (Macalino 1998). Turnberg (2002), based on a study in America, supports this previous conclusion and indicates that “A national effort is needed to achieve consistent community syringe collection and disposal laws and guidelines for all states”. This is a view supported within Australia by the many consultations conducted.

Hazards Associated with Needle and Syringe Disposal

The following summarises the key issues.

Bloodborne Pathogens

While there is some argument over exact timeframes and circumstances (eg. ambient versus laboratory conditions), the main bloodborne pathogens that the community is at risk of, in regards to discarded N&S (Hepatitis B virus (HBV), Hepatitis C virus (HCV), and human immunodeficiency virus (HIV)), can survive outside the human body for several weeks (Thompson 2003). Survival is influenced by the following factors:

- Virus titer
- Volume of blood
- Sunlight
- Humidity

Ekwueme (2002), indicates that incorrect disposal of N&S can transmit disease to the community (HBV and HIV being the two main bloodborne pathogens of

concern). HCV is also of concern. While, there are other bloodborne pathogens that may be transmitted human to human from N&S, the probability of these is much lower than for HIV, HBV, HCV. These include (Simonsen 1999, Collins 1997):

- Hepatitis D
- Malaria
- Haemorrhagic fever viruses (eg., Ebola and Lassa)
- Tetanus
- Syphilis
- In addition, abscesses and even septicaemia can result from a needlestick injury (PSA 2002)

The Californian Integrated Waste Management Board states that there are four main modes of transmission of infection (Californian 1994):

- Direct transmission
- Airborne transmission
- Vehicle borne transmission (eg., from punctures or touching a contaminated item)
- Vector borne transmission

The potential for all or any of these modes must also be considered when conducting studies into the risks of discarded N&S. However as many authors have indicated, such studies are extraordinarily complex to prove any such links.

For infection to occur the following is required (DHA 2004):

1. a source of infecting micro-organisms or other infectious agent (at a sufficient level to cause infection;
2. a susceptible host; and
3. a path or transmission for infectious agent to the susceptible host.

The DHA Guidelines clearly state that those who have physical contact with, or potential exposure to blood and body fluids are definitely at risk of contracting an infection.

Thompson (2003) further indicates that other factors in relation to risk of infection are:

- The prevalence of a bloodborne pathogen with the IDU discarding the N&S
- The type of injury sustained
- The viability of the pathogen outside the human body

- How recently has the N&S been used
- The level of immunity of the person injured
- The use of post-exposure prophylaxis

It is the 2nd point that is relevant for needlestick injuries within the community as many of these involve the needle "sticking" into semi-permeable materials such as the soles of shoes, whereby the needle could not puncture the skin.

The following table by Thompson (2003) (modified), summarises the prevalence amongst IDU, major modes of transmission within Australia, potential virus survival and published cases of community transmission:

Pathogen	Prevalence amongst IDU	Major modes of transmission within Australia	Potential virus survival at room temperature	Published cases of community transmission
HBV	1-2%	Sexual contact, IDU	Up to 8 months (no decline in sensitivity)	One
HCV	50-60%	IDU	Up to 8 months (9 fold decline in sensitivity)	Nil
HIV	1%	Male homosexual contact	Up to 30 days, but generally 1-2 days	Nil

Gontasezewski (2003), estimates that in Australia, 4.4% of IDU have HIV infections and 65% infected with HCV. Given the longer estimated survival time for HCV, this bloodborne pathogen is probably more of concern in regards to transmission to the community from discarded N&S.

It is suggested that the survival rates for viruses outside the human body does not reflect reality due to the studies determining these times based on laboratory conditions and higher than expected blood volumes and/or virus titers. However, there are studies reporting similar survival times for a range of temperatures. Thus, while the risk of seroconversion following a needlestick injury is unlikely to be zero, the potential for virus transmission of HBV and HCV from a recently discarded N&S is the most likely hazard.

Given the lack of literature on transmission of bloodborne pathogens to the community from discarded N&S in public areas, it is difficult to accurately portray the probability and/or demonstrate the potential risks. However, extrapolation from studies that bear some relevance can be used to provide (as best can be determined), best/worst case scenarios and probabilities of seroconversion.

Thompson (2003), states that there have been no published cases of bloodborne virus transmission following community needlestick injury. However, Kermode (2003), states that there has been one documented case of probable bloodborne virus transmission due to a needlestick injury – that of HBV. This occurred in Spain, with a 4 year old boy presented with a history of needlestick injury involving a needle from a neighbour known to be HBV and HIV infected. Other conclusions made in Kermode's paper include:

- No other case of community-acquired transmission of a bloodborne virus has been reported either in Australia or elsewhere.
- A study of 50 community-acquired needlestick injuries (59% occurring in public places), revealed no seroconversion to bloodborne viruses.
- A study in Italy reported no seroconversion to HIV with 408 people following accidental needlestick injury (despite a high percentage of HIV amongst IDU or >50%).

PSA (2002), reports that a study conducted in Madrid showed that for 249 children that suffered a needlestick injury from discarded N&S during the period 1988-95, no seroconversion to HIV occurred.

Studies undertaken by Ekwueme (2002), demonstrate the following probability of infections attributed to discarded N&S (used by patients undergoing immunisation), to the community from improper disposal as:

- 0.000003% for HBV
- 0.000001% for HIV.

Gontasezewski (2003), estimates the risks for contracting the following due to a community needlestick injury as:

- 0.000007% for HCV
- 0.0000002% for HIV

According to the World Health Organization (WHO 1999), there was between 500-7,300 waste workers (outside hospitals), injured by sharps of which, annually, 1-15 contracted Hepatitis B. Kermode (2003), also discusses one known and reported seroconversion to HBV following a needlestick injury in the community. The Communicable Diseases Network Guidelines (DHA 2004), clearly state that those who have physical contact with, or potential exposure to blood and body fluids are definitely at risk of contracting an infection.

A recent study conducted in Australia (Tooher 2005), that reviewed literature relating to waste workers exposure to, seroconversion and/or presence of antibodies to HAV, HBV and Tetanus concluded that there may not be any greater risk to solid

waste workers as compared to other waste workers that would be more at risk (eg., sewage waste workers). The authors also concluded that more studies are necessary to arrive at firm conclusions.

To gauge what could be considered “worst case” scenario for seroconversion following a needlestick injury, data on such conversions was determined for healthcare personnel and IDU. These two groups have been determined as most at risk due to the potential of the needlestick injury occurring with fresh blood and higher titers of the virus within the blood.

The following table provides data on seroconversion post-needlestick injury in the healthcare setting:

Bloodborne Virus	PSA (2002)	CDC (2001)	Heimer (1998)	Collins (1997)
HBV	19-30%	6-30%	20-30%	3-35%
HCV	3-10%	0.4-1.8%	2-3%	1-2.8%
HIV	0.3%	0.25-0.4%	0.3-0.7%	0.12-0.4%

While this data shows similar relative percentages, it does illustrate the differences in interpretation of data to arrive at the rates of seroconversion. Thus it can be inferred that each author would also state different (though similar), risk factors for seroconversion following a needlestick injury.

It could be argued that IDU to IDU transmission of bloodborne pathogens is in effect a needlestick injury (though an elective rather than accidental one). Based on this premise, data from the Victorian Department of Human Services illustrate the following. In 2002, 1.7% of those diagnosed with HIV were classified as injecting drug users, 58% with Hepatitis B and 73.4% with Hepatis C (DHS 2003). This data indicates that IDU to IDU transmission of bloodborne viruses is high and that this group does pose a risk to members of the community from discarded N&S. The level of risk, based on the lack of evidence of seroconversion of the community to these bloodborne pathogens, may be deemed to be extremely low.

It must be noted that it is when the syringe is accompanied by an uncapped needle that the risk for infection becomes more probable. This could arise from an accidental encounter (eg. the needle not noticed on the ground), or from a needlestick injury (eg. by picking the needle up to dispose of it or attempting to recap the needle).

In the United Kingdom, a study (Nyiri 2004), found that following laboratory testing of 106 syringes found at four parks in South London. The subsequent testing found that evidence of:

- HBV in 4.7% of syringes
- HCV in 4.7% of syringes

This does demonstrate that there is some risk associated with discarded used N&S. The authors of this study also pointed out that it was not only park users who were at risk, but park rangers who are required to clean up these discarded used N&S.

However, while seroconversion to HIV and HCV has occurred through exposure of fluids onto the skin it is extremely unlikely that this route is of concern to the community from discarded N&S. Russell (2002), reported on studies conducted in Melbourne, Australia that found of 50 cases of a community acquired needlestick injury, there were no seroconversions to HIV, HBV or HCV. These results were also supported in a Canadian study (Slinger 2000) and an Irish study (Nourse 1997). An additional study in New South Wales, Australia, (O'Leary 2003), demonstrated no seroconversions from a community acquired needlestick injury.

Of interest was that, while not conclusive, the article by O'Leary (2003), indicated that the profile of those people most at risk of a community acquired needlestick injury were male and employed as cleaners or police officers.

While extrapolating data from studies undertaken in regards to risks associated with inappropriate disposal of sharps from healthcare facilities, Olowokure (2003), reports that while there are reports of needlestick injury in the community, the risk of infection is lower than that of healthcare facilities. Macalino (1998), supports this due to blood not being "fresh" and in lower volumes in the syringe (than for healthcare facilities).

To put into context, a risk based study conducted (Environment Agency 2002), in the United Kingdom states that the estimated infections resulting from needlestick injuries within the healthcare sector over a 20 year period are (it must be noted that this is probably the highest risk sector in regards to numbers of needlestick injuries and seroconversions):

- HIV – one individual
- Hepatitis B – 32 individuals
- Hepatitis C – 21 individuals

MacGowan (1998), found that generally there were reductions in HIV DNA in discarded syringes following introductions of NSP. Similar results relating to seroconversion rates for HBV and HCV were also found. It is believed that the use of NSP reduces IDU to IDU transmission, thus reducing the spread of bloodborne pathogens. This is supported by research conducted in Australia that also examined overseas data that determined there was a decline in bloodborne virus spread within the IDU community as a result of NSP programs (DHA 2002). This information would then logically be extrapolated to assume that the risk of IDU to community transmission would also be reduced in regards to risk if there are reductions in bloodborne pathogens in blood remaining in N&S. However this conclusion needs to factor in risky sexual behaviours of IDU, which may be becoming an increasing source of the spread of HIV (Ksobiech 2004a).

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