A Literature Review Examining Needle Exchange Programs
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Abstract

Needle exchange programs (NEP) are a harm reduction focused initiative that helps individuals set goals and make choices that limit the impact of their substance use. NEP also supplies sterile injection equipment, and motivates and helps individuals to make contact with health care providers, and treatment options when they are ready. Since NEP have been implemented into communities, the rates of blood born infections and diseases has strongly decreased. The purpose of this thesis and literature review is to examine all the information available on NEP covering 9 different areas and addressing the importance of NEP in communities. The nine areas covered throughout the thesis are the following: substance use and addiction; harm reduction; needle exchange programs; the benefits and challenges of needle exchange programs; challenges of implementation of the programs; best practice recommendations; recommendations on effective implementation; assessing and improving needle exchange programs; and the need for further research. The current literature has stressed the importance of NEP in communities based on the many benefits to its users and to the community in reducing the spread of infectious diseases.
Dedication

I would like to dedicate this paper to my amazing boyfriend Jeremy, without him I really don’t think I would have made it through school and got where I wanted to be in life. Thanks for always being my shoulder to cry on, and my person to vent to when things were rough.
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Chapter I: Introduction

Substance Use and Addiction

Pearson, Janz, and Ali (2013) state that drug and alcohol use is the leading cause of disability worldwide. Pearson et al. found that in a recent study conducted by Statistics Canada, it was found that 2.8 million Canadians, over the age of 15, reported having symptoms of a mental or substance use disorder. They also found that substance use disorder is characterized by a person needing alcohol or other substances to function normally, and if they were to abruptly stop using it, would lead to withdrawal symptoms. They also found that in another study it revealed that the rates for substance use disorders were higher than the rates for mood disorders, with roughly 6 million Canadians meeting the criteria.

Individuals who use illicit drugs regularly are considered to have an addiction. Addiction is defined as a condition in which an individual has strong urges to use a substance without being able to stop, even if they want to. When an individual needs more of a certain drug to get the same effect they are displaying a tolerance to the substance and that is a strong indicator of addiction. Drug abuse is a serious problem and with it comes many consequences. When a person has physical and emotional dependence on the substance it can cause them to act in compulsive ways in order to fuel their addiction, often losing health, safety, relationships, employment, and financial stability (Finding Dulcinea, 2015).

Background on Needle Exchange Programs

For the purpose of this literature review, the term needle exchange programs (NEPs) will be used for coherence. NEPs are funded through public health and are focused on reducing the spread of HIV and Hepatitis B and C among injection drug users (IDUs) through proper health education and exchange of sterile injection equipment (Strike, Myers, & Millson, 2004). NEPs offer a nonjudgmental, community-based atmosphere for IDUs to have access to sterile syringes in exchange for contaminated equipment and to provide injection equipment such as alcohol swabs, cookers, spoons, stems, screens, condoms and HIV and hepatitis C prevention pamphlets. Most of the programs also offer free testing, counselling, and referrals for their clients (Kidorf & King, 2008).

In 1981, the first NEP was established in Amsterdam, in response to a Hepatitis B outbreak (Wodak & Cooney, 2006). In 1995, in the US alone, 26,000 cases of AIDS were reported with the primary cause being the use of injection drugs (Hurley & Jolley, 1997). Injection drug use has also been shown to be the principal cause of Hepatitis C transmission, and according to the U.S Department of Health and Human Services these infections could have been prevented with once-only use of needles, syringes and other injection equipment (Stancliff, Agins, Rich, & Burris, 2003). With the implementation of NEPs, there are several benefits to the individuals using them and to the community.

Stigmatization Towards Needle Exchange Programs

According to Strike, Myers, and Millson (2004), finding a place within organizations, and communities for NEPs is an ongoing struggle despite its benefits. NEPs have been associated with socially stigmatized groups and have been often perceived to induce the use of illicit drugs. Since there is a stigmatization of IDUs, it has been very difficult for communities to adapt to NEPs. Individuals are taking on a not in my backyard (NIMBY) attitude that is making it difficult for NEPs to begin setting up facilities. Despite this, almost 200 NEPs are operating in major cities across North America, and well over 2000 across Western Europe and other continents (Kidorf & King, 2008).
Purpose

In summary, the purpose of this thesis is to compare and contrast all the information available on needle exchange programs. The following nine topics will be discussed in attempt to provide a balanced perspective on NEPs: substance use and addiction, harm reduction, components of a needle exchange program, the benefits and challenges of needle exchange programs, challenges of implementing a needle exchange program, recommendations for best practices, recommendations on effective implementation, ways to improve needle exchange programs, and the need for further research.

Outline

This thesis is comprised of five sections: the introduction, literature review, method, results, and discussion section. The introduction section and the literature review will set the context for the paper and comprehensively describe the topic of interest. Following the literature review is the method section in which the process of collecting research articles is explained. It includes information on the databases from which the articles were chosen, as well as the titles of the search terms used to retrieve the articles. The results section provides a description of the two pamphlets created for the staff and clients at the agency on the general information from the paper. Finally, the discussion section addresses the implications from the results, recommendations, strengths and limitations, and its contribution to the field of behavioural psychology.
Chapter II: Literature Review

Substance Use and Addiction

Bayles (2014) stated that the most vulnerable population is people struggling with addictions. Bayles also found that having an addiction can negatively impact a person’s quality of life due to the many psychological and emotional problems they face. Additionally, individuals with addictions also have adverse effects on their health and well-being (Bayles, 2014). Drug abuse is well known as a serious problem that affects many communities and families. Drug abuse is more prevalent and a greater risk in children and teenagers as their brains are still developing and they may become more susceptible to long-term drug abuse and addiction (MedlinePlus, 2015). In a study conducted in 2005, by the Substance Abuse and Mental Health Services Administration, it was determined that 20 million Americans over the age of 12 are using illicit drugs (Finding Dulcinea, 2015).

According to Hawkins, Catalano, and Miller (1992), substance use during adolescence and early adulthood still remains a serious public health concern. Hawkins et al. also found that the consequences of drug abuse are both societal and personal, for a young adult still developing drug abuse decreases motivation, inhibits cognitive processes, increases the risk of accidental death or injury, and can be a large contributor to mood disorders. They also found that at a societal level, substance abuse in adolescents increases health care, education, juvenile detention, and treatment costs. They also found that drug abuse has also been proven to be involved in one third to one half of coronary heart disease and lung cancer in adult cases as well as a major factor in AIDS, child abuse, neglect, and crimes.

In a 2012 study conducted by Statistics Canada, 2.8 million Canadians above the age of 15 reported having experienced indicators of a mental or substance use disorder. The rates worldwide for substance use disorders have exceeded the rates of several other disorders (Pearson et al., 2013). The Diagnostic and Statistical Manual of Mental Disorders fifth Edition (DSM-5) states that substance use disorders can vary in severity from mild to severe. A mild substance use disorder will have the presence of two to three symptoms, moderate four to five symptoms and a severe substance use disorder will be classified by having six or more symptoms (5th ed., DSM-5; American Psychiatric Association, 2013, p. 484).

Many people do not understand what addiction is and how someone can become addicted to substances. Often, people believe that individuals who use substances lack moral principles or willpower, and, if they chose to change their behaviours they could stop using. In reality, drug addiction is a complex disease, and often quitting can be rather difficult. All addictive drugs affect the brain either directly or indirectly targeting the brain’s reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter that controls movement, emotion, cognition, motivation, and pleasure. When a person experiences those feelings the result is the production of euphoric effects that are believed to increase the individual’s chances of repeating that behaviour (The National Institute on Drug Abuse, 2014). Addiction is defined as the presence of the 4Cs: craving, loss of control of amount of frequency of use, compulsion to use, and use despite the consequences (Centre for Addiction and Mental Health, 2010).

People can develop addictions to many different things including; drugs, alcohol, nicotine, and all of these can result in considerable costs for families, individuals and society. Addiction has been shown to be influenced by genetic, behavioural, and environmental attributes however, addiction is also driven by neurochemical changes in the brain that occur as a result of
substance exposure after the initial exposure has happened. While under the influence of substances, the level of dopamine in the brain increases and in turn that creates the “high” the person experiences associated with drug use. A tolerance for a substance is said to happen when, with continued use, the person may need to increase the amount required to achieve the same feeling or even to maintain functioning. Historically, addiction was viewed as a moral failing or lack of self-control, but it is now known and treated as a chronic brain disease which can often be associated with relapses. Many people can receive successful treatment for their addictions, however, those that do not, will often face a lifelong struggle.

**Harm Reduction**

Harm reduction discussions arose after the spread of HIV among IDUs became a threat to individuals’ health and well-being. Similar approaches however, have been used for many years in different contexts for a wide range of drugs (The International Harm Reduction Association, 2010). According to Inciardi and Harrison (2000), the Dutch were the first to introduce needle exchange programs in 1984 in an attempt to stop the increasing number of Hepatitis cases associated with injection drug use. Afterwards, several other European nations adopted the harm reduction approach and policies because they believed that cases of AIDS were a greater threat to the public’s health and safety than drug use (Inciardi & Harrison, 2000).

According to The Canadian Aids Treatment Information Exchange, 2015 (CATIE), harm reduction is referred to as programs, policies, and projects aimed at reducing the health, social and economic harms connected with drug use. Harm reduction programs help individuals set goals and make choices such as limiting their substance use. Harm reduction programs also motivate and help individuals to make contact with health care providers, and treatment options when they are ready. There are several different types of harm reduction programs available to prevent the negative effects associated with substance use. Some examples include needle exchange programs that distribute sterile injection equipment; collection of used needles in the communities; proper health and safety information on drug use, and substitution therapy that involves substituting illegal substances with legal non-injection methadone or prescribed opioids. Safer drug use sites allow consumption of substances to be supervised to help prevent overdoses. Outreach programs are programs that make contact with individuals using substances in order to encourage safer use. Naloxone programs are provided through agencies to individuals so they are able to take home kits that supply them with an antidote to reverse an opioid overdose, preventing more serious health problems. Finally, peer support groups that run weekly or bi weekly that involve people who use substances sharing their experiences with one another (HealthLinkBC, 2015).

Many of the programs available have shown to be beneficial to its users. Of the evidence based harm reduction programs, NEPs have shown to be a useful tool for reaching the population of individuals that engage in drug use, providing them with education to improve their health, and stop the spread of HIV, Hepatitis C, and other diseases. These programs also focus on building the trust necessary to motivate individuals to engage in treatment and recovery programs for overcoming addiction (The International Harm Reduction Association, 2010). Many people continue to use drugs regardless of the effects and strong efforts of others to prevent initiation and continued use. Harm reduction approaches strive to reduce or prevent the level of drug consumption even though they are aware that many users are unwilling or unable to stop using (The International Harm Reduction Association, 2010). Harm reduction approaches also discard the idea of a drug free society, and recognize that drug use has been around since the beginning of time. Harm reduction focused interventions work to integrate and reintegrate drug users into the community while working to prevent further isolation, demonization, or ostracism (Inciardi &
Harrison, 2000). In order to understand harm reduction, one needs to understand what constitutes harm. Various factors are associated with defining harm including the culture; the level (community, societal, and individual); and the constellation of specific behaviours in the context of which harm is discussed. Harm reduction interventions have three main goals. The first goal is to keep the individual using substances alive. The second goal is for the individual to maintain proper health throughout the process, and the third goal is for the individual to remain abstinent (Bayles, 2014).

Harm reduction helps to make it easy and possible for people that use substances to gain access to help. Harm reduction services are open to all people who use substances during any stage of their use or recovery (HealthLinkBC, 2015). Having access to good treatment is very important for people with substance problems, although many people are unable or unwilling to find treatment. There is a strong need to provide people who use substances with different choices that can help minimize the risks of their continued use of substances and resulting harm to themselves and others. Harm reduction practices can empower people to want to improve their quality of life (HealthLinkBC, 2015). Therefore, it is crucial that information, services, and other interventions on harm reduction exist to help keep people safe and healthy (The International Harm Reduction Association, 2010).

**Needle Exchange Programs**

NEPs were first introduced in response to an HIV epidemic associated with the sharing of injection equipment among drug users (Kidorf & King, 2008). Approximately 32% of AIDS cases in the United States among adolescents and adults have been linked directly or indirectly to injecting drug use behaviours (Cross, Saunders, & Bartelli, 1998). According to the United States Public Health Service, onetime only use of sterile injection equipment can be an effective way of decreasing the spread of infectious diseases among IDU’s who are unable or unwilling to stop using (Bluthenthal et al., 2004). NEPs offer a non-judgemental community-based setting for IDUs to get access to sterile injection equipment: spoons, alcohol pads, filters, syringes, clean water, screens, and condoms. They also offer brochures on HIV prevention and information on proper safety when using drugs. Most programs also offer free HIV and Hepatitis C testing, counselling, and other medical services (Kidorf & King, 2008). In many European and Australian countries, 24-hour vending machines are also being used to distribute sterile injection equipment to users. Although the machines are very accessible and inexpensive, they do decrease the personal contact between the users and health care providers (Inciardi & Harrison, 2000).

In Canada injection drug use is a rising problem. Statistics have shown that between the 75,000 and 125,000 people who use injection drugs in Canada, roughly one-third are women (Needle Exchange Programs FAQs, 2015). There are many negative health factors associated with injection drug use: a higher risk of contracting HIV, Hepatitis C, and other blood borne infections; poor nutrition; abscesses; vascular damage; fatal and non-fatal overdoses; depression; and suicide. There are many personal and social effects due to injection drug use: interpersonal difficulties with family and friends, social isolation, stigmatization, lower education, and lack of employment (Needle Exchange Programs FAQs, 2015).

The rationale behind NEPs is that individuals who use drugs are usually unable or unwilling to stop, and intervention strategies need to focus on decreasing the transmission of HIV and other infections to others. Providing individuals with sterile injection equipment through NEPs is inexpensive and a simple way to make contact with drug users through harm reduction
services and programs (Inciardi & Harrison, 2000). The first official NEP was opened in Amsterdam in 1983 as a way to help decrease the spread of HIV/AIDS among IDUs. Similar programs rapidly established themselves in other parts of the world, and now NEPs operate in over 40 countries (World Health Organization, 2004).

Studies continue to show the benefits resulting from the implementation of NEPs. Having availability to NEPs increases the chances that IDUs will take part in treatment and prevention interventions. NEPs have shown to be cost-effective as they aid to prevent health care costs associated with treating individuals with Hepatitis C, HIV/AIDS, and other blood-borne diseases related to injection drug use (Needle Exchange Programs FAQs, 2015). NEPs have also been associated with the decreases in lending, borrowing, and sharing of non-sterile injection equipment (Kidorf & King, 2008).

The Benefits and Challenges of Needle Exchange Programs

Lurie and Drucker (1997) stated that NEPs have been shown to have many benefits to the public and to the people that use them. HIV infection has been shown to be the leading cause of death among individuals aged 25-44 in the USA. According to the Centers for Disease Control and Prevention (CDC), out of the 41,000 new cases of HIV infections occurring each year, the majority are occurring among injection drug users, their children, and sexual partners (Lurie & Drucker, 1997). A major leading cause of death among young people is drug overdose. Opiate overdoses among IDUs has been recorded as the leading cause of death in Europe with over 8000 deaths recorded yearly (Drugs in focus, 2007).

According to Strathdee and Pollini (2007), as NEPs continued to open their doors, studies reported a reduction in the incidence of Hepatitis B virus, Hepatitis C virus, human immunodeficiency virus, and other blood borne pathogens among IDUs. There was also a decrease in needle sharing and syringe re-use as well as an increase of people entering detox and maintenance treatment. NEPs may also be used to access counselling services, HIV testing, and treatment services, and used injection equipment is collected by the staff at the programs rather than being left in the community (Delgado, 2004).

Another one of the major benefits of NEPs is cost-effectiveness. In a study by Lurie and Drucker (1997), it was estimated that if needle syringe programs were implemented in the United States during the HIV/AIDS epidemic between 4394 to 9666 infections could have been prevented. The cost of treating these preventable HIV infections is between $244 million and $538 million. The lifetime costs of providing treatment for IDUs living with HIV greatly exceeds the costs of providing NEP services. In an article by Delgado (2004), it stated that although the siting of NEPs may seem cost effective many people were opposed to the siting of these programs and argued that time, money and energy could be better spent on treatment programs for everyone as they are chronically underfunded. Delgado (2004) reported, that individuals with chronic illnesses such as diabetes who require needles for their treatment, but do not receive them, are concerned that it may not be a justifiable or fair distribution of the limited resources available.

NEPs are usually located close to its participants, ensuring that follow ups can occur over longer periods of time and in neighbourhoods where injection drug use is common. These programs for many are providing the first contact for the individuals with community-based interventions. NEPs also regularly employ staff that are familiar with the specific population and skilled at developing good rapport with the clients. NEPs along with substance abuse treatment programs serve the community and operate as a harm-reduction intervention designed to help
people with chronic and severe substance use disorder reduce the progression and damage of their drug use (Strike et al., 2004). As stated in an article by Delgado (2004), although the programs are being sited close to its participants they are also in neighbourhoods where individuals are opposed to the programs. The neighbours to the needle exchanges feel a disproportionate impact from the programs being sited in their areas. These individuals are also concerned with drug trafficking increasing in the areas of the exchange sites (Delgado, 2004).

Studies have also revealed that crime rates are not being affected by the operation of NEPs. Although the person is continuing to inject, the rates of drug related crimes are reducing because IDUs are not needing the funds to purchase the supplies in order to inject. These behaviours are occurring without increasing the rates of drug use and criminal activity among NEP participants or in the environments surrounding the programs (Kidorf & King, 2008).

**Challenges of Implementation of the Programs**

There are many challenges that NEPs face with implementation of their programs, with the major one being stigmatization. Finding a place in communities and organizations for NEPs has been an ongoing struggle because they are often perceived to increase illicit drug use and have been known to be associated with illicit behaviours and socially stigmatized groups (Strike et al., 2004). Stigmatization is a social process in which individuals are labelled as either being acceptable or unacceptable and this arises from physical, behavioural or social attributes. The degree to which individuals are stigmatized vary along several diverse dimensions, including: (a) individual functionality/productivity; (b) the aesthetics of appearance; (c) interference with social interaction; (d) individual culpability for the attribute; (e) individual unpredictability and dangerousness; (f) curability or reversibility of the attribute; (g) ability of others to empathize with a condition; and/or (h) the infectiousness or contagiousness of a condition. Many IDUs fall under some or all of the categories which puts them in a stigmatized status and social isolation from healthcare services groups (Strike et al., 2004).

Finding a place within communities is a struggle for NEPs as media reports concerning discarded needles in parks and public areas are being discussed complicating efforts. This is making it difficult to convince residents that the programs are beneficial and will not create a public safety problem, and that discarded needles will be collected from the NEPs once opened (Strike et al., 2004). Many other residents also argue that NEPs are harmful because they are providing its users with injection equipment and that it may encourage drug use. They also feel that the time and money, and energy spent on opening NEPs would be better spent on treatment programs (Delgado, 2004). Another concern for residents is maintaining purity of their communities by excluding IDUs and the artifacts of their presence. Having NEPs in the community is seen as there being a drug problem that is serious enough to need the programs. In Ontario communities residents have also opposed the openings of NEPs because they believe the programs are conflicting with all of their efforts to improve the neighbourhoods by eliminating injection drug use (Strike et al., 2004).

Although Ontario NEPs are experiencing a lot of opposition the number of programs currently operating has progressively increased over time. While these programs experience strong stigmatization and difficulties finding acceptance for their clients and for the workers and services they continue to operate programs for IDUs in many different countries.

**Best Practice Recommendations**

According to the Best Practice Recommendations for Canadian Harm Reduction Programs (2013), best practice recommendations are put into place to help increase the effectiveness of harm reduction programs that work to deliver prevention services to individuals.
who use drugs and are at risk for HIV, Hepatitis C, and Hepatitis B. These recommendations help programs and communities to improve the quality and effectiveness of different harm reduction programs, reduce the transmission of different diseases, make decisions about resources used for effective and efficient practice, encourage the use of better resources in harm reduction services, and identify areas where improvement is needed at individual and system levels. The World Health Organization (2004) recommends that sterile injection equipment be provided to IDUs as an essential part of the prevention of HIV programs.

Strike et al. (2006) states that the following best practice recommendations described are based upon scientific expertise and evidence from current effective NEPs.

1. **Needle and Syringe Exchange**

The following is a list of the recommended best practice measures for the prevention of HIV, Hepatitis C, and other blood-borne pathogens from non-sterile needle and syringes for injection use:

- Provide access to clean needles in unlimited quantities for clients without requiring them to return the used needles.
- Encourage clients to properly dispose of used needles and syringes in bio bins which are yellow containers tightly sealed provided by the agency to clients for medical waste (i.e. needles and syringes) or return to the agency for proper disposal.
- Educate clients on health and safety when using injection equipment, and discuss with clients the risks of using non-sterile needles and syringes.

**Description:**

Needles and syringes are used by IDUs to inject a substance into the vein. When IDUs are sharing needles they are putting themselves at an increased risk for transmitting blood-borne pathogens, infections, and skin or vein problems. Any injection with a used needle can put the person at risk, such as re-using one’s own needle, injecting with someone else’s needle that may have bacteria or debris in it, or using a dull needle. It is important for NEPs to distribute enough needles to increase the rate of sterile injection for each use and decrease the risk of transmitting blood-borne pathogens and other diseases. For this to occur, NEPs need to provide needles and syringes to clients in sizes, quantities, gauges, and brands that the clients request without requiring them to return the used needles or limit the number they can take. By providing these resources NEPs can help to attract and maintain a wide range of clients and can help to reduce the transmission of infections.

2. **Safer Handling and Disposal of Used Injection Equipment**

The following is a list of the recommended best practice measures for the prevention of the transmission of HIV, HBV, HCV and other blood-borne pathogens from used injection equipment being improperly discarded:

- Provide proper education and training for staff on safe handling and disposal of used injection equipment.
- Have multiple locations and options available to clients for safe disposal of used injection equipment.
- Calculate the total number of returned needles by clients, while using safe handling procedures.
• Correctly dispose of used injection equipment into the proper sharps containers following regulations for biomedical waste.
• Encourage clients and workers to receive vaccination for HBV.

**Description:**

Proper disposal of used injection equipment and sharps containers is an important practice in reducing the transmission of blood-borne pathogens among IDUs, NEP workers, and the community and decreasing the amount of used injection equipment out in the community.

3. **Distribution of Cookers**

The following is a list of the recommended best practice measures for the prevention of the transmission of HIV, HCV, and other blood-borne pathogens from used cookers for injection use:

• Educate clients about the correct single person use of cookers and proper disposal of used cookers.
• Educate clients on the different risks associated with sharing cookers with others.
• With each needle provided also supply clients with a cooker.
• Distribute cookers in unlimited quantities as requested by the clients.

**Description:**

Cookers are used as a container for the mixing process of liquefied drugs. Prior to injection, drugs in a solid, powder, and tablet form need to be mixed with water to make a solution that can be injected. The solution is then heated to further dissolve the drug to attain proper consistency for injection. Different studies have been conducted documenting the presence of HIV and HCV on spoons and cookers used by IDUs, demonstrating a risk for transmitting different diseases with the re-use of cookers. Therefore, as the best way to reduce the risks associated with the re-use or sharing of cookers among IDUs, NEPs need to distribute sterile cookers to its clients.

4. **Distribution of Filters**

The following is a list of the recommended best practices to prevent deep vein thrombosis, and the transmission of HIV, HCV, and other blood-borne pathogens from the re-use of filters:

• Provide unlimited quantities of filters with a pore width of 0.22 to clients.
• Provide proper education to clients on the risks associated with sharing of filters and making washes from filters, correct single person use of filters, and correct disposal of used filters.
• With every needle provided offer a 0.22 filter.
• Provide proper education on the risks of bacterial contamination when not using new filters or using cigarette filters as well as the risks associated with not using a new small-pore filter for each injection.

**Description:**

Once drugs are turned into a solution to be injected, a needle is then placed in the container to draw up the solution into the syringe. Filters are then used on the tips of needles for the prevention of undissolved particles or debris from the drugs entering the veins through the syringe. There have been several reports of IDUs using tampons, rolling papers, or cigarette filters in the place of regular filters, which may not be clean. The best way for NEPs to reduce the risks associated with the sharing of filters among IDUs is through the distribution of efficient and effective small-pore filters to clients.

5. **Distribution of Acidifiers**
The following is a list of the recommended best practices to reduce the risks of bacterial and fungal infection, and the transmission of HIV and HCV associated with the use of lemon juice and vinegar as acidifiers:

- Provide clients with an unlimited number of pre-packaged, single-use 100mg sachets of citric acid or 300mg sachets of ascorbic acid, and provide a single-use sachet with every needle distributed.
- Educate clients about the possible risks associated with sharing of acidifiers, risks associated with using spore-contaminated lemon juice, vinegar or other acids, single-person use of acidifiers, and correct disposal of used acidifiers.

**Description:**

To inject certain drugs they must first be dissolved into a water-soluble solution. For this to occur an acid must be added to the drug to create a salt. Some examples of common acidifiers include citric, ascorbic, and acetic acids although they are not always available and that leads to the use of more common and accessible acids such as lemon juice, vinegar, and kettle de-scaler which can have negative effects. Providing IDUs with single-use sachets of citric or ascorbic acid can reduce the negative effects associated with sharing acidifiers and prevent bacterial and fungal infections.

6. **Distribution of Sterile Water**

The following is a list of the recommended best practices to prevent the acquisition of bacterial infections, and the transmission of HIV, HCV, and other blood-borne pathogens from the use of non-sterile water and other fluids:

- Distribute unlimited amounts of single 2ml water ampoules as requested by the client.
- With each needle provided offer a single 2ml sterile water ampoule as well.
- Educate clients about the risks associated with sharing mixing water, using non-sterile water such as tap, rain, puddle, bottled, and other fluids.
- Educate clients about the correct use and disposal of mixing and rinse water.

**Description:**

Water is used to rinse injection equipment (i.e. needles, cookers and filters) and to dissolve the drugs into a solution that is able to be injected. There are strong risks associated with re-using or sharing of water including HIV, HCV, and bacterial infections. When a water container is being shared with more than one person there is a chance that blood from another user could be deposited into the water. Non sterile water can also lead to health problems such as skin abscesses and endocarditis. Distributing smaller ampoules of water such as the 2ml will help to decrease the sharing of water among users.

7. **Distribution of Sterile Alcohol Swabs**

The following is a list of the recommended best practices to prevent the acquisition of bacterial infections and the transmission of HIV, HCV and other blood-borne pathogens from the re-use or non-use of alcohol swabs:

- Distribute unlimited amounts of sterile alcohol swabs to clients as per request.
- With every needle provided offer a sterile alcohol swab.
- Educate clients about the risks associated with re-use or non-use of alcohol swabs including HIV and HCV.
• Educate clients about the correct single person use and correct disposal of alcohol swabs.

Description:

Alcohol swabs are used before injection to clean the area where the person is going to inject. They are also used by IDUs to remove any blood that could result from the injection from their fingers or other surfaces. IDUs without access to sterile alcohol swabs may use rubbing alcohol, aftershave lotion or soap and water to clean the area before injection. Distributing sterile alcohol swabs to clients is the best way for NEPs to help reduce the negative effects associated with the re-use or sharing of alcohol swabs among IDUs.

8. Distribution of Tourniquets
The following is a list of the recommended best practices to prevent the transmission of HIV, HCV, and other blood-borne pathogens from the sharing of tourniquets. Also to reduce the potential for contamination of tourniquets with bacteria causing abscesses, trauma to the veins and blood circulation leading to a possible impairment and loss of limbs:

• Distribute unlimited amounts of thin, pliable, easy to release tourniquets.
• With every needle provided offer a clean quick release tourniquet.
• Educate clients about the risks of HIV, HCV associated with bacterial contamination, and the use of previously used ties or tourniquets.
• Educate clients about the importance of using a clean quick-release tourniquet to prevent tissue, vein damage as well as a risk of blood circulation impairment.
• Educate clients about the correct single person use of tourniquets, and proper disposal of used tourniquets.

Description:

Tourniquets are used by IDUs to “tie off” the vein and to provide pressure to increase the blood flow into the preferred vein to facilitate injection. When a tourniquet is not available IDUs sometimes use: a piece of rope, condoms, terry or leather cloth, or a bandana. By using these items instead of a tourniquet, trauma to the skin and veins can occur as well as infiltration of blood and fluids into the surrounding tissue. Distributing thin, pliable, easy-to-release tourniquets to clients can help reduce the negative effects associated with the use of previously used ties or tourniquets.

9. Distribution of Glass Stems
The following is a list of the recommended best practices to prevent the transmission of HIV, HCV, and other blood-borne pathogens through the sharing of glass stems used to smoke crack and other drugs:

• Distribute unlimited amounts of individual glass stems to clients as per requested.
• Distribute unlimited amounts of individual mouth pieces to clients as per requested.
• Distribute unlimited amounts of individual brass screens to clients as per requested.
• Educate clients about the risks of HIV and HCV associated with the sharing of glass stems and other equipment used for inhaling and smoking drugs.
• Educate clients about the health consequences associated with using other products as screens.
• Educate clients about the correct single person use of stems and correct disposal of used glass stems, mouth pieces, and screens.
Description:

Glass stems are used to heat a solid drug and direct the vapours from it towards the user’s mouth. A screen is placed at one end of the glass stem to hold the drug in place, and a mouth piece to protect the lips from burns is placed at the other end of the stem. The drug is then heated by a flame to melt it and allow it to flow through the pipe for proper inhalation. When glass stems are not available IDUs will often use pop cans, different glass materials, plastic water bottles, and inhalers to create a pipe for inhalation. IDUs will also use brass wool cleaning pads when brass screens are unavailable causing cuts in the mouth and lip burns. By distributing unlimited amounts of glass stems with mouth pieces to clients it can help to reduce the negative effects associated with the sharing of devices to smoke crack or other drugs.

Recommendations on Effective Implementation

Strike et al. (2006) states that NEPs are public health programs designated in areas where injection drug use is recognized as a problem in the community. These programs provide its clients with basic exchange services: education and information, counselling, referrals, needle distribution and disposal, and other injection equipment distribution for sterile use. Despite the large amount of data on the effectiveness, efficacy, and efficiencies of NEPs, many harm reduction programs and NEPs struggle to survive on minimal funding and lack recognition by others as a key component in public health, disease prevention, health promotion, and health education.

Strike et al. (2006) suggest that recommendations on effective implementation of NEPs is a key component in the process of new NEPs opening their doors in communities where they are needed most. Before opening a NEP, there are several actions that need to be taken to ensure that they are going to meet the needs of the IDUs and the community. Firstly, it is important to develop an advisory committee with different members in order to represent diverse community interests. It is essential to include IDUs, community residents, drug treatment organizations serving IDUs, physicians, public schools, mental health services, and law enforcement as representation. Input from stakeholders can also be a benefit during the planning phase to help build support, decrease opposition, provide data and information about the community, and offer information on program design. Next, it is important to identify mentors at other NEPs to recognize the steps to take, things to avoid, and to provide a source of support and guidance. Many operating NEPs have received assistance from other well-established programs all over the world to help assist each other over time. Another necessary factor to include is to conduct advocacy for the NEP in the community and community development with IDUs. Many programs in Ontario experience opposition, and therefore, it is important to conduct advocacy for the programs in the community before they open and throughout the lifespan of the program. A crucial part in the development of NEPs is to also include local IDUs in the group. IDUs bring many benefits to the groups with their knowledge on the drug scene as well as having social networks within the community. Another important task involved in opening a NEP is collecting information about the target community. To be effective, it is important to understand the client group: where the clients live; and buy their drugs; how many IDUs live in the community; their social and economic status; types of resources they would like to access; what drugs they are using; and their current knowledge regarding injection drug use. Next, it is important to select a program model to follow with determined hours of operation and a specific location to meet the needs of the IDUs in the community. Lastly, it is important to develop a program plan to follow with specific policies and procedures and to hire and train staff for the sites.
To effectively implement NEPs in communities there are several different areas to consider. Maher et al. (2001) found that the NEPs in Sydney and Melbourne lacked culturally appropriate services. It was proven that because of the lack of cultural resources available, young 15-24 Indo-Chinese IDUs did not use NEPs and continued to share needles. Therefore, it is important for NEPs to include cultural aspects to make sure they are reaching all ethnicities that use injection drugs. Other studies also show that NEPs have difficulty reaching most young IDUs, and therefore are unable to promote a reduction in use, provide sterile injection equipment, and resources and referrals. Also, with little contact between clients and staff, rapport to promote the use of health and other social services, is difficult to establish (Bailey et al., 2003).

Based upon extensive research and findings the World Health Organization (2005) states that effective NEPs must ensure the following: they must be implemented as soon as possible within the community, involve the community in the planning and implementation process, the programs need to offer a wide range of flexible services available in multiple areas with varied hours of operation to the community, do regular assessments of the community’s needs, provide IDUs with community based outreach services, provide respect and dignity to IDUs and their families with regards to cultural, racial, and ethnic backgrounds, and finally provide sterile injection equipment and resources to IDUs to help reduce the re-use of equipment.

Avert (2015) states the many different barriers to accessing NEPs: legal, social, cultural, political, economic, physical, and geographical barriers all of which are limiting IDUs to the services provided by NEPs. It is important for people to acknowledge these barriers when implementing new NEPs in communities to help make implementation more effective. In many countries there are age restrictions for accessing NEPs preventing IDUs under the age of 18 from accessing the services despite the large amount of evidence supporting that people under the age of 18 are more likely to use and share drugs. Criminalization of IDUs is another major barrier to accessing NEPs services, as IDUs are often forced to hide their equipment and engage in unsafe injection practices. Many IDUs have also reported being threatened, extorted, abused, and arrested by authorities. People who use injection drugs also face stigma, discrimination, and disapproval from the community as well as health care providers even in places where it is legal to buy needles and syringes preventing IDUs from accessing NEP services.

Politics have also been shown to be a major barrier to accessing NEP services for IDUs. In many countries there is a lack of funding for the implementation of NEPs and federal bans on funding for domestic and international NEP interventions have been instated by the United States Congress. Many countries are not receiving funding for the programs because they are believed to increase injection drug use, despite the evidence stating otherwise. Lastly, physical and geographical barriers have also been shown to limit access to NEP services by IDUs. NEP sites are usually close in proximity to its users although in rural areas distance can cause an issue for people who want to access the services. Many NEPs also have restricted hours of operation, long waiting times, and insufficient supplies making it more difficult for IDUs to want to access the services at all.

These are just some of the barriers that IDUs face when trying to access NEP services. Every country has different barriers and people need to be aware of them in order to prevent IDUs from not accessing harm reduction services and resorting to sharing injection equipment with others and spreading diseases. In order for people to effectively implement NEPs that will
meet the needs of its users, they need to consider all the different barriers that IDUs face when trying to access the services.

Assessing and Improving Needle Exchange Programs

Ksobiech (2004) stated that there has always been doubt that NEPs are beneficial to the community and its users. With many programs operating in different areas with diverse methods of evaluation, it can be quite difficult to compare and assess the overall success of NEPs. There are however, several articles to this date published on the effectiveness of NEPs in reducing the spread of HIV/AIDS through a reduction in needle sharing among IDUs. Although NEPs continue to display benefits to its users, there are, however, several problem areas in analyzing NEPs’ evaluative research.

Ksobiech (2004) found that there is a lack of comparison/change data available on NEPs. In much of the literature available on NEPs, numerous studies lacked any form of comparative data including information on NEPs’ effectiveness in reducing risky behaviours or increasing knowledge on HIV/AIDS, and very little data was compared to the previous year. It is important for researchers to gather comparison and/or change data regarding specific NEPs in order to increase effective implementation of the programs in the community.

According to Ksobiech (2004) there is also a lack of agreement on consistent and appropriate dependent variables used across different studies. Some researchers are gathering information on monthly injection use, while others are looking at daily injection use. Different follow up evaluations of 30 days or 90 days are being assessed leaving the results of the studies with clearly different outcome measures, and making comparisons across studies difficult.

Ksobiech (2004) also states that measurement instruments used in NEP studies have not been validated or demonstrated to be reliable in collecting data. Currently, there does not appear to be any frequently used series of standard questions or measurement instruments to assess NEP outcomes across different studies. Researchers have found little information regarding questionnaires and measurement instruments but with few supporting data regarding validity or reliability, leaving the reader wondering if the test measures what it’s suppose to.

Finally Ksobiech (2004) also found that there is a lack of clear operational definitions used in regards to NEPs. There has been a wide range of results reported in NEP evaluations which can clearly be traced back to the unclear operational definitions of dependent variables being used. In many NEP evaluations, the term “needle sharing” is used, but there can be many definitions of what needle sharing can include which is why results are so scattered. Operational definitions need to be clearer so less confusion can occur among those attaining evaluations of NEPs.

Rich, Wolf, and Macalino (2002) have identified aspects of NEPs in need of improvement. They state that to improve the impact that NEPs have, new strategies to increase the number of programs and the number of syringes distributed through each program is needed. Even in small cities where current NEPs exist, creating additional locations can provide its users with more access to the services. Studies have shown that when IDUs live closer to an NEP they are more likely to use it, and there is a reduction in needle sharing. It is important for health care providers to support the establishment of more NEPs in new locations.
Rich et al. (2002) also suggest that when creating and maintaining an NEP, it is important to have open communication with different local agencies, officials, and organizations such as drug treatment programs and detox centers. It is also essential in the planning process of NEPs to include people of colour and IDUs in that community. By working together it ensures that in the creation of NEPs they will be user-friendly to the community and for IDUs to access. When operating an NEP it is also important to encourage frequent use of the services to the clients because when IDUs are attending the NEP, less sharing of needles and other injection equipment will occur. There are several risks associated with the sharing of injection equipment that is less discussed than the well-known disease transmission through syringe sharing. Injection equipment such as spoons, cookers, water, and filters have been less publicized and because of that it is important to provide IDUs with cognitive interventions including risk-reduction and safe injection counselling along with literature to help highlight the risks that are associated with sharing any injection equipment.

Another important service that NEPs can do to further benefit its clients is to help them arrange a health insurance plan for those who do not currently have one. When a client has health insurance accessibility to health care services, substance abuse treatments are more available. IDUs have been shown to have higher rates of mental illness, and, therefore NEPs can help to address those health concerns and provide referrals, medical care, vaccines, overdose prevention, educational resources, and mental health screening to clients all as an important component of disease prevention (Rich et al., 2002).

Need for Further Research

Research has continued to show the numerous benefits of NEPs in communities for its users. Although the programs appear to be beneficial, there is a lack of research on certain topics associated with NEPs. Strathdee and Vlahov (2001) reported that the available literature suggests there is considerable room for improvement in regards to NEPs and coverage. Most studies available focus on the effectiveness of NEPs and have not looked into the alternate sources of syringes. There is a lack of research in regards to developing countries and the proportion of IDUs that need to be reached, as well as what other services are available in those countries as syringe access programs. There is little data available on the exact amount of use of sterile syringes by IDUs and the types of drugs being used which is an important assessment on coverage.

To date, there is also a lack of research available that includes biological outcomes from NEPs, such as the incidence of HIV. These studies are important for conducting investigations but are not being used as much as they are costly and time consuming. Studies also need to be conducted on the type of programs and the components of those programs that are working to reach different populations at risk including people engaging in high risk sexual behaviors, sex workers, prisoners, and young IDUs (Strathdee & Vlahov, 2001).

Ksobiech (2004) suggests that further research needs to involve linking studies across cities, states, and beyond to maximize comparability as there is little data currently available on that. It would be beneficial if NEPs located in major areas all implemented a series of multi-site, longitudinal studies, using the same dependent variables, and measuring with the same operational definitions. Ksobiech (2004) also states that most research available focuses solely on one NEP in a specific region and asks the general question: is a given NEP successful and,
therefore, the data collection is only focusing on information that is shown to be essential in displaying the effectiveness of that NEP.

Another area in need of future research is in the replication of studies. NEPs research has not been shown to replicate other studies or use the same measurement instruments of others, and the majority of the studies are different from one another, and in some cases appear to be purposefully different. In areas where desirable or undesirable effects have been recorded, the replication of NEP studies need to occur (Ksobiech, 2004).

Delgado (2004) also states that more outcome research is needed on NEPs. There is little available research on this topic as there are many challenges involved in the process of retrieving it. Firstly, because of the controversial nature of NEPS many academic institutions are not supportive of this type of research. Research on this topic may also not be considered scholarly or important enough to investigate. Lastly, the institutional review boards may not give approval for projects that involve questionable legality, and because of that, funding for that type of research could be limited.

Finally, Normand, Vlahov, and Moses (1995) state that further research needs to be done to identify why IDUs are continuing to share their equipment after legal constraints are removed. They also state that more research needs to be done on incarcerated populations. Statistics show that IDUs are more likely to be found in prisons than in any other harm reduction service such as treatment programs, hospitals, and social services. With over 4 million people being incarcerated each year, more research needs to be done with this population of IDUs. Lastly, they suggest that more research also needs to be done on randomized trials of NEPs.

NEPs have been shown to have many benefits among IDUs and improving the effectiveness of these harm reduction programs by keeping the literature up to date for researchers can help to enhance the quality of services these programs can offer.
Chapter III: Methodology

For this study, a literature review was completed that consisted of a synthesized examination of the current content on needle exchange programs. Areas covered in the literature review include: substance use and addiction, harm reduction, needle exchange programs, the good and bad of needle exchange programs, challenges of implementation of the programs, best practice recommendations, assessing and improving needle exchange programs, recommendations on effective implementation, and recommendations for future research. A search of the literature used for the completion of the paper was collected through the EBSCOhost database accessible through St. Lawrence College, Kingston, Academic Search premier, CINAHL with full text, ERIC, MEDLINE, Primary Search, PsycArticles, PsycBooks, PsycINFO, and CINAHL. Additionally the book Drug Use and Abuse Fifth Edition was also used as a resource from the organizations library.

Key search terms used in the databases consisted of: needle exchange programs, needle exchange programs and public safety, needle exchange programs do they work, best practices related to needle exchange programs, challenges of needle exchange program implementation, evaluation of needle exchange programs, and effectiveness of sterile needle and syringe exchange programs. Articles were included if they were full-text, scholarly peer reviewed journals, and were relevant to needle exchange programs. A total of 33 articles were used for the literature review. Publication dates for articles ranged from 1995-2015 to ensure a wide range of literature. The literature review examined current information available on needle exchange programs and where research is lacking. The literature review was broken into two pamphlets: one for the staff at Street Health, and one for the clients of Street Health as a resource.

The staff pamphlet offers information regarding the challenges to implementing needle exchange programs, recommendations on effective implementation of the programs, ways to improve needle exchange programs, and other facts and statistics on needle exchange programs effectiveness. The client pamphlet offers information regarding substance use and addiction prevalence rates, benefits of needle exchange programs, and information on HIV and Hepatitis C.
Chapter IV: Results

The goal of this thesis was to examine the literature available on NEP addressing related issues, and making it accessible to frontline workers in one document. Results from the current study have been summarized and are displayed in two pamphlets. One pamphlet, aimed for frontline staff, summarises the actions needed before opening a needle exchange program in the community, outcomes associated with the presence and availability of needle exchange programs, and program policies for running a needle exchange program (see Appendix A). A second pamphlet was created for the clients at the center to provide information on addiction, needle exchange programs and their benefits, and additional resources available on needle exchange programs in the community and online (see Appendix B).

The following chapter addresses the summary of findings from the study including the strengths and limitations, the contributions to the field of behavioural psychology, and lastly, recommendations for future research.
Chapter V: Discussion

Summary of Findings

The purpose of this study was to develop a comprehensive literature review of the current research available on needle exchange programs (NEP) and compare and contrast the findings. Drug and alcohol use is the leading cause of disability worldwide. One of the most vulnerable populations is people struggling with addictions. Having an addiction negatively impacts a person’s quality of life due to the many psychological and emotional problems they face. Additionally, addiction has adverse effects on an individual’s health and well-being which, in turn, has a significant impact on the economic and social influence on a global level with increases in crime rates, unemployment, and a reduction in family and community cohesiveness (Bayles, 2014).

Harm reduction focused programs are important in helping individuals with addictions. Harm reduction programs help individuals set goals and make choices including limiting their substance use. Harm reduction programs also motivate and help individuals to make contact with health care providers and treatment options when they are ready. Of the evidence-based harm reduction programs, NEPs have shown to be a useful tool for reaching the population of individuals that engage in drug use, providing them with training on practices that will reduce their risk for spreading HIV, Hepatitis C, and other diseases. The first NEP was introduced in 1984 in an attempt to stop the increasing number of Hepatitis cases associated with injection drug use. Several European nations subsequently adopted the harm reduction approach and policies because they believed that cases of AIDS were an even greater threat to the public’s health and safety than drug use (Inciardi & Harrison, 2000).

Throughout the literature, NEPs have been identified as having many benefits to the public and to the individuals that use them. NEPs have been shown to reduce the incidence of Hepatitis B virus, Hepatitis C virus, human immunodeficiency virus, and other blood borne pathogens among injection drug users. Also, individuals accessing NEPs demonstrate a decrease in needle sharing and syringe re-use as well as being more likely to enter detox and maintenance treatment. NEPs have been shown to be cost-effective as providing sterile injection equipment is more cost effective than treating individuals diagnosed with HIV (Needle Exchange Programs FAQs, 2015). Each research article found throughout this study has stressed the importance of NEPs in communities. Stigmatization has been shown to increase with the presence of NEPs in the community. Many individuals are against the siting of the facilities because they believe they increase illicit drug use, and by providing injection drug users with the equipment, they are encouraging drug use (Strike, Myers, & Millson, 2004).

Additionally, the WHO (2005) states that effective NEPs are those that are implemented as soon as possible with the community involved in the planning and implementation process. Programs that offer a wide range of flexible services available in multiple areas with varied hours of operation to the community. Programs that conduct regular assessments of the community’s needs, and provide injection drug users with community based outreach services. These programs should also provide respect and dignity to injection drug users and their families with regards to cultural, racial, and ethnic backgrounds, and finally provide sterile injection equipment and resources to injection drug users to help reduce the re-use of equipment. In conclusion, the literature supports a relationship between the importance of NEPs running and a decrease in the rates of blood borne infections.
Strengths and Limitations

Strengths

A major strength of this thesis is that it is based upon strong empirical research. An extensive review of the literature on topics relevant to needle exchange programs was conducted, and information was gathered from several different sources for the completion of the thesis.

Limitations

A limitation of this study was that it only focused on nine main areas in association with needle exchange programs and addictions. There are several other areas that were not discussed in the study and due to the wide range of available resources, and the short duration of placement some resources could have been overlooked that might have been of importance in regards to needle exchange programs.

Another limitation of the study was that it did not involve any client contact. A literature review was created for the agency summarizing several articles available on needle exchange programs, but no group interventions or discussions with clients took place.

Contribution to the Behavioural Psychology Field

This thesis contributes to the field of Behavioural Psychology by demonstrating that needle exchange programs are an important harm reduction approach used for individuals with addictions. By having all of this information available, more organizations will introduce needle exchange programs into the community as a harm reduction approach while working to decrease the spread of HIV and others diseases among injection drug users.

Recommendations for Future Research

It is recommended that future research be conducted on the types of substances being used by injection drug users (IDUs), as well as the exact number of sterile syringes used. There has also been a lack of research in regards to developing countries and the proportion of IDUs that need to be reached. Information on these topics is an important part of the assessment on coverage to ensure that harm reduction programs are reaching clients in need. Additionally, further research needs to involve linking studies across cities, states, and beyond to maximize comparability as there is little data currently available. It is also recommended that future research be directed towards the replications of studies. The available research on needle exchange programs has been shown to be difficult to compare as different measurement instruments are being used leaving the majority of the studies different from one another. Furthermore, it is also recommended that further research be completed to identify why IDUs have continued to share their equipment after legal constraints have been removed. Finally, it is suggested that more research be done on incarcerated populations. Statistics show that IDUs are more likely to be found in prisons than in any other harm reduction service such as treatment programs, hospitals, and social services. With over 4 million people being incarcerated each year, more research needs to be done with this population of IDUs.
References


Appendix A: Pamphlet for Front Line Workers

References


Before opening NEPs, there are several actions that need to be taken to ensure that they are going to meet the needs of the IDUs and the community:

- It is important to develop an advisory committee with different members in order to represent diverse community interests.
- It is important to identify mentors at other NEPs to identify the steps to take, things to avoid, and to provide a source of support and guidance.
- Conduct advocacy for the NEP in the community and community development with IDUs.
- Include local IDUs in the group.
- Collect information about the target community.
- Select a program model to follow with determined hours of operation and a specific location to meet the needs of the IDUs in the community.
- Develop a program plan to follow with specific policies and procedures and to hire and train staff for the sites.

Outcomes Associated with the Presence and Availability of Needle Exchange Program (NEP):

- Attendance at NEPs as well as increased access to sterile injection equipment is associated with a decrease in needle sharing and lower rates of HIV infection among injection drug users (IDUs).
- Availability of NEPs increases the chances of IDUs accessing treatment and prevention interventions.
- NEPs are cost-effective as they decrease the healthcare costs associated with treating individuals with HIV/AIDS, Hepatitis C, and other injection drug use health concerns.

Program Policies for Running a Needle Exchange Program:

- Provide clients with unlimited equipment each visit, without requiring clients to return used needles.
- Encourage clients to return or dispose properly of used injection equipment.
- Offer a variety of needles and syringes to clients including different gauges, sizes and brands.
- Educate the clients on the risks associated with using non-sterile injection equipment.
- When distributing injection equipment offer all the supplies necessary for safe injection use.
Appendix B: Pamphlet for Clients

What is Addiction?
Individuals who use illicit drugs regularly are considered to have an addiction. Addiction is defined as a condition in which an individual has strong urges to use a substance without being able to stop even if they want to. When an individual needs more of a certain drug to get the same effect they are displaying a tolerance to the substance and this is a strong indicator of addiction.

Additional Resources
For general information on needle exchange programs:
- www.shrep.ca
- www.coca.ca
- www.hara.ca

Agencies in Kingston:
- Direct Health Centre - 125 Wellington Street, Kingston, Ontario
- HIV/AIDS Regional Service - 844 Princess Street, Kingston, Ontario

References:
What is a Needle Exchange Program (NEP)

- NEPs offer a non-judgmental community-based setting for injection drug users to get access to sterile injection equipment: spoons, alcohol pads, filters, syringes, clean water, screens, and condoms.
- They also offer brochures on HIV prevention and information on proper safety when using drugs.
- Most programs also offer free HIV and Hepatitis C testing, counseling, and other medical services.
- The rationale behind NEPs is that individuals who use drugs are usually unable or unwilling to stop, and intervention strategies need to focus on decreasing the transmission of HIV and other infections to others. Providing individuals with sterile injection equipment through NEPs is inexpensive and a simple way to make contact with drug users through harm reduction services and programs.

Benefits of Needle Exchange Programs

- NEPs have shown to be cost-effective as they aid in preventing health care costs associated with treating individuals with Hepatitis C, HIV/AIDS, and other blood-borne diseases related to injection drug use.
- Having access to NEPs increases the chances that IDUs will take part in treatment and prevention interventions.
- NEPs have also been associated with decreases in lending, borrowing, and sharing of non-sterile injection equipment.