



Wound Care for People in Oxford County Who Inject Drugs

Final Report

Situational Assessment
Oxford County Public Health
January 2018

About Oxford County

Located in the heart of southwestern Ontario at the crossroads of Highways 401 and 403, Oxford County has a population of approximately 114,000 people across eight municipalities that are “growing stronger together” through a partnership-oriented, two-tier municipal government incorporated as the County of Oxford. Oxford County is emerging as a leader in sustainable growth through the [Future Oxford Community Sustainability Plan](#) and County Council’s commitment to becoming a [zero waste](#) community and achieving [100% renewable energy](#) by 2050. Situated in one of Ontario’s richest areas for farmland, agriculture is a key industry that serves as a springboard for some of the sustainable industries that are steadily diversifying the local economy. Oxford County offers a thriving local arts, culture and culinary community, as well as conservation parks, natural areas and more than 100 kilometres of scenic trails. The Oxford County Public Health office is located in Woodstock, Ontario. Visit www.oxfordcounty.ca/health or follow our social media sites at www.oxfordcounty.ca/social. Oxford County’s Strategic Plan is at oxfordcounty.ca/strategicplan.

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Contents

- Summary 1
- Background and Rationale 2
- Purpose 4
- Study Design 5
- Methods 6
 - Data collection 6
 - Data Analysis 7
- Results 7
 - Demographics 7
 - Wound Prevalence 8
 - Wound Care Treatment 10
 - Wound Care Treatment Preferences 11
 - Barriers and Facilitators to Treating Wounds 13
- Discussion 15
- Limitations 16
- Conclusions 17
- References 18
- Appendix A: Eligibility & Survey Questions 22
 - Eligibility Questions 22
 - Survey Questions 23

Summary

Public health has a role in ensuring that population health information, particularly for those at greater risk of poor health outcomes, is available to relevant partners for planning and delivery of responsive health services. This report assessed the prevalence of wounds among people who inject drugs in Oxford County and identified the need for barrier-free wound care services.

We administered a survey to Oxford County residents (16+) who injected drugs in the past year. Ninety-two participants were recruited by public health nurses working in the Needle Exchange Program and through snowball sampling and advertisements at Oxford County Public Health (Public Health) and other community agencies. Descriptive statistics were used to determine the prevalence of wounds in Oxford County and where participants received care for their wounds. Responses to open ended questions were analyzed using content analysis.

The lifetime wound prevalence among participants was 70.8%. The past-month (20.2%), past-6-month (38.2%) and past year (55.1%) prevalence was also assessed. Of those who obtained a wound in their lifetime, 69.8% treated their wound on their own.

Participants cited stigmatization from area health professionals (including those working in hospitals), feelings of embarrassment and self-judgment as barriers to wound care. Conversely, participants identified non-stigmatized environments and flexible treatment options (e.g., treatment bus, extended operating hours at treatment facilities) as facilitators to wound care.

Given the health risks associated with self-management, strategies could be developed to support individuals so that they receive health care from professionals in Oxford County. We recommend that:

1. Public Health seek opportunities to increase comfort and belonging for people in Oxford County who inject drugs, particularly when accessing healthcare services.
2. Public Health advocates for the inclusion of improved wound care services in the County's broader harm reduction strategy for people in Oxford County who inject drugs.
3. Public Health seek opportunities to highlight these findings and disseminate this population health information to other partners, including the South West LHIN, who can take action on this issue.

Wound Care for People in Oxford County

Who Inject Drugs

Background and Rationale

Wounds can be described as “break[s] in the continuity of the skin.”¹ Developing skin and soft tissue infections from untreated wounds can be problematic for people who inject drugs because it can lead to various complications such as sepsis, gangrene or endocarditis.² Public health has a role in ensuring that population health information, particularly for those at greater risk of poor health outcomes such as people who inject drugs, is available to relevant community partners for the planning and delivery of responsive health services. The extent of injection-related wounds (wounds) has been studied in the past;^{3,4} however, studies from a rural Canadian lens are lacking. Oxford County is considered a mainly rural region;⁵ therefore, this information is particularly significant given the health care implications that exist (e.g., access to treatment) for those living in rural regions.

Though a standard cutaneous-injection related infections surveillance system does not currently exist in Ontario or elsewhere in Canada, a recent systematic review of studies from Canada and other parts of the world has shown that prevalence of current and/or past month skin and soft tissue infections at injection sites ranged between 6.1% and 32%; 6-12 month prevalence ranged between 6.9% and 37.3%; and lifetime prevalence for people who inject drugs ranged between 6.2% and 68.6%.⁶

Getting treatment for health complications can be difficult for those injecting drugs because of the various barriers that this population encounters, such as not having a fixed address and not having a telephone number to confirm appointments.⁷ Evidence also suggests that in addition to facing these obstacles, people who inject drugs also encounter social barriers, as they can experience significant stigmatization and discrimination from service providers and associated staff when seeking support or treatments.^{7,8} As a result, people who inject drugs often opt to self-manage their injuries using various techniques such as self-lancing or self-directed antibiotic treatment.⁹⁻¹¹ When people who inject drugs choose to treat their wounds on their own

or if they have untrained people tend to their wounds in non-sterile environments, they run the risk of contaminating their wound and/or transmitting the infection directly to others in the community or indirectly through contaminating surfaces in the community.¹²

Some people who inject drugs receive care for their injection-related infections and diseases at local hospitals. Evidence has shown that this poses a heavy economic burden on emergency services and public health-care dollars. Figures from the United Kingdom and the United States show millions of dollars are spent in urban city hospitals every year to treat infections.^{13–15} Canadian costs associated with hospital use for infections are not well known, but research has indicated that people who inject drugs and reside in Canada frequently access hospitals for infections.¹⁶ This is of concern given that people who inject drugs and seek care for infections at hospitals have been shown to have a higher risk for subsequent emergency department utilization and hospitalization.^{17,18}

People who inject drugs report that services offered at specialized harm reduction sites improve their access to care and other services compared to conventional healthcare settings because they harbour non-judgmental environments where clients can access timely services with a high degree of trust and comfort.^{19,20} Oxford County Public Health (Public Health) has provided harm reduction services to the community since 2000 and has established a therapeutic, non-judgmental relationship with people who inject drugs in the County over the past seventeen years. Public Health's Needle Exchange Program was first implemented in 2000 to help clients avoid sharing needles by accepting old needles and providing new needles and equipment to those who inject drugs. In 2013, Public Health expanded its harm reduction services by offering an Overdose Prevention Program. This program not only teaches individuals how to prevent, recognize and treat an overdose, but also includes the distribution of naloxone and training in its use.

Since introducing the harm reduction program, public health nurses have frequently observed wounds on their clients' limbs and have been told of instances in which people who inject drugs have required hospitalizations and extensive treatments as a result of infected wounds. Therefore, as a first step in considering the potential to expand Public Health's role with respect to addressing injection-related wounds in Oxford County, Public Health conducted a situational assessment in 2016 to further understand how wounds affect this population.²¹ The findings from the provider stakeholder survey portion of the situational assessment indicated that few providers, outside of area hospitals, offered wound care services for people who inject drugs in

Oxford County and that stakeholders expressed that expanding existing services in the County to include wound care services could be beneficial to those requiring treatment for their wounds.²¹ Providers also highlighted the importance of non-stigmatized environments as a means to improving service delivery to those who inject drugs. However, limitations from the situational assessment included a lack of information retrieved about the number of people who inject drugs and develop wounds in Oxford County and the absence of direct accounts from people who inject drugs in Oxford County.²¹

Public Health is mandated to plan and implement programs and services informed by evidence to meet local population health needs and to partner with others to create environments that foster access to harm reduction programs and services to certain populations.²² By obtaining information about wound prevalence and related therapy from those who inject drugs in Oxford County, Public Health will have a better understanding about the burden of disease affecting this population. In turn, it is hoped that this study will provide Public Health with the evidence required to make an informed decision about how best to assist this population obtain relevant services to reduce long-term health complications, emergency department visits and hospitalizations resulting from injection-related wounds.

Purpose

The goal of this study is to identify the need for wound care services for people who inject drugs in Oxford County so that Public Health can respond effectively to current and evolving conditions, including linking individuals to needed health services. The objectives of this study are to:

1. Determine the prevalence of wounds among people who inject drugs in Oxford County.
2. Identify where people who inject drugs receive care for their wounds in Oxford County.
3. Identify characteristics of preferred wound care services for people who inject drugs in Oxford County.
4. Understand barriers and facilitators to accessing wound care services in Oxford County with regards to people who inject drugs in Oxford County.

The research questions the project team wishes to answer by conducting this study include:

- What is the extent of the injection-related wound care problem in Oxford County?

- How can Oxford County Public Health [Public Health] assist those who inject drugs receive care for their wounds?

Study Design

This project was an observational study and consisted of administering a formative cross-sectional survey to determine the prevalence of injection-related wounds and to identify where people who inject drugs receive care for their wounds in Oxford County. The survey also included questions about the facilitators and barriers to accessing wound care services experienced by people who inject drugs.

The number of people who inject drugs in Oxford County is unknown. A sampling frame does not exist to estimate the size of the population and given the stigmatized and illicit nature of some injection practices, this population is more or less considered a “hidden population.”²³ According to an estimate from the Public Health Agency of Canada, roughly 1 in every 250 (0.39%) Canadians (15+) injected drugs in 2011.²⁴ Therefore, based on this estimation and the population estimates (16+) for Oxford County in 2015,²⁵ it is estimated that roughly 356 people in Oxford County (16+) injected drugs in 2015.

The sample size needed to achieve 80% power with a 95% confidence interval was calculated based on the estimated total population of 356 people aged 16 years or older who inject drugs in Oxford County, as well as the estimated proportion of people who inject drugs who have had wounds based on previous research (34.9%).³

Ethical approval for this study was obtained from Public Health Ontario’s Ethics Review Board. This research was awarded a grant from the Nurse Practitioners Association of Ontario. The author declare no conflicts of interest.

Methods

Data collection

The data collection activities were carried out for eight weeks from May through July 2017. Initially, the data collection was only conducted at Public Health in Woodstock, Ontario (five days a week during working hours). However, after five weeks, an additional survey site was included at a community hub in Tillsonburg, Ontario (one morning a week). These settings were chosen strategically as they were familiar to people who inject drugs because Public Health's Needle Exchange Program operates at both locations. Nevertheless, the survey was conducted in separate rooms to maintain client confidentiality at both locations, separate from the existing Needle Exchange Program offices.

The in-person interview survey method was used to collect data for this study.²⁶ The survey was standardized and conducted by trained interviewers, summer practicum students with a background in public health and epidemiology, who used laptops to enter data into an electronic data collection tool. At the time of the study, a validated instrument specific to our research questions did not exist, so original questions were used for this study (Appendix A).

Individuals who met all of the following criteria were eligible for this study:

- Oxford County residents, and
- at least 16 years of age, and
- people who injected drugs in the past year, and
- capable of informed consent

In terms of exclusion criteria, this research was limited to English-speaking participants. Given that Oxford County is 97% English-speaking,²⁷ it was not anticipated that conducting this survey exclusively in English would have been a barrier for those wishing to participate. Individuals could only complete the survey once; therefore, individuals that interviewers recognized as having completed the survey previously were excluded.

The strategies used to recruit participants for this study included direct recruitment by public health nurses and the use of advertisements at Public Health and at specific community

agencies known to people who inject drugs. Snowball sampling was also used to recruit participants.

Data Analysis

During survey implementation answers were entered and stored in SurveyMonkey, an electronic data collection tool. After the study period was complete, the raw data was extracted from the electronic data collection tool and stored on a secure server in a password protected Microsoft Excel file. After the data was extracted from the electronic data tool, the survey and its contents were deleted from the electronic data tool.

Descriptive statistics, including proportions and confidence intervals, were used to determine: the prevalence of wounds among people in Oxford County who inject drugs, where people who inject drugs receive care for their wounds and characteristics of preferred wound care services. Analyses also include outcomes by gender and age groups. A total of 92 individuals completed the survey. Respondents primarily completed the survey in Woodstock. Note, the number of responses to various questions may not total 92 due to skip patterns, differing amounts of non-response and/or because multiple responses could be selected for certain questions.

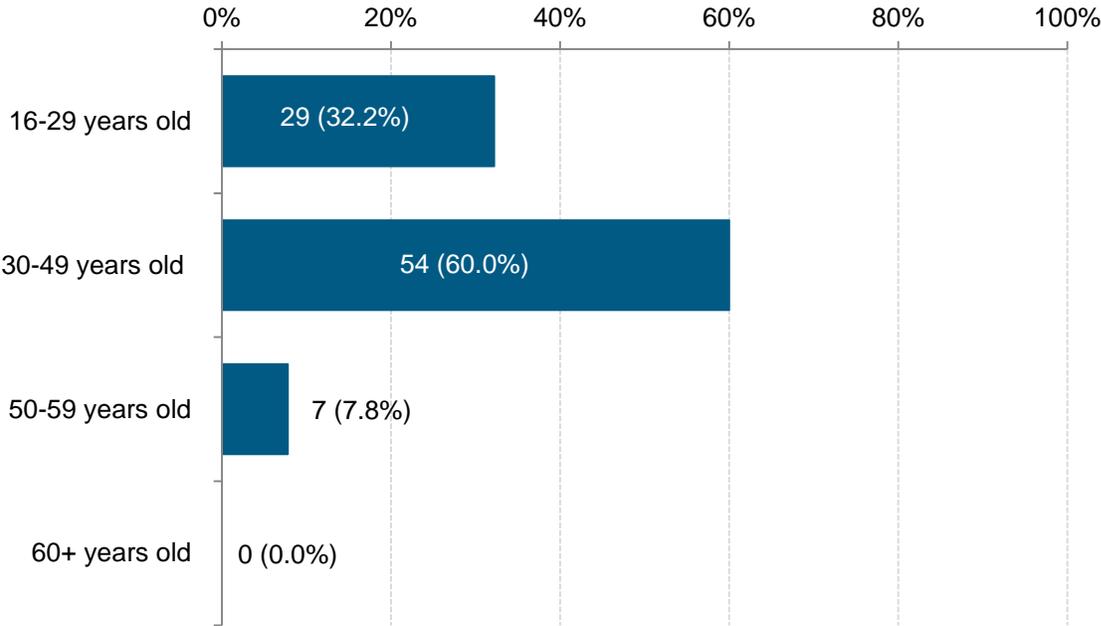
Additionally, responses to open ended questions were analyzed using content analysis to understand the facilitators and barriers to accessing wound care services.

Results

Demographics

More participants identified as being male (58.0%) in comparison to female (42.0%). The most common age groups that participants reported belonging to were 30-49 years old (60.0%) and 16-29 years old (32.2%) and no one over the age of 59 participated in the study (Figure 1).

Figure 1. Study participants by age group (n=90)



Wound Prevalence

Participants were asked whether they obtained a wound because of injecting drugs. For the purpose of this study, the term “wound” was defined as any redness, swelling or opening on the part of the body where one inserts needles for drug use. The lifetime wound prevalence among participants was 70.8%. The lifetime wound prevalence by gender and age groups are shown in Table 1 and Table 2, respectively.

Table 1. Lifetime wound prevalence by gender (n=85)

Gender	# with wounds	Total sample in gender group	Per cent (95% CI)
Female	22	36	61.1% (45.2%-77.0%)
Male	39	49	79.6% (68.3%-90.9%)
Do not identify with either option	0	0	0.0%

Table 2. Lifetime wound prevalence by age group (n=87)

Age group	# with wounds	Total sample in age group	Per cent (95% CI)
16-29 years old	16	27	59.3% (40.8%-77.8%)
30-49 years old	41	53	77.4% (66.1%-88.7%)
50-59 years old	5	7	71.4% (30.2%-94.9%)
60+ years old	0	0	0.0%

The past-month wound prevalence was 20.2% (C.I. 11.9%-28.5%), the past-6-month wound prevalence was 38.2% (C.I. 28.1%-48.3%) and the past-year wound prevalence was 55.1% (C.I. 44.8%-65.4%). The wound prevalence among participants who reported obtaining a wound more than a year ago was 13.5% (C.I. 6.4% - 20.6%).

Wound Care Treatment

Participants who reported that they had obtained a wound were asked what they did to care for their most recent wound (Table 3). Of these participants, 69.8% reported that they treated their wound on their own and 27.0% stated that they went to a hospital to treat their wound.

Table 3. Wound care treatment among participants who had a wound* (n=63)

Answer	Number	Per cent (95% CI)
I cared for it by myself	44	69.8% (58.5%-81.1%)
I went to a hospital	17	27.0% (16.0%-38.0%)
I went to my family doctor	8	12.7% (4.5%-20.9%)
I did nothing	3	4.8% (1.3%-14.2%)
I went to a walk-in clinic	1	1.6% (0.1%-9.7%)

*Respondents could check all that apply so totals may not equal 100%.

Participants who did not report having had a wound were asked what they would have done for treatment had they obtained a wound (Table 4). Of these participants, 69.0% reported that if they were to obtain a wound, they would obtain treatment at the hospital and 58.6% of participants stated that they would treat their wound on their own.

Table 4. Expected wound care treatment among participants who did not have a wound* (n=29)

Answer	Number	Per cent (95% CI)
I would go to a hospital	20	69.0% (52.2%-85.8%)
I would care for it myself	17	58.6% (40.7%-76.5%)
I would go to my family doctor	7	24.1% (8.5%-39.7%)
I would go to a walk-in clinic	1	1.6% (0.0%-17.0%)
Other [†]	3	10.3% (2.7%-28.4%)

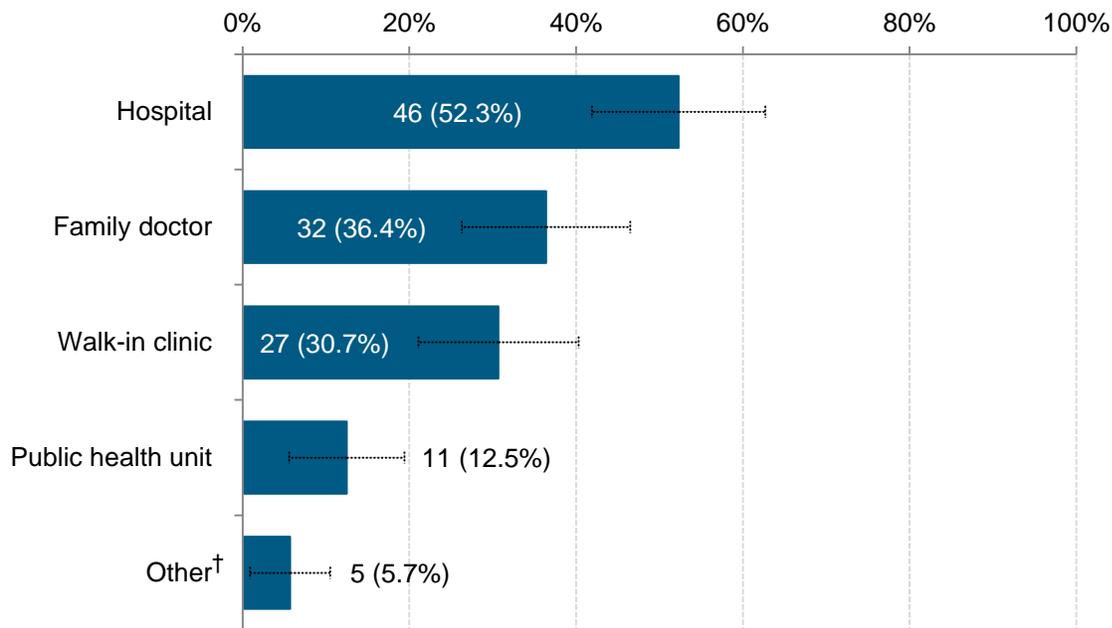
*Respondents could check all that apply so totals may not equal 100%.

[†] Other responses include health unit and quitting injection practices.

Wound Care Treatment Preferences

All participants were asked about their wound care preferences for receiving treatment regardless of whether or not they had obtained a wound in the past. The most preferred wound care treatment options among participants included: hospital (52.3%), their family doctor (36.4%) and the walk-in clinic (30.7%) (Figure 3). Note, “Public health unit” was not listed as a pre-established option, rather participants noted it as “Other.” Eleven participants identified the “Public health unit” as a preference for receiving wound care treatment, despite it not being listed as a pre-established option. It is unknown how many participants would have selected it as a preference if it had been provided as a pre-established option.

Figure 3. Preferences regarding wound care provider* (n=88)



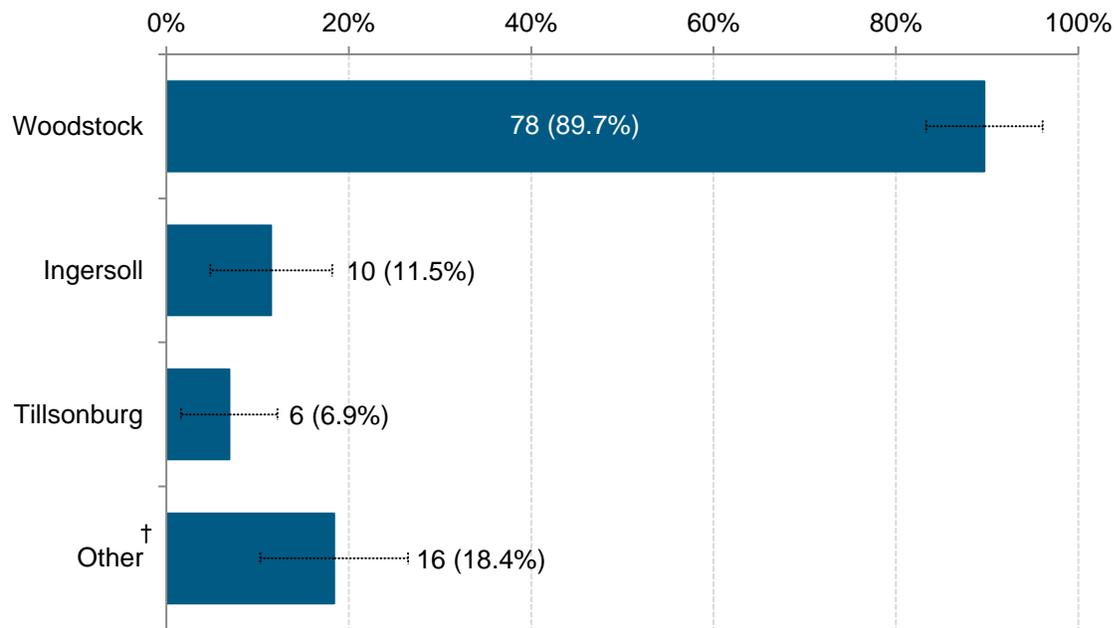
*Respondents could check all that apply so totals may not equal 100%.

†Other responses include tailored clinics/safe injection sites, family/friends and oneself. Public health unit was originally included in the “Other” responses; however, it was later separated into its own preference option because it was identified by a large number of respondents.

Participants’ preferences regarding the time of day in which they preferred to access wound care services was relatively similar among the different options, as 30.8% preferred the morning, 26.4% preferred the afternoon and 20.9% preferred the evening. In addition, 22.0% of participants did not know which time of day they preferred.

As shown in Figure 4, the majority of participants preferred to receive wound care treatment in the City of Woodstock (89.7%); few participants preferred to receive wound care in Ingersoll (11.5%) and Tillsonburg (6.9%).

Figure 4. Preferences regarding locations for wound care treatment* (n=87)



*Respondents could check all that apply so totals may not equal 100%.

†Other responses include Norwich, Blandford-Blenheim, East-Zorra Tavistock, South-West Oxford, Zorra and London.

Barriers and Facilitators to Treating Wounds

Participants who reported having had a wound were asked to describe things that made it harder, or might make it harder, for them to treat their wounds. Perceived stigma from health care professionals was the most prevalent barrier to treatment among participant responses. Many described that they felt as though they experienced much different care than those who do not inject drugs and that they were often judged by health care professionals because of their use of injection drugs. Participants also reported that the stigma they experienced from health professionals at local hospitals, in particular, made it harder for them to visit these facilities when seeking care. They described that health professionals at hospitals “treated addicts differently” and that they were “very judgmental” and “not sympathetic.”

Participants described that feelings of embarrassment (about their injection drug use) and self-judgment often made it harder for them to seek treatment for their wounds from health care professionals. Some felt embarrassed about being thought of as an “addict,” while others felt embarrassed by the thought of having to tell professionals about how they obtained their

wounds. Consequently, many felt they needed to keep their injection drug use “hidden.” Additional barriers that were persistent in participants’ responses included: lacking transportation, fearing law enforcement involvement and lacking finances to treat wounds on their own. Participants also indicated that not having official identification impeded their ability to access certain services and suggested that long wait times made it harder for them to stay for treatment; one participant noted that they feared being recognized by others because of the length in time they waited in the waiting room of a health care facility prior to being treated.

Participants who reported having had a wound were also asked to describe things that either made it easier, or might make it easier, for them to treat their wounds. The most prevalent facilitator to treatment among responses included participants’ desire to be treated in inclusive and safe environments where health professionals do not “judge” clients during their visits. As one participant described, “If you knew you wouldn’t be looked down upon [it would be easier to obtain treatment]. I know people who didn’t [get treatment for their wound] because of that and they got really sick.”

Participants further stated that Public Health – and the Needle Exchange Program in particular – would make it easier for them to obtain treatment for their wounds because of their familiarity with the staff and the program, as well as the “openness” in which they can discuss their issues during visits:

The Needle Exchange Program makes it easier to ask for help because we have created a trust or a bond or an understanding that makes me comfortable to ask for help. It’s not easy to go ask for help [elsewhere] because of [my] fear of acceptance.

Additional facilitators to wound care that participants reported included simply having access to treatment at hospitals, walk-in clinics and/or their family doctors. However, many also stated that it would be helpful if services in the community were more accessible via mobile treatments options (e.g., treatment bus) and/or extending operating hours at health care facilities. Participants also stated that it would be easier for them to care for their wounds if supplies were more readily available free of charge. They described that supplies such as alcohol wipes, band aids, ointments, needle kits and swabs would be helpful when treating their wounds on their own.

Discussion

This study was conducted with those in Oxford County who inject drugs to obtain accounts of wound prevalence and related treatment experiences. It builds on an earlier study Public Health conducted with provider stakeholders to obtain information about the current state of wounds and associated wound care in Oxford County.²¹

Some of the findings from this survey were comparable to other research conducted elsewhere and were consistent with findings from the provider survey.²¹ For example, the findings from this survey indicated that wounds were prevalent among participants in our study: over two-thirds (70.8%) experienced a wound in their lifetime and over half (55.1%) experienced a wound in the past year. Though the indicators for monitoring wound prevalence differ slightly from study-to-study, previous research has shown that lifetime⁹ and past-year²⁸ injection-related wound prevalence are similar to the findings from our survey. Additionally, over two-thirds (69.8%) of participants from our survey who reported ever having a wound stated that they cared for their wounds on their own, while only 41.3% of participants stated that they went to a hospital, their family doctor and/or a walk-in clinic for treatment. Similarly, previous studies have also shown that people who inject drugs often self-manage their wounds.^{9,10}

These findings highlight the importance for interventions aimed at reducing wounds and other related health issues. Evidence indicates education of safe injection practices and early treatment may help to reduce those who are presenting with wounds from obtaining more serious health complications.²⁹⁻³¹ In particular, given the dangers of self-managing wounds and the risks it may pose to oneself, others and nearby environments,^{9,12} providing education on ways to properly self-manage wounds may lessen the burden of secondary injuries occurring because of this practice.

In terms of treatment preferences, the majority of participants (89.7%) preferred to receive treatment in Woodstock; however, given that respondents primarily completed the survey in Woodstock, this finding may not be generalizable to all people who inject drugs in Oxford County. Additionally, even though over half (52.3%) of all participants stated that they preferred to obtain treatment from hospitals, less than a third (27.0%) of those who had wounds actually went to a hospital for treatment.

This discrepancy may be a result of the perceived stigmatized and “judgmental” environment that participants who had wounds described experiencing when accessing local hospitals to care for their wounds. Indeed, previous studies have also found that stigma and discrimination can act as barriers to treatment for people who inject drugs.^{7,8,32} In light of this, participants from this survey and respondents from our provider stakeholder survey²¹ both emphasized the importance of non-stigmatized environments as a means to improving service delivery to those who inject drugs. These findings suggest that opportunities exist to reduce stigma and improve overall treatment environments in Oxford County, particularly settings such as hospitals where those who inject drugs experienced difficulties in the past.

Barriers to treatment services identified in our survey have also been discussed in other studies. For example, lack of transportation and long wait times incurred at treatment facilities were two themes identified in our survey that have also been discussed in the literature.^{7,8,32} Additional barriers identified in our survey, such as feelings of embarrassment and lacking official identification to access services, were factors that were also recognized by providers in our previous stakeholder survey.²¹

Facilitators to treatment services were also examined; participants stated that extending hours of operations at treatment facilities was an enabler for wound care treatment. This finding has also been echoed in other studies, whereby people who inject have even expressed that limiting hours of operation at treatment facilities can lead to dangerous injection practices.^{8,33}

Participants from our survey also indicated that treatment provided by Public Health’s Needle Exchange Program could also be a facilitator to care, given their familiarity with the program and the open and accepting environment in which services are provided. The Ontario Needle Exchange Best Practice Recommendations proposes that programs provide primary care services such as first aid, immunization and testing to facilitate better access to care for people who inject drugs.²⁹

Limitations

This study identified the prevalence of wounds in people in Oxford County who inject drugs. A number of limitations that could have affected the results include: the study’s small sample size, the use of convenience sampling and the limited geographic access points available for participants to complete the survey. However, given that this type of information does not

broadly exist, and the study population is hard for us to engage in research projects, we felt that this method of study was the most feasible way to advance our scientific knowledge in this area.

The outcomes of interest were associated with wide confidence intervals which may be due to the relatively small sample size (92). In contrast, a study with a larger sample size and higher power would likely afford more precise estimates.

By using a non-random convenience sampling strategy we recognize that there were limitations to this study. There was the potential for selection bias, as participants were primarily recruited from the Needle Exchange Program and other service providers. This may have affected the results given that those who seek care from providers may differ in their risk profile than those who do not. Given that the survey was conducted by Public Health, there may have also been social desirability among participants to name Public Health as a treatment provider.

Additionally, the survey was only conducted at two locations in Oxford County; therefore, the results may not be generalizable. We are also aware of the limitations of the sampling frame and the accuracy of estimating wound prevalence by self-report.

Conclusions

Over half of participants experienced a wound because of injecting drugs in the past year, less than half sought care from a health care provider and many self-managed their wounds. Given the health risks associated with self-management, strategies could be developed to support individuals so that they receive health care from professionals in Oxford County. We recommend that:

1. Public Health seek opportunities to increase comfort and belonging for people in Oxford County who inject drugs, particularly when accessing healthcare services.
2. Public Health advocates for the inclusion of improved wound care services in the County's broader harm reduction strategy for people in Oxford County who inject drugs.
3. Public Health seek opportunities to highlight these findings and disseminate this population health information to other partners, including the South West LHIN, who can take action on this issue.

References

1. O'Dell ML. Skin and wound infections: an overview. *Am Fam Physician* [Internet]. 1998 May;57(10):2424—2432. Available from: <http://europepmc.org/abstract/MED/9614412>
2. Ebright JR, Pieper B. Skin and soft tissue infections in injection drug users. *Infect Dis Clin North Am* [Internet]. 2002 Sep 1 [cited 2017 Jan 5];16(3):697–712. Available from: <http://www.id.theclinics.com/article/S089155200200017X/fulltext>
3. Smith ME, Robinowitz N, Chaulk P, Johnson KE. High rates of abscesses and chronic wounds in community-recruited injection drug users and associated risk factors. *J Addict Med* [Internet]. 2015;9(2):87–93. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/25469653>
4. Coull AF, Atherton I, Taylor A, Watterson AE. Prevalence of skin problems and leg ulceration in a sample of young injecting drug users. *Harm Reduct J* [Internet]. 2014;11(1):22. Available from: <http://www.harmreductionjournal.com/content/11/1/22>
5. Statistics Canada. Health regions 2015 by peer group [Internet]. Ottawa, ON: Statistics Canada. 2015 [cited 2017 Feb 17]. Available from: <http://www.statcan.gc.ca/pub/82-402-x/2015002/app-ann/ap-antbl08-eng.htm>
6. Larney S, Peacock A, Mathers BM, Hickman M, Degenhardt L. A systematic review of injecting-related injury and disease among people who inject drugs. *Drug Alcohol Depend* [Internet]. 2017 Feb;171:39–49. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0376871616310444>
7. Neale J, Tompkins C, Sheard L. Barriers to accessing generic health and social care services: a qualitative study of injecting drug users. *Health Soc Care Community* [Internet]. 2008;16(2):147–54. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/18290980>
8. McCutcheon JM, Morrison MA. Injecting on the Island: a qualitative exploration of the service needs of persons who inject drugs in Prince Edward Island, Canada. *Harm Reduct J* [Internet]. 2014;11(1):10. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3975878&tool=pmcentrez&ren>

dertype=abstract

9. Roose RJ, Hayashi AS, Cunningham CO. Self-management of injection-related wounds among injecting drug users. *J Addict Dis* [Internet]. 2009;28(1):74–80. Available from: <http://ezproxy.usherbrooke.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=mnh&AN=19197599&site=ehost-live>
10. Pollini RA, Gallardo M, Hasan S, Minuto J, Lozada R, Vera A, et al. High prevalence of abscesses and self-treatment among injection drug users in Tijuana, Mexico. *Int J Infect Dis*. 2010;14(SUPPL. 3):117–22.
11. Fink DS, Lindsay SP, Donald SJ, Kral AH, Bluthenthal RN. Abscess and self-treatment among injection drug users at four California syringe exchanges and their surrounding communities. *Subst Use Misuse*. 2007;454(1):42–54.
12. Gilbert M, MacDonald J, Gregson D, Siushansian J, Zhang K, Elsayed S, et al. Outbreak in Alberta of community-acquired (USA300) methicillin-resistant *Staphylococcus aureus* in people with a history of drug use, homelessness or incarceration. *Cmaj*. 2006;175(2):149–54.
13. Hope V, Kimber J, Vickerman P, Hickman M, Ncube F. Frequency, factors and costs associated with injection site infections: findings from a national multi-site survey of injecting drug users in England. *BMC Infect Dis* [Internet]. 2008;8. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2600824&tool=pmcentrez&rendertype=abstract>
14. Takahashi TA, Maclejewski ML, Bradley K. US hospitalizations and costs for illicit drug users with soft tissue infections. *J Behav Heal Serv Res* [Internet]. 2010;37(4):508–18. Available from: <https://www.scopus.com/inward/record.url?eid=2-s2.0-78149362514&partnerID=40&md5=e4c03486d912fc826a44633e171aa5ce>
15. Tookes H, Diaz C, Li H, Khalid R, Doblecki-Lewis S. A cost analysis of hospitalizations for infections related to injection drug use at a county safety-net hospital in Miami, Florida. *PLoS One*. 2015;10(6):1–11.
16. Kerr T, Wood E, Grafstein E, Ishida T, Shannon K, Lai C, et al. High rates of primary care and emergency department use among injection drug users in Vancouver. *J Public*

- Health (Oxf) [Internet]. 2005;27(1):62–6. Available from:
<http://www.ncbi.nlm.nih.gov/pubmed/15564279>
17. Binswanger IA, Takahashi TA, Bradley K, Dellit TH, Benton KL, Merrill JO. Drug users seeking emergency care for soft tissue infection at high risk for subsequent hospitalization and death. *J Stud Alcohol Drugs* [Internet]. 2008;69(6):924–32. Available from:
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2583377&tool=pmcentrez&rendertype=abstract>
 18. Takahashi TA, Baernstein A, Binswanger I, Bradley K, Merrill JO. Predictors of hospitalization for injection drug users seeking care for soft tissue infections. *J Gen Intern Med*. 2007;22(3):382–8.
 19. Small W, Van Borek N, Fairbairn N, Wood E, Kerr T. Access to health and social services for IDU: the impact of a medically supervised injection facility. *Drug Alcohol Rev*. 2009;28(4):341–6.
 20. Macneil J, Pauly B. Needle exchange as a safe haven in an unsafe world. *Drug Alcohol Rev*. 2011;30(1):26–32.
 21. Oxford County. Wound care for people who inject drugs: interim report. Woodstock, ON; 2016.
 22. Ontario Ministry of Health and Long-Term Care. Standards for public health programs and services: consultation document. Toronto, ON: Queen’s Printer for Ontario; 2017.
 23. Heckathorn D. Respondent-driven sampling: a new approach to the study of hidden populations. *Soc Probl* [Internet]. 1997;44(2):174–99. Available from:
<http://www.respondentdrivensampling.org/reports/RDS1.pdf>
 24. Public Health Agency of Canada. HIV / AIDS Epi Updates. Chapter 1: National HIV Prevalence and Incidence Estimates for 2011 [Internet]. Ottawa, ON; 2014. Available from: http://www.phac-aspc.gc.ca/aids-sida/publication/epi/2010/pdf/EN_Intro_Web.pdf
 25. Statistics Canada. CANSIM (Internet). Ottawa, ON: Statistics Canada; 2016 (updated 2016 Mar 15; cited 2016 Nov 25). Table 109-5355 estimates of population (2011 Census

and administrative data), by age group and sex for July 1st, Canada, provinces, territories, health region [Internet]. Available from:
<http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=1095355>

26. Portney LG, Watkins MP. Foundations of clinical research: applications to practice. 2nd ed. Upper Saddle River, NJ: Prentice Hall Health; 2000.
27. Statistics Canada. 2011 Census of Population [Internet]. Statistics Canada. 2016 [cited 2017 Jul 6]. Available from: <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CD&Code1%0A=3532&Geo2=PR&Code2=01&Data=Count&SearchText=oxford&SearchType=Begins&SearchPR=01&B1=All&Custom=&TABID=1%0A>
28. Hope VD, Ncube F, Parry JV, Hickman M. Healthcare seeking and hospital admissions by people who inject drugs in response to symptoms of injection site infections or injuries in three urban areas of England. *Epidemiol Infect* [Internet]. 2015;143(1):120–31. Available from: http://www.journals.cambridge.org/abstract_S0950268814000284
29. Strike C, Leonard L, Millson M, Anstice S, Berkeley N, Medd E. Ontario needle exchange programs: best practice recommendations. Toronto; 2006.
30. Phillips KT, Stein MD, Anderson BJ, Corsi KF. Skin and needle hygiene intervention for injection drug users: results from a randomized, controlled Stage I pilot trial. *J Subst Abuse Treat*. 2012;43(3):313–21.
31. SAHARA Centre for Residential Care and Rehabilitation. Abscess prevention and management among injecting drug users. New Delhi: United Nations Office on Drugs and Crime, Regional Office for South Asia; 2012.
32. Lang K, Neil J, Wright J, Dell C, Berenbaum S, El-Aneed A. Qualitative investigation of barriers to accessing care by people who inject drugs in Saskatoon, Canada: perspectives of service providers. *Subst Abuse Treat Prev Policy* [Internet]. 2013;8(1):35. Available from: <http://substanceabusepolicy.biomedcentral.com/articles/10.1186/1747-597X-8-35>
33. Neale J, Sheard L, Tompkins C. Factors that help injecting drug users to access and benefit from services: a qualitative study. *Subst Abuse Treat Prev Policy*. 2007;2(31).

Appendix A: Eligibility & Survey Questions

Eligibility Questions

Please answer all of the questions in this section to find out if you're able to take part in this study. This is the only section where you are required to answer every question.

1. Do you speak and understand English?

- Yes
- No

If "No" is selected for Question 1, thank respondent for their participation and terminate survey.

If "Yes" is selected for Question 1, proceed to the next set of eligibility questions.

2. Have you completed this survey before?

- Yes
- No

If "No" is selected for Question 2, proceed to the next set of eligibility questions.

If "Yes" is selected for Question 2, thank respondent for their participation and terminate survey.

3. Are you 16 years or older?

- Yes
- No

If "No" is selected for Question 3, thank respondent for their participation and terminate survey.

If "Yes" is selected for Question 3, proceed to the next set of eligibility questions.

4. Do you live in Oxford County?

- Yes
- No

If “No” is selected for Question 4, thank respondent for their participation and terminate survey.
If “Yes” is selected for Question 4, proceed to the next set of eligibility questions.

5. In the past year, did you inject any drugs?

- Yes
- No

If “No” is selected for Question 4, thank respondent for their participation and terminate survey.
If “Yes” is selected for Question 4, proceed to the survey questions.

Survey Questions

Note: The word “wound” is used in this survey. It can mean redness, swelling or opening on the part of your body where you insert needles for drug use. If you would like, I can show you some pictures of wounds (Appendix F) so you understand what I am talking about. Warning: Some people may find these pictures disturbing. You do not have to look at them if you do not want to.

1. Have you ever had a wound because of injecting drugs?

- Yes (Go to Question 3)
- No (Go to Question 2)
- Don’t know (Go to Question 2)
- Prefer not to answer (Go to Question 2)

2. If you were to get a wound because of injecting drugs, how would you care for your wound? (Check all that apply)

- I would do nothing (exclusive choice)
- I would care for it by myself
- I would go to my family doctor
- I would go to a hospital
- I would go to a walk-in clinic
- Other, please specify... _____
- Don't know
- Prefer not to answer

(Go to Question 7)

3. When was the last time you had a wound because of injecting drugs?

- In the past month
- In the past 6 months
- In the past year
- More than one year ago
- Don't know
- Prefer not to answer

(Go to Question 4)

4. Thinking back to the last time you had a wound because of injecting drugs, what did you do to care for your wound?

- I did nothing
- I cared for it by myself
- I went to my family doctor
- I went to a hospital
- I went to a walk-in clinic
- Other, please specify... _____
- Don't know
- Prefer not to answer

(Go to Question 5)

5. Tell me about some things that make it easier for you to get help for treating wounds. (These can be things that you have experienced in the past or things you think might make it easier. If you don't know or would prefer not to answer, skip this question.)

Open text: _____

(Go to Question 6)

6. Tell me about some things that make it harder for you to get help for treating wounds. (These can be things that you have experienced in the past or things you think might make it harder. If you don't know or would prefer not to answer, skip this question.)

Open text: _____

(Go to Question 7)

7. Which health care facilities would you **prefer** to receive care from if you were to get a wound because of injecting drugs? (Check all that apply)

- My family doctor
- The hospital
- The walk-in clinic
- Other, please specify... _____
- Don't know
- Prefer not to answer

8. In which town/municipality in Oxford County would you **prefer** to receive care from if you were to get a wound because of injecting drugs?

- Blandford-Blenheim (e.g., Drumbo, Plattsville, Princeton)
- East-Zorra Tavistock (e.g., Innerkip, Tavistock)
- Ingersoll
- Norwich
- South-West Oxford (e.g., Beachville, Culloden, Salford)
- Tillsonburg
- Woodstock
- Zorra (e.g., Embro, Thamesford)
- Other, please specify... _____
- Don't know
- Prefer not to answer

9. What time of day would you **prefer** to receive care from a health care facility if you were to get a wound because of injecting drugs?

- In the morning
- In the afternoon
- In the evening
- Don't know
- Prefer not to answer

10. What is your gender?

- Female
- Male
- I do not identify with either of these options
- Prefer not to answer

11. What is your age?

- 16-19 years old
- 20-29 years old
- 30-39 years old
- 40-49 years old
- 50-59 years old
- 60+
- Prefer not to answer

12. Do you have any comments about receiving wound care you wish to share with us?



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