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# An assessment of nurses' competence and need for training to care for sexually assaulted transgender persons



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**Title:** An assessment of nurses' competence and need for training to care for sexually assaulted transgender persons

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## Abstract

**Objective:** Our primary objective was to examine the perceived level of competence and need for additional training among nurses engaged in the care of sexually assaulted transgender persons. Among these nurses, a secondary objective was to examine the impact of prior transgender-specific training on their perceived level of competence.

**Setting:** An on-line survey was distributed to nurses working within 35 hospital-based violence treatment centres in Ontario, Canada.

**Participants:** 95 nurses completed the survey.

**Primary and secondary outcome measures:** The perceived level of competence and need for additional training overall and on 31 specific items associated with initial assessment, medical care, forensic examination, discharge and referral, as well as sociodemographic, work experience, prior training information, was collected and summarized using descriptive and inferential statistics.

**Results:** Almost three quarters (73.1%) of 95 respondents indicated that they had little or no expertise in caring for transgender clients who have been sexually assaulted and 95.7% strongly agreed/agreed that they would benefit from (additional) training. The mean level of competence was 4.00 or greater (strongly agreed/agreed with the statement) for just 9 out of the 31 competencies related to caring for transgender clients. Having undergone prior transgender-specific training (61.3%) was associated with greater perceived competence in initial assessment ($p=0.004$), medical care ($p<0.001$), forensic examination ($p=0.018$), and discharge and referral ($p=0.020$).

**Conclusion:** It is of key importance that nurses demonstrate knowledge of and respond competently to the complex and diverse needs of transgender survivors of sexual assault. The

nurses surveyed overwhelmingly identified a need for additional training to care for sexually assaulted transgender clients. It appears that additional training would be beneficial, as prior transgender-specific training was associated with higher perceived competence in delivering all aspects care.

## Article Summary

### Strengths and Limitations of this Study

- This is the first study in Canada to assess the perceived level of competence in caring for transgender persons who have been sexually assaulted among nurses working in hospital-based treatment centres.
- An important limitation of this study is that we could only measure nurses' perceived competence and not assess their actual performance in the clinical setting.
- Nonetheless, our results have implications for other providers of sexual assault care for transgender persons, including the nurses working within the more than 950 forensic nursing programs worldwide.

## Introduction

Although encompassing a diverse community, numerous studies and reviews have found that transgender persons are overall at an increased risk of sexual assault and other forms of violence.[1-4] For example, a recent study conducted by Langenderfer-Magruder et al.[5] examined sexual assault in a large convenience sample of lesbian, gay, bisexual, transgender, and queer (LGBTQ) adults, stratified by respondents' gender identity (cisgender, transgender). Their study findings indicated that transgender individuals in the United States reported experiencing sexual assault more than twice as frequently as cisgender LGBQ individuals. In another recent study by Hoxmeier,[6] using data from the American 2014 National College Health Assessment, found that among 1805 undergraduate students compared to those who were male-identified, transgender individuals were approximately five times more likely to have experienced completed vaginal, anal, or oral penetration/rape. In Canada, the Trans PULSE Project, a community-based study on the effects of social exclusion on the health of transgender persons, found that 20% of participants had experienced physical or sexual assault over the past year, and reported they had been targeted due to their transgender identity.[7]

Due to the deleterious physical, psychological, and social consequences of sexual assault, including bodily and genital physical injuries, sexually transmitted infections, post-traumatic stress, depression, anxiety, and unintended/unwanted pregnancy,[8 9] it is critical that transgender and other persons who have been sexually assaulted receive timely comprehensive care from trained service providers.[10-12] However, transgender persons often do not seeks care in the aftermath of sexual assault, because of previous experiences or fear of experiencing discrimination when accessing emergency health services.[13-15] Indeed, a recent study in Ontario found that 21% of the 433 transgender persons surveyed reported that they had avoided the

emergency department when they needed health care due to such fears and histories of discrimination.[13] Similarly, a qualitative study of 240 transgender individuals in the United States found that negative experiences in the emergency department (e.g., experiencing unwanted examinations, inappropriate recording of their medical history, assumption of illness, misgendering) led to their avoiding seeking medical care, even among "those who have not used the [emergency department] but ha[d] heard of such interactions".[10, p. 15]

Across Ontario, Canada's largest province, acute health care services are available through emergency departments that can help address the serious sequelae of sexual assault.[16] Specialized sexual assault nurses registered with the College of Nurses of Ontario work within the hospital-based Sexual Assault/Domestic Violence Treatment Centres (SA/DVTCs) to provide comprehensive care to adults who have recently been sexually assaulted by any assailant or physically assaulted by an intimate partner, as well as to children who have been sexually or physically abused.[17] Some of these nurses have undergone formal Sexual Assault Nurse Examiner training, which was updated, in Ontario, recently, to include some information about the medical legal examination of transgender persons.[18] The services provided by SA/DVTCs include crisis intervention, emergency medical care, collection of forensic evidence (e.g., documentation of injuries, collection of biological samples), discharge planning, follow-up care, short and longer-term counselling, and referral to community agencies for ongoing support such as housing and legal services.[19]

Given that transgender persons may differ from other survivors in terms of body configurations, higher levels of poly-victimization, histories of depression and suicidality, and previous experiences of discrimination from healthcare providers, such as denial of services,[20-23] it is of key importance that nurses at these centres demonstrate knowledge of, and sensitivity to,

their complex and diverse needs. Therefore, our objective in the current study was to examine these nurses perceived level of competence and need for additional training in the care of sexually assaulted transgender clients. We also explored the impact of having ever provided care to a transgender client and prior transgender-specific training on nurses perceived level of competence.

## Methods

### Ethics

This study was reviewed by the research ethics board at Women's College Hospital (REB # 2017-0005-E). Informed consent was obtained from participants.

### Patient and Public Involvement

In order to guide and support the conduct of this study, an Advisory Group was assembled comprised of transgender community members and their allies who represented national, provincial, and local organizations. Advisory Group members were engaged in the grant development process and consulted on background resources. Two in-person meetings were then held with the Advisory Group: the first on January 26, 2017, in the early stages of the research, at which the members aided in the development and finalization of the survey used in this study (see Survey development below) and the second on September 20, 2017, after the data had been collected and initial analyses conducted, at which the members aided in the interpretation of the findings and development of a dissemination strategy (e.g., presentation at the Canadian Professional Association of Transgender Health Conference and SA/DVTC quarterly Program Leader meetings).

### Survey development

An on-line survey was developed to examine, among nurses providing direct clinical care, their perceived level of competence and need for additional training in providing care to sexually assaulted transgender clients, as well as document any prior transgender-specific training. The survey drew upon the U.S. Department of Justice Office on Violence Against Women, *Second Edition of the National Protocol for Sexual Assault Medical Forensic Examinations, Adult/Adolescent* (2013), which contained 25 statements and recommendations focused specifically on responding to transgender persons who have been sexually assaulted, statements/recommendations which have been endorsed by FORGE, a pan-American transgender-led research and advocacy group.[22] The research team, which has extensive forensic nursing and curricular development expertise, [e.g., 17, 24-26] adapted these statements/recommendations into competencies using Bloom's Taxonomy of Learning.[27] Finally, items related to sociodemographic characteristics and work experiences were included based on previous surveys conducted across the Ontario Network of SA/DVTCs.[e.g., 28]

The Advisory Group then met with the research team to review and further refine the draft survey. Each item was displayed using a PowerPoint presentation, and revised, as appropriate, based on feedback from the Advisory Group members. Suggested edits were to improve clarity, comprehensiveness, and inclusivity of some items. In addition, several recommendations were made for new items to capture important information not captured on the draft survey. A note-taker transcribed all suggested changes to the survey during the meeting, which was subsequently revised and e-mailed to the Advisory Group on two occasions for additional review. Following final refinements to the survey, it was converted into an online platform using SurveyMonkey software.

***Survey content***

The final survey contained 42 items. It began with a definition of "transgender": "[Transgender refers to] persons who feel the binary gender … that was assigned to them at birth is misleading or an incomplete description of themselves" (adapted from Survivors Organizing for Liberation, A. Edgar, personal communication, April 2017). Four items then captured sociodemographic characteristics including age (20-30 years, 31-45 years, 46-60 years, >60 years), sex (female; male; other [please specify]), gender identity (woman, man, bigender, transgender man, transgender woman, crossdresser, genderqueer, agender, gender fluid, two-spirited, You don't have an option that applies to me. I identify as ... [please specify]), highest level of education achieved (hospital-based nursing program, community college, bachelor degree, master's degree, PhD, professional program, other [please specify]).

The survey contained 3 items that related to work experiences including: How long have you been working for one of Ontario's SA/DVTCs? (<1 year, 1-5 years, 6-10 years, >10 years); Are you Sexual Assault Nurse Examiner trained? (yes, no); and Have you ever provided direct clinical care to a client who has indicated they are transgender? (yes, no).

Four survey items focused on prior transgender-specific training: In the context of providing nursing care, what kind(s) of trans-specific training have you previously had, if any? (no training, undergraduate nursing course, Sexual Assault Nurse Examiner training curriculum, self-directed learning, community organization/group workshop, conferences, community of practice, other [please specify]); Approximately how many hours of training have you undergone related to providing care for transgender clients? (1-4 hours, 5-10 hours, 10-15 hours, >15 hours, not applicable); What modality were these trainings? (in-person, on-line, both, not applicable); and Briefly describe what was covered in your transgender-specific training (list).

Two survey items focused on overall competency and training needs, both of which employed a 5-point Likert scale: I would rate my current level of overall expertise in caring for transgender clients who have been sexually assaulted as very high, high, moderate, low, or very low and I feel that I would benefit from (additional) training on how to provide appropriate care to transgender clients who have been sexually assaulted (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree).

The survey also contained 31 items related to specific competencies for providing care to sexually assaulted persons. For each item, respondents were asked to indicate the extent to which they agreed with the statements (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree), and whether they would benefit from additional training in this area (yes/no). Competency items were organized into components of care: initial assessment (8 competencies; e.g., "I know to always refer to clients by their chosen name and pronoun, even when speaking to others. If unsure of chosen name or what pronoun to use, I routinely ask" (see Table 1 for full list), medical care (8 competencies; e.g., "I am aware that transgender clients may have discomfort, dysphoria, and/or dissociation from their body due to being transgender" (see Table 2), forensic examination (8 competencies; e.g., "If a client is reluctant to proceed with an examination due to having been subjected to others' curiosity, prejudice, and violence, I have the skills to carefully explain what is going to be done and why before each step, and respect the client's right to decline any part of the examination" (see Table 3), and discharge and referral (7 competencies; e.g., "I am aware that the sexual assault of a transgender client may have occurred in the context of a hate crime, which may be important to consider in safety planning" (see Table 4).

Finally, the survey concluded with the following open-ended question: In addition to the items above, based on your experience, what are some of the issues you have faced or may face when providing care to a transgender client of sexual assault for which you would like additional training?

***Procedure***

The link to the on-line questionnaire was distributed through individual e-mails to the program leaders of Ontario's 35 SA/DVTC on April 25, 2017. They, in turn, distributed the link to the nurses working within their programs. Four subsequent e-mails were sent to the program leaders over the course of 9 weeks, to remind them to distribute the survey link to their nursing staff.

***Statistical analyses***

The data from SurveyMonkey were imported into SPSS 24 (Statistical Package for the Social Sciences). First, respondent sociodemographic characteristics, work related experiences, prior training, and overall competence and training needs, as well as the 31 competencies, were examined using descriptive statistics. Written-in comments from the open-ended question were extracted verbatim and organized thematically.

Next, perceived competence across the four components of care was compared between respondents: 1) who indicated having previously provided care to a transgender client and those who did not, and 2) who indicated having had prior transgender-specific training and those who did not. A composite score for competence for each respondent was created by averaging scores within each of the components of care (Cronbach's Alpha was 0.76, 0.83, 0.80, and 0.80 for the initial assessment, medical care, forensic examination, and discharge and referral components, respectively). Mean scores between the two groups for each domain were compared using

independent samples t-tests. Respondents with missing data >20% for items in each component were removed.

## Results

### Sociodemographic characteristics and work related experiences

A total of 95 nurses providing frontline care completed the survey. Respondents represented a wide age range with 20 (21.1%) aged 20-30 years, 29 (30.5%) aged 31-45 years, 40 (42.1%) aged 46-60 years, and 6 (6.3%) aged 61+ years. The large majority (n=93, 97.9%) indicated that their sex was female and 2 (2.1%) male. All (n=95, 100%) respondents identified their gender as woman. The highest level of education achieved was a hospital-based nursing program for 6 (6.3%) respondents, a community college degree for 24 (25.3%), a bachelor's degree for 47 (49.5%), a master's degree for 12 (12.6%), a professional program for 2 (2.1%), and other (occupational health and safety, nurse practitioner, master's in progress) for 4 (4.2%). The length of time working for Ontario's SA/DVTCs varied with 13 (13.7%) respondents having worked less than 1 year, 39 (41.1%) 1 to 5 years, 15 (15.8%) 6 to 10 years, and 28 (29.5%) 11+ years. Forty-three (45.3%) respondents had yet to provide direct clinical care to a client identifying as transgender. Of the 93 respondents who answered the question about Sexual Assault Nurse Examiner Training, 73 (78.5%) indicated having received training.

### Prior transgender-specific training

Among the 57 of 93 (61.3%) respondents indicating that they had had prior transgender-specific training, 27 (47.4%) had undertaken self-directed learning and 20 (35.1%) had received training at conferences, 18 (31.6%) as part of Sexual Assault Nurse Examiner training, 16 (28.1%) from a community organization or group workshop or webinar, 9 (15.8%) as part of an undergraduate nursing course, and 8 (14.0%) as part of a community of practice. The duration of the training

reported by 55 respondents varied: 35 (63.6%) had received between 1 to 4 hours, 12 (21.8%) 5 to 10 hours, 5 (9.1%) 11 to 15 hours, and 3 (5.5%) 16+ hours. The type of training modality reported by 53 respondents also varied: 16 (30.2%) had received in-person training only, 20 (37.7%) on-line training only, and 17 (32.1%) a combination of both. Topics included: definition of transgender, prevalence of sexual assault against transgender persons, psychosocial challenges faced by transgender persons, transgender health, hormone therapy, gender-affirming surgery, use of language including pronouns, disclosure, documentation, assessment, sensitive and supportive approaches, and transgender children and youth.

**Level of expertise and benefit of additional training in caring for transgender clients**

The majority of 93 respondents indicated either having no expertise (n=31; 33.3%) or a low level of expertise (n=37; 39.8%) in caring for transgender clients who have been sexually assaulted; some indicated having a moderate level of expertise (n=14; 15.1%); and very few indicated having a high (n=10; 10.8%) or very high (n=1; 1.1%) level of expertise. Almost all of 94 respondents either strongly agreed (n=59; 62.8%) or agreed (n=31; 33.0%) that they would benefit from "(additional) training" on how to provide appropriate care to transgender clients who have been sexually assaulted; 2 (2.1%) each only neither agreed nor disagreed or strongly disagreed.

***Initial assessment***

Of the eight items related to initial assessment, the mean rating of perceived competence was 4.00 or greater for four competencies, less than 4.00 and 3.00 or greater for two competencies, and less than 3.00 for two competencies (Table 1).

The competency with the highest mean rating (4.39) was: "I know to always refer to clients by their chosen name and pronoun, even when speaking to others. If unsure of chosen

name or what pronoun to use, I routinely ask." For this competency 36 (50.7%) respondents indicated that they would benefit from (additional) training. The competency with the lowest mean rating (2.81) was: "I know how to document information in the medical record when the name a client uses and the gender they present as differs from their legal name and gender". For this competency, 72 (96.0%) nurses indicated that they would benefit from (additional) training (Table 1).

The overall mean score for perceived competence in initial assessment was higher for nurses with prior transgender-specific training compared to those with no such training (3.92 vs. 3.56; p = 0.004), as well as experience in caring for transgender clients compared to those with no such experience (3.94 vs. 3.65; p = 0.019) (Table 5).

***Medical care***

Of the eight items related to medical care, the mean rating of perceived competence was 4.00 or greater for no competencies, less than 4.00 and 3.00 or greater for six competencies, and less than 3.00 for two competencies (Table 2).

The competency with the highest mean rating (3.75) was: "I am aware that there may be additional layers of psychological trauma for a client who identifies as a transgender man or has a constructed vagina after they have been vaginally assaulted". For this competency, 71 (95.9%) of respondents indicated that they would benefit from (additional) training. The competency with the lowest mean rating (2.52) was: "I know that if a client identifies as a transgender man and is taking hormones, the morning after pill may be limited in its efficacy"). For this competency, 72 (96.0%) nurses indicated that they would benefit from (additional) training (Table 2).

The overall mean score for perceived competence in medical care was higher for nurses with prior transgender-specific training compared to those with no such training (3.50 vs. 3.06; p

= 0.001), as well as experience in caring for transgender clients compared to those with no such experience (3.48 vs. 3.20; p = 0.042) (Table 5).

***Forensic examination***

Of the eight competencies related to forensic examination, the mean rating of perceived competence was 4.00 or greater for two competencies, less than 4.00 and 3.00 or greater for five competencies, and less than 3.00 for one competency (Table 3).

The competency with the highest mean rating (4.11) was: "I have the knowledge to anticipate that transgender persons have typically been subjected to others' curiosity, prejudice, and violence and therefore may be reluctant to report the crime or consent to examination for fear of being exposed to inappropriate questions or abuse". For this competency, 59 (83.1%) respondents indicated that they would benefit from (additional) training. The competency with the lowest mean rating (2.73) was: "I am aware of what specific equipment (e.g., pediatric speculum) and supplies (e.g., gender-neutral body map) might be needed to assist in the examination of transgender clients". For this competency, 66 (93.0%) nurses indicated that they would benefit from (additional) training (Table 3).

The overall mean score for perceived competence in forensic examination was higher for nurses with prior transgender-specific training compared to those with no such training (3.64 vs. 3.32; p=0.018) (Table 5).

***Discharge and referral***

Of the seven competencies related to discharge and referral, the mean rating of perceived competence was 4.00 or greater for three competencies, less than 4.00 and 3.00 or greater for two competencies, and less than 3.00 for two competencies (Table 4).

The competency with the highest mean rating (4.09) was: “I am aware that some transgender clients may lack or have decreased social supports (e.g., family, friends, trusted service providers) to care for them following a sexual assault”. For this competency, 55 (77.5%) respondents indicated that they would benefit from (additional) training The competency with the lowest mean rating (2.69) was: “I am aware of available transgender-positive resources and service providers in the community to refer transgender clients to for external support”. For this competency, 69 (97.2%) nurses indicated that they would benefit from (additional) training (Table 4).

The overall mean score for perceived competence in discharge and referral was higher for nurses with prior transgender-specific training compared to those with no such training (3.72 vs. 3.41, $p = 0.020$), as well as experience in caring for transgender clients compared to those with no such experience (3.82 vs. 3.44; $p = 0.003$) (Table 5).

***Additional desire for and concerns regarding further training***

When respondents were asked about any other issues they have faced or could face when caring for a transgender client of sexual assault for which they would like (additional) training, 20 respondents provided comments.

Several nurses emphasized a desire to learn more about the use of language and transgender persons (e.g., " I would like to learn some of the terminology used to initially provide care that is non-judgmental…[and] about the different types of transgender individuals."; “Understand that not all trans individuals have body dysphoria.”), creation of supportive environments (e.g., “[I would like to know] how to provide an opportunity for clients to disclose or share personal information.”), provision of care (e.g., "My main concern is being able to examine transgender clients physically, especially … external/internal genitalia, in a sensitive

and competent manner."), and referral ("I would like to learn of the community resources offered for this population.").

Some nurses, in thinking about future training, expressed concerns about a current lack of: training and experience (e.g., "I have had no experience treating or supporting transgender clients in my current position in the SA/DV program"), gender-neutral documentation tools, institutional supports (e.g., "I would not know how to treat this type of client and do not feel supported in my role."), and awareness and resources in the community (e.g., "Lack of awareness & education in our community. Discrimination. Lack of referral resources & trained professionals"). One nurse commented that "training as it relates to trans folk may not be perceived as a priority (unfortunately)" and further added that "[i]t would be nice to have a standard expectation of training and services to this vulnerable population across the province."

## Discussion

A lack of competence in the care of transgender clients has been identified as a barrier to health equity by both those who identify as transgender and health care providers.[29] Our results indicate several areas of competence that should be strengthened with respect to caring for transgender clients among nurses at Ontario's SA/DVTCs. Overall, the mean level of competence was just 4.00 or greater (strongly agreed/agreed with the statement) for half of the competencies related to initial assessment, just under half the competencies related to discharge and referral, and one-quarter of the competencies related to forensic examination. There were no competencies related to the provision of medical care, one of the most important and fundamental responsibilities of SA/DVTC nursing staff, with a mean level of competence 4.00 or greater.[16 18]

Particular areas requiring further development for nurses identified in our study include understanding the difference between transgender and intersex, understanding the effects of

hormones on the morning after pill, awareness of specific equipment needed to assist in the examination of transgender clients, and awareness of and ability to refer to transgender-positive resources and service providers in the community. Previous research examining healthcare providers' competence to provide care to transgender persons similarly has identified significant gaps. Johnston and Shrearer[30] found that less than 10% of internal medicine residents felt that they could make appropriate referrals for gender-affirming surgery or felt confident prescribing hormone replacement therapy. Several other studies have also identified a concerning lack healthcare provider competence in asking about a patient's gender identity.[13, 29, 31]

Our study suggests that nurses at Ontario's SA/DVTCs both value and want training in the care of transgender clients. Almost all respondents felt that they would benefit from additional training overall and the majority also indicated that they would benefit from (additional) training on each of the 31 specific competencies. In fact, irrespective of whether mean levels of perceived competence on items were high or low, a large proportion of nurses indicated they would benefit from further training. This enthusiasm for learning more about how to better address the needs of transgender clients confirms findings from several other studies of healthcare professionals and trainees.[30,32,33] Furthermore, it is particularly salient as, in our study, prior transgender-specific training was related to increased competence in initial assessment, provision of medical care, forensic examination, and discharge and referral.

Although the Ontario SA/DVTCs seek to embody principles of inclusivity in their practices, many respondents in this study had not cared for transgender clients.[16] The proportion of nurses who had experience providing direct clinical care to a client identifying as transgender, just over half, was similar to another study of healthcare providers.[33] This lack of experience may be partially attributable to transgender persons' avoidance of health care services due to

actual and fears of discrimination and denial of care.[13] It is therefore very important that once nurses have been further trained, SA/DVTCs reach out to transgender communities, as prompt receipt of care post sexual assault can prevent unwanted pregnancy, sexually transmitted infections, and other negative consequences.[34] Those nurses who had previously provided direct clinical care to a transgender client had higher levels of perceived competence in knowledge and skills related to initial assessment, medical care, and discharge and referral.

This study has several limitations which are important to acknowledge. First, it is possible that nurses who did not complete the survey differed from those who did in their experiences and opinions. Those who completed the survey may have been more engaged or have a greater interest in transgender issues and, therefore, our data may overestimate the competence of SA/DVTC nursing staff overall and the proportion who would endorse the need for (additional) training. Additionally, the survey could only measure nurses' perceived competence not assess their actual performance in the clinical setting. Finally, the results may be limited in their generalizability to hospital-based violence treatment centre staff. However, given that the forensic nursing model of sexual assault care has been evaluated with high levels of client satisfaction and improved uptake of acute services and sexual assault evidence kit completion,[19,34,35] it has been widely adopted, with over 950 programs globally.[36]

## Conclusion

Lack of competence in the care of transgender clients can result in suboptimal healthcare provision and potential further harm.[13,29,31,37,38] Therefore, it is critical that nurses at treatment centres have a high level of competence in the care of transgender persons who have been sexually assaulted. Provision of transgender-specific training has been shown to improve healthcare provider clinical skills, attitudes, and awareness of provider transphobia.[33] The nurses

in our study have clearly indicated that there is a pressing need for such training and so based on the gaps in their competence identified in our survey, we are developing curriculum for SA/DVTC nurses focused on supporting transgender persons who have been sexually assaulted. This training will be rolled out and evaluated at the fall 2018 Sexual Assault Nursing Examiner training and if, as in Lelutiu-Weinberger et al.'s [33] study of medical staff, it improves the competence of nurses who care for transgender patients, the training will become a permanent part of the forensic nursing response to sexual assault in Ontario.

## Declarations

Ethics (and consent to participate): Research ethics board approval was obtained for the current study.

Consent for publication: Not applicable as this manuscript does not include details, images, or videos relating to individual participants.

Competing interests: The authors have no conflicts of interest to declare.

Author contributions: JDM conceived of and designed the study, interpreted the findings, and wrote the manuscript. DK collected the data, interpreted the findings, and wrote the manuscript. SS analyzed and synthesized the data and reviewed and revised the manuscript. SM conceived of and designed the study and reviewed and revised the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials: The data supporting these findings will not be made available publicly as at the time the study was conducted, we did not obtain informed consent from participants for publication of disaggregated data.

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**Table 1. Perceived level of competence in initial assessment of transgender clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training in this area | |
|---|---|---|---|---|---|
| | N | Mean | SD | N | n (%) |
| I know to always refer to clients by their chosen name and pronoun, even when speaking to others. If unsure of chosen name or what pronoun to use, I routinely ask | 84 | 4.39 | 0.85 | 71 | 36 (50.7) |
| I understand that a client may identify as "non-binary", meaning they do not consider themselves exclusively male or female and/or masculine or feminine (e.g., gender queer, gender-neutral) | 85 | 3.98 | 0.85 | 74 | 55 (74.3) |
| I understand the distinction between transgender and intersex | 83 | 2.84 | 1.18 | 74 | 67 (90.5) |
| I know how to document information in the medical record when the name a client uses and the gender they present as differs from their legal name and gender | 83 | 2.81 | 1.17 | 75 | 72 (96.0) |
| I am confident that I do not, or would not, show surprise, shock, dismay, or concern when either told or inadvertently discover that a person is transgender | 84 | 4.33 | 0.75 | 72 | 44 (61.1) |
| I understand that transgender clients may fear assault or belittlement by health care professionals' responses to their gender identity or expression and/or transgender body | 79 | 4.19 | 0.58 | 71 | 57 (80.3) |
| If providing service to a client who is transgender and experienced a sexual assault, I would be conscious of and sensitive to the fact that companions of some transgender clients may not know their gender identity | 84 | 4.00 | 0.69 | 72 | 61 (84.7) |
| I routinely consider how a transgender clients' fears and concerns can affect their initial reactions to a sexual assault, their post-assault needs, and decisions before, during, and after the entire care visit | 84 | 3.76 | 0.90 | 72 | 67 (93.1) |

Note: SD = Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree

**Table 2. Perceived level of competence in medical care to transgender clients who have been sexually assaulted and perceived need for (additional) training among nurses providing direct clinical care to clients at hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training in this area | |
|---|---|---|---|---|---|
| | N | Mean | SD | N | n (%) |
| I am aware that transgender clients may have discomfort, dysphoria, and/or dissociation from their body due to being transgender | 84 | 3.74 | 0.82 | 74 | 67 (90.5) |
| I am aware that some transgender clients may use nonstandard labels for certain body parts, and others may be unable to discuss sex-related body parts at all | 82 | 3.38 | 0.99 | 74 | 66 (89.2) |
| If relevant to the care I am providing, I know how to ask a transgender client sensitively if they have had any medical interventions (e.g., hormones and/or surgeries) | 82 | 3.40 | 0.84 | 74 | 66 (89.2) |
| I am aware that transgender men who have ovaries and a uterus can become pregnant even when they are using testosterone and/or have not been menstruating | 81 | 3.37 | 0.93 | 74 | 66 (89.2) |
| I know how to address the possibility of pregnancy if a transgender man has not had a hysterectomy, is still within childbearing years, and the nature of the sexual assault suggests it | 82 | 2.91 | 1.05 | 75 | 72 (96.0) |
| I know that if a client identifies as a transgender man and is taking hormones, the morning after pill may be limited in its efficacy | 81 | 2.52 | 0.82 | 75 | 72 (96.0) |
| I am aware that there may be (additional) layers of psychological trauma for a transgender woman who has a penis and became erect or ejaculated during the sexual assault | 81 | 3.62 | 0.93 | 75 | 71 (94.7) |
| I am aware that there may be additional layers of psychological trauma for a client who identifies as a transgender man or has a constructed vagina after they have been vaginally assaulted". | 81 | 3.75 | 0.92 | 74 | 71 (95.9) |

Note: SD = Standard deviation *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree

**Table 3. Perceived level of competence in forensic examination of transgender clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training in this area | |
|---|---|---|---|---|---|
| | N | Mean | SD | N | n (%) |
| I have the knowledge to anticipate that transgender persons have typically been subjected to others' curiosity, prejudice, and violence and therefore may be reluctant to report the crime or consent to examination for fear of being exposed to inappropriate questions or abuse | 79 | 4.11 | 0.73 | 71 | 59 (83.1) |
| If a client is reluctant to proceed with an examination due to having been subjected to others' curiosity, prejudice, and violence, I have the skills to carefully explain what is going to be done and why before each step, and respect the client's right to decline any part of the examination | 79 | 4.00 | 0.88 | 72 | 57 (79.2) |
| I have the skills to be able to confidently reflect the client's language when possible and use alternative means of communication (such as anatomically correct dolls or paper and pen for the client to write or draw) if necessary | 79 | 3.09 | 0.92 | 72 | 63 (87.5) |
| I am aware of what specific equipment (e.g., pediatric speculum) and supplies (e.g., gender-neutral body map) might be needed to assist in the examination of transgender clients | 78 | 2.73 | 1.07 | 71 | 66 (93.0) |
| When following procedures and collecting clothing evidence, I am aware that transgender clients may be unwilling to part with prostheses and similar items for reasons of safety and/or cost | 78 | 3.73 | 0.89 | 71 | 61 (85.9) |
| I am aware that transgender clients may need to change out of the clothing they were wearing while they were assaulted and/or remove makeup, prior to seeking assistance | 79 | 3.46 | 0.89 | 71 | 60 (84.5) |
| I am aware that when preparing official documents, I may need to use conventional language, but will explain to a transgender client why I am using language in this circumstance that does not reflect their own | 79 | 3.32 | 0.96 | 70 | 65 (92.9) |
| I am aware due to unique social, behavioural, structural, and biological issues, transgender clients may be at a higher risk for HIV acquisition | 78 | 3.73 | 0.82 | 71 | 67 (94.4) |

Note: SD = Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree

**Table 4. Perceived level of competence in discharge and referral of transgender clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training in this area | |
|---|---|---|---|---|---|
| | N | Mean | SD | N | n (%) |
| I am aware that transgender clients may be at heightened risk of sexual assault revictimization, either by intimate partners or others | 77 | 3.92 | 0.62 | 71 | 56 (78.9) |
| I am aware that some transgender clients may have lack or have decreased social supports (e.g., family, friends, trusted service providers) to care for them following a sexual assault | 77 | 4.09 | 0.59 | 71 | 55 (77.5) |
| I am aware that the partners of transgender clients (transgender identifying or not) may be also at a heightened risk of experiencing violence and assault | 77 | 3.73 | 0.76 | 71 | 59 (83.1) |
| I am aware that the sexual assault of a transgender client may have occurred in the context of a hate crime, which may be important to consider in safety planning | 77 | 4.00 | 0.76 | 71 | 62 (87.3) |
| I am aware of, and sensitive to the fact that, some transgender clients may face employment barriers due to their gender identity, resulting in higher rates of sex work that can make them additionally vulnerable to revictimization | 77 | 4.00 | 0.71 | 70 | 60 (85.7) |
| I am aware of available transgender-positive resources and service providers in the community to refer transgender clients to for external support | 77 | 2.69 | 1.13 | 71 | 69 (97.2) |
| I am able to access/make referrals to available transgender-positive resources and service providers in the community to offer transgender clients external support | 77 | 2.83 | 1.21 | 71 | 66 (93.0) |

Note: SD = Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree

**Table 5. Perceived level of competence across components of care by prior transgender-specific training and experience caring for transgender clients at hospital-based violence treatment centres**

| Component of care | N | Perceived level of competence* Mean (SD) | | p-value |
|---|---|---|---|---|
| | | Prior transgender-specific training | | |
| | | Yes | No | |
| **Initial assessment** | 83 | 3.92 (0.58) | 3.56 (0.44) | 0.004 |
| **Medical care** | 81 | 3.50 (0.61) | 3.06 (0.54) | 0.001 |
| **Forensic examination** | 78 | 3.64 (0.54) | 3.32 (0.59) | 0.018 |
| **Discharge and referral** | 77 | 3.72 (0.53) | 3.41 (0.61) | 0.020 |
| | | Prior experience caring for a transgender client | | |
| | | Yes | No | |
| **Initial assessment** | 83 | 3.94 (0.59) | 3.65 (0.50) | 0.019 |
| **Medical care** | 81 | 3.48 (0.64) | 3.20 (0.58) | 0.042 |
| **Forensic examination** | 78 | 3.64 (0.58) | 3.43 (0.56) | 0.111 |
| **Discharge and referral** | 77 | 3.82 (0.58) | 3.44 (0.51) | 0.003 |

Note: SD = Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree

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# An assessment of nurses' competence to care for sexually assaulted trans persons: A survey of Ontario's Sexual Assault/Domestic Violence Treatment Centres



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**Title:** An assessment of nurses' competence to care for sexually assaulted trans persons: A survey of Ontario's Sexual Assault/Domestic Violence Treatment Centres

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## Abstract

**Objective:** Our primary objective was to examine the perceived level of competence and need for additional training among nurses engaged in the care of sexually assaulted trans persons. Among these nurses, a secondary objective was to examine the impact of prior trans-specific training on their perceived level of competence.

**Setting:** An online survey was distributed to nurses working within 35 hospital-based violence treatment centres in Ontario, Canada.

**Respondents:** 95 nurses completed the survey.

**Primary and secondary outcome measures:** The perceived level of competence and need for additional training overall and on 31 specific items associated with initial assessment, medical care, forensic examination, and discharge and referral, as well as sociodemographic, work experience, prior training information, was collected and summarized using descriptive and inferential statistics.

**Results:** Almost three quarters (73.1%) of nurses indicated that they had little or no expertise in caring for trans clients who have been sexually assaulted and 95.7% strongly agreed/agreed that they would benefit from (additional) training. The mean level of competence was 4.00 or greater (strongly agreed/agreed with the statement) for just 9 out of the 31 competencies related to caring for trans clients. Having undergone prior trans-specific training (61.3%) was associated with greater perceived competence in initial assessment ($p=0.004$) and medical care ($p<0.001$).

**Conclusion:** It is of key importance that nurses demonstrate knowledge of and respond competently to the complex and diverse needs of trans survivors of sexual assault. The nurses surveyed overwhelmingly identified a need for additional training to care for sexually assaulted

trans clients. It appears that additional training would be beneficial, as prior trans-specific training was associated with higher perceived competence in delivering some aspects of care.

## Article Summary

### Strengths and Limitations of this Study

- This is the first study in Canada to assess the perceived level of competence in caring for trans persons who have been sexually assaulted among nurses working in hospital-based violence treatment centres.
- The study's survey was developed with an advisory group comprised of trans community members and their allies with expertise in trans health and violence.
- In this study, we could only measure nurses' perceived competence and not assess their actual performance in the clinical setting.

## Introduction

Although encompassing a diverse community, numerous studies and reviews have found that trans persons are at an increased risk overall of experiencing sexual assault and other forms of violence.[1-4] For example, a recent study conducted by Langenderfer-Magruder et al.[5] examined sexual assault in a large convenience sample of lesbian, gay, bisexual, trans, and queer (LGBTQ) adults, stratified by respondents' gender identity (cisgender, trans). Their study findings indicated that trans individuals in the United States reported experiencing sexual assault more than twice as frequently as cisgender LGBQ individuals. Another study by Hoxmeier,[6] using data from the American 2014 National College Health Assessment, found that among 1805 undergraduate students compared to those who were male-identified, trans individuals were approximately five times more likely to have experienced completed vaginal, anal, or oral penetration/rape. In Canada, the Trans PULSE Project, a community-based study on the effects of social exclusion on the health of trans persons, found that 20% of participants had experienced physical or sexual assault over the past year due to their trans identity.[7]

Due to the deleterious physical, psychological, and social consequences of sexual assault, including bodily and genital physical injuries, sexually transmitted infections, post-traumatic stress, depression, anxiety, and unintended/unwanted pregnancy,[8,9] it is critical that trans and other persons who have been sexually assaulted receive timely and comprehensive care from trained service providers.[10-12] However, trans persons often do not seeks care in the aftermath of sexual assault, because they are afraid of or have experienced discrimination when accessing emergency health services.[13-15] Indeed, a recent study in Ontario found that 21% of the 433 trans persons surveyed reported that they had avoided the emergency department when they needed healthcare due to such fears and histories of discrimination.[13] Similarly, a qualitative study of

240 trans individuals in the United States found that negative experiences in the emergency department (e.g., experiencing unwanted examinations, inappropriate recording of their medical history, assumption of illness, misgendering) led to their avoiding seeking medical care, even among "those who have not used the [emergency department] but ha[d] heard of such interactions".[10, p. 15]

Across Ontario, Canada's largest province, acute healthcare services are available through emergency departments that can help address the serious sequelae of sexual assault.[16] Specialized sexual assault nurses registered with the College of Nurses of Ontario work within the hospital-based Sexual Assault/Domestic Violence Treatment Centres (SA/DVTCs) to provide comprehensive care to adults who have recently been sexually assaulted by any assailant or physically assaulted by an intimate partner, as well as to children who have been sexually or physically abused.[17] Some of these nurses have undergone formal Sexual Assault Nurse Examiner training, which was updated, in Ontario, recently, to include some information about the medical legal examination of trans persons.[18] The services provided by SA/DVTCs include crisis intervention, emergency medical care, collection of forensic evidence (e.g., documentation of injuries, collection of biological samples), discharge planning, follow-up care, short and longer-term counselling, and referral to community agencies for ongoing support such as housing and legal services.[19]

In addition to the aforementioned experiences of discrimination from healthcare providers, such as denial of services, trans persons may differ from other survivors in terms of body configurations, higher levels of poly-victimization, and histories of depression and suicidality.[20-23] It is therefore of key importance that the specialized sexual assault nurses at these SA/DVTCs demonstrate knowledge of, and sensitivity to, the potentially complex and diverse

needs of trans persons. Our objective in the current study was then to examine these nurses perceived level of competence and need for additional training in the care of sexually assaulted trans clients. We also explored the impact of prior trans-specific training on nurses' perceived level of competence.

## Methods

### Ethics

This study was reviewed by the research ethics board at Women's College Hospital (REB # 2017-0005-E). Informed consent was obtained from respondents.

### Patient and Public Involvement

To guide and support the conduct of this study, an Advisory Group was assembled of trans community members and their allies with expertise in violence and trans health. Representing national, provincial, and local organizations, Advisory Group members were engaged in the grant development process and consulted on background resources (see Acknowledgements for a list of Advisory Group members). Two in-person meetings were then held with the Advisory Group. At the first meeting on January 26, 2017, members aided in the development and finalization of the survey used in this study (see Survey development below) and at the second on September 20, 2017, they aided in the interpretation of the findings and development of a knowledge transfer and exchange strategy.

### Survey development

An online survey was developed to examine, among nurses providing direct clinical care, their perceived level of competence and need for additional training in caring for sexually assaulted trans clients, as well as to document any trans-specific training they may have undertaken. The survey drew upon the U.S. Department of Justice Office on Violence Against Women, *Second*

*Edition of the National Protocol for Sexual Assault Medical Forensic Examinations, Adult/Adolescent* (2013), which contained 25 statements and recommendations focused specifically on responding to trans persons who have been sexually assaulted; statements/recommendations that have been endorsed by FORGE, a pan-American trans-led research and advocacy group.[22] The research team, which has extensive forensic nursing and curricular development expertise, [e.g., 17,24-26] adapted these statements/recommendations into competencies using Bloom's Taxonomy of Learning[27] and organized them into four domains-components of care- based on the flow of care provided to persons who have been sexually assaulted. Finally, items related to sociodemographic characteristics and work experiences were drawn from previous surveys conducted across the Ontario Network of SA/DVTCs. [e.g., 28]

We then undertook an assessment of the draft survey prior to roll out. The mechanics of the survey, instructions, formatting, etc., were all thoroughly reviewed by the Advisory Group in a research team meeting. Individual survey items were displayed within four domains (components of care) using a PowerPoint presentation and the wording of each item was assessed for clarity, comprehensiveness, inclusivity, and face validity. Each domain was assessed for content validity. Suggested edits were made to items and, additionally, several new items were added to capture important information not contained in the draft survey. A note-taker transcribed all suggested changes to the survey during the meeting which, subsequent to revision, was emailed to the Advisory Group on two occasions for additional review. Following final refinements to the survey, it was converted into an online platform using SurveyMonkey software.

***Survey content***

The final survey began with a definition of "trans": "[Trans refers to] persons who feel the binary gender … that was assigned to them at birth is misleading or an incomplete description of themselves" (adapted from Survivors Organizing for Liberation, A. Edgar, personal communication, April 2017). Four items captured sociodemographic characteristics (see Table 1): age (20-30 years, 31-45 years, 46-60 years, 61+ years), sex (female, male, other [please specify]), gender identity (woman, man, bigender, trans man, trans woman, crossdresser, genderqueer, agender, gender fluid, two-spirited, You don't have an option that applies to me. I identify as ... [please specify]), and highest level of education achieved (hospital-based nursing program, community college, bachelor degree, master's degree, PhD, professional program, other [please specify]). Three items were related to work experiences (see Table 1): How long have you been working for one of Ontario's SA/DVTCs? (<1 year, 1-5 years, 6-10 years, 11+ years), Are you Sexual Assault Nurse Examiner trained? (yes, no), and Have you ever provided direct clinical care to a client who has indicated that they are trans? (yes, no). Four items focused on prior trans-specific training (see Table 1): In the context of providing nursing care, what kind(s) of trans-specific training have you previously had, if any? (no training, undergraduate nursing course, Sexual Assault Nurse Examiner training curriculum, self-directed learning, community organization/group workshop, conferences, community of practice, other [please specify]); Approximately how many hours of training have you undergone related to providing care for trans clients? (1-4 hours, 5-9 hours, 10-15 hours, 16+ hours, not applicable); What modality were these trainings? (in-person, online, both, not applicable); and Briefly describe what was covered in your trans-specific training (list). Two items focused on overall competency and training needs, both of which employed a 5-point Likert scale: I would rate my current level of overall expertise in caring for trans clients who have been sexually assaulted as very high,

high, moderate, low, or very low and I feel that I would benefit from (additional) training on how to provide appropriate care to trans clients who have been sexually assaulted (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree).

The survey also contained 31 items related to specific competencies for providing care to sexually assaulted persons. For each item, respondents were asked to indicate the extent to which they agreed with the statements (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree), and whether they would benefit from additional training in this area (yes/no). Competency items were organized into the following components of care: initial assessment (8 competencies; e.g., "I know to always refer to clients by their chosen name and pronoun, even when speaking to others. If unsure of chosen name or what pronoun to use, I routinely ask" (see Table 2 for full list); medical care (8 competencies; e.g., "I am aware that trans clients may have discomfort, dysphoria, and/or dissociation from their body due to being trans" (see Table 3); forensic examination (8 competencies; e.g., "If a client is reluctant to proceed with an examination due to having been subjected to others' curiosity, prejudice, and violence, I have the skills to carefully explain what is going to be done and why before each step and respect the client's right to decline any part of the examination" (see Table 4); and discharge and referral (7 competencies; e.g., "I am aware that the sexual assault of a trans client may have occurred in the context of a hate crime, which may be important to consider in safety planning" (see Table 5).

Finally, the survey concluded with one open-ended question: "In addition to the items above, based on your experience, what are some of the issues that you have faced or may face when providing care to a trans client of sexual assault for which you would like additional training?"

***Procedure***

The link to the online survey was distributed through individual emails to the program leaders of Ontario's 35 SA/DVTC on April 25, 2017. They, in turn, distributed the link to the nurses working within their programs, as the emails of these nurses could not be provided directly to the researchers given that the survey was anonymized. Four subsequent emails were sent to the program leaders over the course of nine weeks, to remind them to distribute the survey link to their nursing staff.

***Statistical analyses***

The data from SurveyMonkey were imported into SPSS 24 (Statistical Package for the Social Sciences). First, respondent sociodemographic characteristics, work related experiences, prior training, and overall competence and training needs, as well as the specific 31 competencies, were examined using descriptive statistics (e.g., proportion, mean, standard deviation).

Next, perceived competence across the four components of care was compared between respondents who indicated having had prior trans-specific training and those who did not. A composite score for competence for each respondent was created by averaging scores within each of the components of care (Cronbach's Alpha was 0.76, 0.83, 0.80, and 0.80 for the initial assessment, medical care, forensic examination, and discharge and referral components, respectively). Mean scores between the two groups for each domain were compared using independent samples t-tests. Respondents with missing data >20% for items in each component were removed. To assess risk of non-response bias in each analysis, the baseline characteristics were compared between those excluded from the analysis and those included, and there were no significant differences. A Bonferonni correction was applied for multiple comparisons (4 tests with critical $p$ value set at 0.0127).

Written-in comments from the open-ended question were extracted verbatim and organized thematically.

## Results

### Sociodemographic characteristics and work related experiences

A total of 95 nurses providing frontline care completed the survey. Respondents represented a wide age range with 20 (21.1%) aged 20-30 years, 29 (30.5%) aged 31-45 years, 40 (42.1%) aged 46-60 years, and 6 (6.3%) aged 61+ years. The length of time working for Ontario's SA/DVTCs varied with 13 (13.7%) respondents having worked <1 year, 39 (41.1%) 1-5 years, 15 (15.8%) 6-10 years, and 28 (29.5%) 11+ years. Forty-three (45.3%) respondents had yet to provide direct clinical care to a client identifying as trans (Table 1)

### Prior trans-specific training

Among the 57 of 93 (61.3%) respondents indicating that they had had prior trans-specific training, 27 (47.4%) had undertaken self-directed learning and 20 (35.1%) had received training at conferences, 18 (31.6%) as part of Sexual Assault Nurse Examiner training, 16 (28.1%) from a community organization or group workshop or webinar, 9 (15.8%) as part of an undergraduate nursing course, and 8 (14.0%) as part of a community of practice. The duration of the training reported by 55 respondents varied: 35 (63.6%) had received between 1-4 hours, 12 (21.8%) 5-10 hours, 5 (9.1%) 11-15 hours, and 3 (5.5%) 16+ hours. The type of training modality reported by 53 respondents also varied: 16 (30.2%) had received in-person training only, 20 (37.7%) online training only, and 17 (32.1%) a combination of both. Topics included: definition of trans, prevalence of sexual assault against trans persons, psychosocial challenges faced by trans persons, trans health, hormone therapy, gender-affirming surgery, use of language including

pronouns, disclosure, documentation, assessment, sensitive and supportive approaches, and trans children and youth.

**Level of expertise and benefit of additional training in caring for trans clients**

The majority of 93 respondents indicated either having no expertise (n=31; 33.3%) or a low level of expertise (n=37; 39.8%) in caring for trans clients who have been sexually assaulted; some indicated having a moderate level of expertise (n=14; 15.1%) and very few indicated having a high (n=10; 10.8%) or very high (n=1; 1.1%) level of expertise. Almost all of 94 respondents either strongly agreed (n=59; 62.8%) or agreed (n=31; 33.0%) that they would benefit from "(additional) training" on how to provide appropriate care to trans clients who have been sexually assaulted; 2 (2.1%) each only neither agreed nor disagreed or strongly disagreed.

***Initial assessment***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care initial assessment ranged from 2.81 to 4.39 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 50.7% to 96.0% (Table 2).

Four competencies had a mean rating of more than 4.00: "I know to always refer to a trans client by their chosen name and pronoun(s), even when speaking to others. If unsure of their chosen name or what pronoun they go by, I routinely ask" (mean=4.39); "I am confident that I do not, or would not, show surprise, shock, dismay, or concern when either told or inadvertently learning that a client is trans" (mean=4.33); "I understand that a trans client may fear assault or belittlement by a healthcare professionals' response to their gender identity or expression" (mean=4.19); and "I am aware a companion of a trans client may not know their

gender identity" (mean=4.00). Across these competencies, many respondents indicated that they would benefit from additional training (50.7%, 61.1%, 80.3%, 84.7%, respectively).

Two competencies had a mean rating of less than 3.00: "I understand the distinction between trans identities and intersex conditions" (mean=2.84) and "I know how to document information in the medical record when the name a trans client uses and the gender they present as differs from their legal name and gender" (mean=2.81). Many respondents indicated that they would benefit from additional training on these competencies (90.5%, 96.0%, respectively).

The overall mean score for perceived competence in initial assessment was higher for nurses with prior trans-specific training than those with no such training (3.92 vs. 3.56; p=0.004) (Table 6).

***Medical care***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care medical care ranged from 2.52 to 3.74 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 89.2% to 96.0% (Table 3).

There were no competencies that had a mean rating of more than 4.00.

Two competencies had a mean rating of less than 3.00: "I know how to address the possibility of pregnancy if a trans man/transmasculine client has not had a hysterectomy, is still within childbearing years, and the nature of the sexual assault suggests it" (mean=2.91) and "I know that if a trans man/transmasculine client is taking hormones, certain types of hormonal

contraceptives may be limited in their efficacy" (mean=2.52). Many respondents indicated that they would benefit from additional training on these competencies (96.0%, 96.0%, respectively)

The overall mean score for perceived competence in medical care was higher for nurses with prior trans-specific training than those with no such training (3.50 vs. 3.06; p=0.001) (Table 6).

***Forensic examination***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care forensic examination ranged from 2.73 to 4.11 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 79.2% to 93.0% (Table 4).

Two competencies had a mean rating of more than 4.00: "I know to anticipate that a trans client typically may have been subject to others' curiosity, prejudice, and violence and therefore may be reluctant to report the crime or consent to examination for fear of being exposed to inappropriate questions or abuse" (mean=4.11) and "I am able to carefully explain what is going to be done and why before each step of the examination and respect a trans client's right to decline any part of the examination, particularly if a trans client is reluctant to proceed with an examination due to having been subject to others' curiosity, prejudice, and violence" (mean=4.00). Many respondents indicated that they would benefit from additional training on these competencies (83.1%, 79.2%, respectively).

One competency had a mean rating of less than 3.00: "I am aware of what specific equipment (e.g., pediatric speculum) and tools (e.g., gender-neutral body map) might be needed

to assist in the examination of a trans client" (mean=2.73). For this competency, 93.0% of respondents indicated that they would benefit from additional training.

***Discharge and referral***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care discharge and referral ranged from 2.69 to 4.09 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 77.5% to 93.0% (Table 5).

Three competencies had a mean rating of more than 4.00: "I am aware that a trans client may lack or have decreased social supports (e.g., family, friends, trusted service providers)" (mean=4.09), "I am aware that the sexual assault of a trans client may have occurred in the context of a hate crime, which may be important to consider in safety planning" (mean=4.00) and "I am aware that a trans client may face employment barriers due to their gender identity, resulting in heightened rates of sex work that can make them additionally vulnerable to revictimization" (mean=4.00). Across these competencies, many respondents indicated that they would benefit from additional training (77.5%, 87.3%, 85.7%, respectively).

Two competencies had a mean rating of less than 3.00: "I am aware of available trans-positive resources and service providers in the community for a trans client requiring external support" (mean=2.69) and "I can access/make referrals to available trans-positive resources and service providers in the community for a trans client requiring external support" (mean=2.83). Many respondents indicated that they would benefit from additional training on these competencies (97.2%, 93.0%, respectively).

***Additional desire for and concerns about future trans-specific training***

When respondents were asked about any other issues they have faced or could face when caring for a trans client of sexual assault for which they would like (additional) training, 20 respondents provided comments.

Several nurses emphasized a desire to learn more about: the use of language specifically and trans persons generally (e.g., “I would like to learn some of the terminology used to initially provide care that is non-judgmental…[and] about the different types of trans individuals.", “Understand that not all trans individuals have body dysphoria.”); the creation of supportive environments (e.g., “[I would like to know] how to provide an opportunity for clients to disclose or share personal information.”); the provision of care (e.g., "My main concern is being able to examine trans clients physically, especially … external/internal genitalia, in a sensitive and competent manner.”); and referral for follow-up support (e.g., “I would like to learn of the community resources offered for this population.”).

Some nurses, in thinking about trans-specific training in the future, expressed concerns about a current lack of: experience in the area (e.g., “I have had no experience treating or supporting trans clients in my current position in the SA/DV program”); gender-neutral documentation tools; institutional supports (e.g., “I would not know how to treat this type of client and do not feel supported in my role.”); and understanding of trans issues and trans-positive assets in the community (e.g., “Lack of awareness & education in our community. Discrimination. Lack of referral resources & trained professionals”). One nurse commented that “training as it relates to trans folk may not be perceived as a priority (unfortunately)” and further added that “[i]t would be nice to have a standard expectation of training and services to this vulnerable population across the province.”

## Discussion

A lack of competence in the care of trans clients has been identified as a barrier to health equity by both those who identify as trans and healthcare providers.[29] In our study, we found that the mean rating of competence was 4.00 or greater (strongly agreed/agreed with the statement) for just half of the competencies related to initial assessment (4/8), under half the competencies related to discharge and referral (3/7), and one-quarter of the competencies related to forensic examination (2/8). There were no competencies related to the provision of medical care, one of the most important and fundamental responsibilities of SA/DVTC nursing staff, with a mean level of competence 4.00 or greater.[16 18] These findings indicate several areas of competence that should be strengthened with respect to caring for trans clients among nurses at Ontario's hospital-based violence treatment centres.

Particular areas of competence requiring further development for nurses as indicated in our study by a mean rating less than 3.00 include understanding the difference between trans and intersex, understanding the effects of hormones on the morning after pill, awareness of specific equipment needed to assist in the examination of trans clients, and awareness of and ability to refer to trans-positive resources and service providers in the community. Previous research examining healthcare providers' competence to provide care to trans persons similarly has identified significant gaps. Johnston and Shearer[30] found that less than 10% of internal medicine residents felt that they could make appropriate referrals for gender-affirming surgery or felt confident prescribing hormone replacement therapy. Several other studies have also identified a concerning lack healthcare provider competence in asking about a patient's gender identity.[13,29,31]

Our study suggests that nurses at Ontario's SA/DVTCs both value and want training in the care of trans clients. Almost all respondents felt that they would benefit from additional

training overall and the majority also indicated that they would benefit from (additional) training on each of the 31 specific competencies evaluated. In fact, irrespective of whether mean levels of perceived competence on items were high or low, a large proportion of nurses indicated that they would benefit from further training. This enthusiasm for learning more about how to better address the needs of trans clients confirms findings from studies of medical trainees[30] and students[32] and staff working in a New York City-based outpatient clinic.[33] Furthermore, it is particularly salient as, in our study, prior trans-specific training was related to increased competence in initial assessment, provision of medical care, forensic examination, and discharge and referral.

Although the Ontario SA/DVTCs seek to embody principles of inclusivity in their practices, many respondents in this study had not cared for trans clients.[16] The proportion of nurses who had experience providing direct clinical care to a client identifying as trans, just over half, was similar to findings from the New York City-based outpatient clinic study.[33] This lack of experience may be partially attributable to trans persons' avoidance of healthcare services due to actual and fears of discrimination and denial of care.[13] It is therefore very important that once nurses have been further trained, SA/DVTCs reach out to trans communities, as prompt receipt of care post-sexual assault can prevent unwanted pregnancy, sexually transmitted infections, and other negative consequences.[34]

This study has several limitations which are important to acknowledge. First, we could not calculate a response rate for our survey as nurses were emailed directly by program leaders. Furthermore, the nurses within each program typically work on-call and the roster frequently fluctuates due to conflicting job demands, burnout, etc. Therefore, the group of nurses contacted by program leaders initially and at each of the four reminder emails over the course of nine

weeks may have been different. As a result, we cannot estimate the potential impact on our findings of nonresponse bias. It is possible that nurses who did not complete the survey differed from those who did in their experiences and opinions. For example, those who completed the survey may have had a greater interest in trans issues and been more likely to endorse the need for additional training. Nonetheless, the study sample was representative of the geographical diversity of Ontario with nurses completing the survey working at SA/DVTCs within all 14 provincial Local Health Integration Networks. Second, the survey could only measure nurses' perceived competence not assess their actual performance in the clinical setting. Third, our exploratory analyses assessing the potential impact of prior trans training on mean domain competence across components of care were not adjusted and may be subject to confounding. To fully understand the influence of potential confounding, the impact of prior training on competence in this area may require further examination with multivariate statistics in larger samples. Finally, the results may be limited in their generalizability to hospital-based violence treatment centre staff. However, given that the forensic nursing model of sexual assault care has been evaluated with high levels of client satisfaction and improved uptake of acute services and sexual assault evidence kit completion,[19,34,35] it has been widely adopted, with over 950 programs globally.[36]

## Conclusion

Lack of competence in the care of trans clients can result in suboptimal healthcare provision and potential further harm.[13,29,31,37,38] Therefore, it is critical that nurses at violence treatment centres have a high level of competence in the care of trans persons who have been sexually assaulted. Provision of trans-specific training has been shown to improve healthcare provider clinical skills, attitudes, and awareness of provider transphobia.[33] The nurses in our study have clearly indicated

that there is a pressing need for such training and so based on the gaps in their competence identified in our survey, we are developing curriculum for nurses working at hospital-based violence treatment centres focused on supporting trans persons who have been sexually assaulted. This training will be rolled out and evaluated at the fall 2018 Sexual Assault Nursing Examiner training[39,40,41] and if, as in Lelutiu-Weinberger et al.'s [33] study of outpatient clinic staff, it improves the competence of nurses who care for trans patients, the training will become a permanent part of the forensic nursing response to sexual assault in Ontario.

## Declarations

Ethics (and consent to participate): Research ethics board approval was obtained for the current study.

Consent for publication: Not applicable as this manuscript does not include details, images, or videos relating to individual respondents.

Competing interests: The authors have no conflicts of interest to declare.

Author contributions: JDM conceived of and designed the study, interpreted the findings, and wrote the manuscript. DK collected the data, interpreted the findings, and wrote the manuscript. SS analyzed and synthesized the data and reviewed and revised the manuscript. SM conceived of and designed the study and reviewed and revised the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials: The data supporting these findings will not be made available publicly as at the time the study was conducted, we did not obtain informed consent from respondents for publication of disaggregated data.

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**Table 1. Characteristics of nurses working in Ontario's hospital-based violence treatment centres**

| Variable | % | n |
|---|---|---|
| **Age** | | **95** |
| 20-30 years | 21.1% | 20 |
| 31-45 years | 30.5% | 29 |
| 46-60 years | 42.1% | 40 |
| 61+ years | 6.3% | 6 |
| **Sex** | | **95** |
| Female | 97.9% | 93 |
| Male | 2.1% | 2 |
| **Gender** | | **95** |
| Woman | 100% | 95 |
| **Level of education?*** | | **95** |
| Hospital-based nursing program | 9.5% | 9 |
| Community college | 27.4% | 26 |
| Bachelor degree | 53.7% | 51 |
| Master's degree | 12.6% | 12 |
| PhD | 0.0% | 0 |
| Professional program (MD, LLB) | 2.1% | 2 |
| Other (please specify) | 4.2% | 4 |
| **Sexual Assault Nurse Examiner trained** | | **93** |
| Yes | 78.5% | 73 |
| No | 21.5% | 20 |
| **Length of employment** | | **95** |
| <1 year | 13.7% | 13 |
| 1-5 years | 41.1% | 39 |
| 6-10 years | 15.8% | 15 |
| 11+ years | 29.5% | 28 |
| **Have you ever provided direct clinical care to a client who has indicated that they are trans?** | | **95** |
| Yes | 45.3% | 43 |
| No | 54.7% | 52 |

*Categories are not mutually exclusive

**Table 2. Perceived level of competence in initial assessment of trans clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I know to always refer to a trans client by their chosen name and pronoun(s), even when speaking to others. If unsure of their chosen name or what pronoun they go by, I routinely ask | 84 | 4.39 | 0.85 | 71 | 36 (50.7) |
| I understand that a trans client may identify as "nonbinary", meaning they do not consider themselves exclusively male or female and/or masculine or feminine (e.g., gender queer, gender-neutral) | 85 | 3.98 | 0.85 | 74 | 55 (74.3) |
| I understand the distinction between trans identities and intersex conditions | 83 | 2.84 | 1.18 | 74 | 67 (90.5) |
| I know how to document information in the medical record when the name a trans client uses and the gender they present as differs from their legal name and gender | 83 | 2.81 | 1.17 | 75 | 72 (96.0) |
| I am confident that I do not, or would not, show surprise, shock, dismay, or concern when either told or inadvertently learning that a client is trans | 84 | 4.33 | 0.75 | 72 | 44 (61.1) |
| I understand that a trans client may fear assault or belittlement by a healthcare professionals' response to their gender identity or expression | 79 | 4.19 | 0.58 | 71 | 57 (80.3) |
| I am aware a companion of a trans client may not know their gender identity | 84 | 4.00 | 0.69 | 72 | 61 (84.7) |
| I routinely consider how a trans client's fears and concerns can affect their initial reactions to a sexual assault, their post-assault needs, and decisions before, during, and after the entire care visit | 84 | 3.76 | 0.90 | 72 | 67 (93.1) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 3. Perceived level of competence in medical care of trans clients who have been sexually assaulted and perceived need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training in this area | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I am aware that a trans client may have discomfort, dysphoria, and/or dissociation from their body due to being trans | 84 | 3.74 | 0.82 | 74 | 67 (90.5) |
| I am aware that some transr clients may use nonstandard labels for certain body parts and may be unable to discuss sex-related body parts at all | 82 | 3.38 | 0.99 | 74 | 66 (89.2) |
| I know how to ask a trans client sensitively about their history of transition-related medical interventions (e.g., hormones and/or surgeries), if relevant to the care being provided | 82 | 3.40 | 0.84 | 74 | 66 (89.2) |
| I am aware that a trans man/transmasculine client who has ovaries and a uterus can become pregnant even when using testosterone and/or not menstruating | 81 | 3.37 | 0.93 | 74 | 66 (89.2) |
| I know how to address the possibility of pregnancy if a trans man/transmasculine client has not had a hysterectomy, is still within childbearing years, and the nature of the sexual assault suggests it | 82 | 2.91 | 1.05 | 75 | 72 (96.0) |
| I know that if a trans man/transmasculine client is taking hormones, certain types of hormonal contraceptives may be limited in their efficacy | 81 | 2.52 | 0.82 | 75 | 72 (96.0) |
| I am aware that there may be (additional) layers of psychological trauma for a trans woman/transfeminine client who has a penis and became erect or ejaculated during the sexual assault | 81 | 3.62 | 0.93 | 75 | 71 (94.7) |
| I am aware that there may be (additional) layers of psychological trauma for a trans man/transmasculine client or a trans woman/transfeminine client with a constructed vagina, after having been vaginally assaulted | 81 | 3.75 | 0.92 | 74 | 71 (95.9) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of

agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 4. Perceived level of competence in forensic examination of trans clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I know to anticipate that a trans client typically may have been subject to others' curiosity, prejudice, and violence and therefore may be reluctant to report the crime or consent to examination for fear of being exposed to inappropriate questions or abuse | 79 | 4.11 | 0.73 | 71 | 59 (83.1) |
| I am able to carefully explain what is going to be done and why before each step of the examination and respect a trans client's right to decline any part of the examination, particularly if a trans client is reluctant to proceed with an examination due to having been subject to others' curiosity, prejudice, and violence | 79 | 4.00 | 0.88 | 72 | 57 (79.2) |
| I am able to confidently reflect a trans client's language when possible and use alternative means of communication (such as anatomically correct dolls or paper and pen for the client to write or draw), if necessary | 79 | 3.09 | 0.92 | 72 | 63 (87.5) |
| I am aware of what specific equipment (e.g., pediatric speculum) and tools (e.g., gender-neutral body map) might be needed to assist in the examination of a trans client | 78 | 2.73 | 1.07 | 71 | 66 (93.0) |
| When following procedures and collecting clothing evidence, I am aware that a trans client may be unwilling to part with prostheses and similar items for reasons of safety and/or cost | 78 | 3.73 | 0.89 | 71 | 61 (85.9) |
| I am aware that a trans client may need to change out of the clothing they were wearing while they were assaulted and/or remove makeup prior to seeking assistance | 79 | 3.46 | 0.89 | 71 | 60 (84.5) |
| I am aware that when preparing official documents, I may need to use conventional language, but I am able to explain to a trans client why I am using language in this circumstance that does not reflect their own | 79 | 3.32 | 0.96 | 70 | 65 (92.9) |
| I am aware that a trans client may be at a heightened risk for HIV acquisition due to unique social, behavioural, structural, and biological issues | 78 | 3.73 | 0.82 | 71 | 67 (94.4) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 5. Perceived level of competence in discharge and referral of trans clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I am aware that a trans client may be at heightened risk of sexual assault revictimization either by intimate partners or others | 77 | 3.92 | 0.62 | 71 | 56 (78.9) |
| I am aware that a trans client may lack or have decreased social supports (e.g., family, friends, trusted service providers) | 77 | 4.09 | 0.59 | 71 | 55 (77.5) |
| I am aware that a partner of a trans client (trans identifying or not) also may be at a heightened risk of experiencing violence | 77 | 3.73 | 0.76 | 71 | 59 (83.1) |
| I am aware that the sexual assault of a trans client may have occurred in the context of a hate crime, which may be important to consider in safety planning | 77 | 4.00 | 0.76 | 71 | 62 (87.3) |
| I am aware that a trans client may face employment barriers due to their gender identity, resulting in heightened rates of sex work that can make them additionally vulnerable to revictimization | 77 | 4.00 | 0.71 | 70 | 60 (85.7) |
| I am aware of available trans-positive resources and service providers in the community for a trans client requiring external support | 77 | 2.69 | 1.13 | 71 | 69 (97.2) |
| I can access/make referrals to available trans-positive resources and service providers in the community for a trans client requiring external support | 77 | 2.83 | 1.21 | 71 | 66 (93.0) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 6. Perceived level of competence across components of care by prior trans-specific training at Ontario's hospital-based violence treatment centres**

| Component of care | Prior trans-specific training | | | | *p*-value** |
|---|---|---|---|---|---|
| | Yes | | No | | |
| | N | Perceived level of competence* Mean (SD) | N | Perceived level of competence* Mean (SD) | |
| **Initial assessment** | 52 | 3.92 (0.58) | 31 | 3.56 (0.44) | 0.004 |
| **Medical care** | 50 | 3.50 (0.61) | 31 | 3.06 (0.54) | 0.001 |
| **Forensic examination** | 49 | 3.64 (0.54) | 29 | 3.32 (0.59) | 0.018 |
| **Discharge and referral** | 49 | 3.72 (0.53) | 28 | 3.41 (0.61) | 0.020 |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **$p$ value <0.0127 indicates statistical significance

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# An assessment of nurses' competence to care for sexually assaulted trans persons: A survey of Ontario's Sexual Assault/Domestic Violence Treatment Centres



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**Title:** An assessment of nurses' competence to care for sexually assaulted trans persons: A survey of Ontario's Sexual Assault/Domestic Violence Treatment Centres

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## Abstract

**Objective:** Our primary objective was to examine the perceived level of competence and need for additional training among nurses engaged in the care of sexually assaulted trans persons. Among these nurses, a secondary objective was to examine the impact of prior trans-specific training on their perceived level of competence.

**Setting:** An online survey was distributed to nurses working within 35 hospital-based violence treatment centres in Ontario, Canada.

**Respondents:** 95 nurses completed the survey.

**Primary and secondary outcome measures:** The perceived level of competence and need for additional training overall and on 31 specific items associated with initial assessment, medical care, forensic examination, and discharge and referral, as well as sociodemographic, work experience, prior training information, was collected and summarized using descriptive and inferential statistics.

**Results:** Almost three quarters (73.1%) of nurses indicated that they had little or no expertise in caring for trans clients who have been sexually assaulted and 95.7% strongly agreed/agreed that they would benefit from (additional) training. The mean level of competence was 4.00 or greater (strongly agreed/agreed with the statement) for just 9 out of the 31 competencies related to caring for trans clients. Having undergone prior trans-specific training (61.3%) was associated with greater perceived competence in initial assessment ($p=0.004$) and medical care ($p<0.001$).

**Conclusion:** It is of key importance that nurses demonstrate knowledge of and respond competently to the complex and diverse needs of trans survivors of sexual assault. The nurses surveyed overwhelmingly identified a need for additional training to care for sexually assaulted

trans clients. It appears that additional training would be beneficial, as prior trans-specific training was associated with higher perceived competence in delivering some aspects of care.

## Article Summary

### Strengths and Limitations of this Study

- This is the first study in Canada to assess the perceived level of competence in caring for trans persons who have been sexually assaulted among nurses working in hospital-based violence treatment centres.
- The study's survey was developed with an advisory group comprised of trans community members and their allies with expertise in trans health and violence.
- In this study, we could only measure nurses' perceived competence and not assess their actual performance in the clinical setting.

## Introduction

Although encompassing a diverse community, numerous studies and reviews have found that trans persons are at an increased risk overall of experiencing sexual assault and other forms of violence.[1-4] For example, a recent study conducted by Langenderfer-Magruder et al.[5] examined sexual assault in a large convenience sample of lesbian, gay, bisexual, trans, and queer (LGBTQ) adults, stratified by respondents' gender identity (cisgender, trans). Their study findings indicated that trans individuals in the United States reported experiencing sexual assault more than twice as frequently as cisgender LGBQ individuals. Another study by Hoxmeier,[6] using data from the American 2014 National College Health Assessment, found that among 1805 undergraduate students compared to those who were male-identified, trans individuals were approximately five times more likely to have experienced completed vaginal, anal, or oral penetration/rape. In Canada, the Trans PULSE Project, a community-based study on the effects of social exclusion on the health of trans persons, found that 20% of participants had experienced physical or sexual assault over the past year due to their trans identity.[7]

Due to the deleterious physical, psychological, and social consequences of sexual assault, including bodily and genital physical injuries, sexually transmitted infections, post-traumatic stress, depression, anxiety, and unintended/unwanted pregnancy,[8,9] it is critical that trans and other persons who have been sexually assaulted receive timely and comprehensive care from trained service providers.[10-12] However, trans persons often do not seeks care in the aftermath of sexual assault, because they are afraid of or have experienced discrimination when accessing emergency health services.[13-15] Indeed, a recent study in Ontario found that 21% of the 433 trans persons surveyed reported that they had avoided the emergency department when they needed healthcare due to such fears and histories of discrimination.[13] Similarly, a qualitative study of

240 trans individuals in the United States found that negative experiences in the emergency department (e.g., experiencing unwanted examinations, inappropriate recording of their medical history, assumption of illness, misgendering) led to their avoiding seeking medical care, even among "those who have not used the [emergency department] but ha[d] heard of such interactions".[10, p. 15]

Across Ontario, Canada's largest province, acute healthcare services are available through emergency departments that can help address the serious sequelae of sexual assault.[16] Specialized sexual assault nurses registered with the College of Nurses of Ontario work within the hospital-based Sexual Assault/Domestic Violence Treatment Centres (SA/DVTCs) to provide comprehensive care to adults who have recently been sexually assaulted by any assailant or physically assaulted by an intimate partner, as well as to children who have been sexually or physically abused.[17] Some of these nurses have undergone formal Sexual Assault Nurse Examiner training, which was updated, in Ontario, recently, to include some information about the medical legal examination of trans persons.[18] The services provided by SA/DVTCs include crisis intervention, emergency medical care, collection of forensic evidence (e.g., documentation of injuries, collection of biological samples), discharge planning, follow-up care, short and longer-term counselling, and referral to community agencies for ongoing support such as housing and legal services.[19]

In addition to the aforementioned experiences of discrimination from healthcare providers, such as denial of services, trans persons may differ from other survivors in terms of body configurations, higher levels of poly-victimization, and histories of depression and suicidality.[20-23] It is therefore of key importance that the specialized sexual assault nurses at these SA/DVTCs demonstrate knowledge of, and sensitivity to, the potentially complex and diverse

needs of trans persons. Our objective in the current study was then to examine these nurses perceived level of competence and need for additional training in the care of sexually assaulted trans clients. We also explored the impact of prior trans-specific training on nurses' perceived level of competence.

## Methods

### Ethics

This study was reviewed by the research ethics board at Women's College Hospital (REB # 2017-0005-E). Informed consent was obtained from respondents.

### Patient and Public Involvement

To guide and support the conduct of this study, an Advisory Group was assembled of trans community members and their allies with expertise in violence, trans health, and forensic nursing. Representing national, provincial, and local organizations, Advisory Group members were engaged in the grant development process and consulted on background resources (see Acknowledgements for a list of Advisory Group members). Two in-person meetings were then held with the Advisory Group. At the first meeting on January 26, 2017, members aided in the development and finalization of the survey used in this study (see Survey development below) and at the second on September 20, 2017, they aided in the interpretation of the findings and development of a knowledge transfer and exchange strategy.

### Survey development

An online survey was developed to examine, among nurses providing direct clinical care, their perceived level of competence and need for additional training in caring for sexually assaulted trans clients, as well as to document any trans-specific training they may have undertaken. The survey drew upon the U.S. Department of Justice Office on Violence Against Women, *Second*

*Edition of the National Protocol for Sexual Assault Medical Forensic Examinations, Adult/Adolescent* (2013), which contained 25 statements and recommendations focused specifically on responding to trans persons who have been sexually assaulted; statements/recommendations that have been endorsed by FORGE, a pan-American trans-led research and advocacy group.[22] The research team, which has extensive forensic nursing and curricular development expertise, [e.g., 17,24-26] adapted these statements/recommendations into competencies using Bloom's Taxonomy of Learning[27] and organized them into four domains-components of care- based on the flow of care provided to persons who have been sexually assaulted. Finally, items related to sociodemographic characteristics and work experiences were drawn from previous surveys conducted across the Ontario Network of SA/DVTCs. [e.g., 28]

We then undertook an assessment of the draft survey prior to roll out. The mechanics of the survey, instructions, formatting, etc., were all thoroughly reviewed by the Advisory Group in a research team meeting. Individual survey items were displayed within four domains (components of care) using a PowerPoint presentation and the wording of each item was assessed for clarity, comprehensiveness, inclusivity, and face validity. Content validity was also assessed by asking Advisory Group members whether the items in the survey captured the concepts within each domain. Suggested edits were made to items and, additionally, several new items were added to capture important information not contained in the draft survey. A note-taker transcribed all suggested changes to the survey during the meeting which, subsequent to revision, was emailed to the Advisory Group on two occasions for additional review. Following final refinements to the survey, it was converted into an online platform using SurveyMonkey software.

***Survey content***

The final survey began with a definition of "trans": "[Trans refers to] persons who feel the binary gender … that was assigned to them at birth is misleading or an incomplete description of themselves" (adapted from Survivors Organizing for Liberation, A. Edgar, personal communication, April 2017). Four items captured sociodemographic characteristics (see Table 1): age (20-30 years, 31-45 years, 46-60 years, 61+ years), sex (female, male, other [please specify]), gender identity (woman, man, bigender, trans man, trans woman, crossdresser, genderqueer, agender, gender fluid, two-spirited, You don't have an option that applies to me. I identify as ... [please specify]), and highest level of education achieved (hospital-based nursing program, community college, bachelor degree, master's degree, PhD, professional program, other [please specify]). Three items were related to work experiences (see Table 1): How long have you been working for one of Ontario's SA/DVTCs? (<1 year, 1-5 years, 6-10 years, 11+ years), Are you Sexual Assault Nurse Examiner trained? (yes, no), and Have you ever provided direct clinical care to a client who has indicated that they are trans? (yes, no). Four items focused on prior trans-specific training (see Table 1): In the context of providing nursing care, what kind(s) of trans-specific training have you previously had, if any? (no training, undergraduate nursing course, Sexual Assault Nurse Examiner training curriculum, self-directed learning, community organization/group workshop, conferences, community of practice, other [please specify]); Approximately how many hours of training have you undergone related to providing care for trans clients? (1-4 hours, 5-9 hours, 10-15 hours, 16+ hours, not applicable); What modality were these trainings? (in-person, online, both, not applicable); and Briefly describe what was covered in your trans-specific training (list). Two items focused on overall competency and training needs, both of which employed a 5-point Likert scale: I would rate my current level of overall expertise in caring for trans clients who have been sexually assaulted as very high,

high, moderate, low, or very low and I feel that I would benefit from (additional) training on how to provide appropriate care to trans clients who have been sexually assaulted (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree).

The survey also contained 31 items related to specific competencies for providing care to sexually assaulted persons. For each item, respondents were asked to indicate the extent to which they agreed with the statements (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree), and whether they would benefit from additional training in this area (yes/no). Competency items were organized into the following components of care: initial assessment (8 competencies; e.g., "I know to always refer to clients by their chosen name and pronoun, even when speaking to others. If unsure of chosen name or what pronoun to use, I routinely ask" (see Table 2 for full list); medical care (8 competencies; e.g., "I am aware that trans clients may have discomfort, dysphoria, and/or dissociation from their body due to being trans" (see Table 3); forensic examination (8 competencies; e.g., "If a client is reluctant to proceed with an examination due to having been subjected to others' curiosity, prejudice, and violence, I have the skills to carefully explain what is going to be done and why before each step and respect the client's right to decline any part of the examination" (see Table 4); and discharge and referral (7 competencies; e.g., "I am aware that the sexual assault of a trans client may have occurred in the context of a hate crime, which may be important to consider in safety planning" (see Table 5).

Finally, the survey concluded with one open-ended question: "In addition to the items above, based on your experience, what are some of the issues that you have faced or may face when providing care to a trans client of sexual assault for which you would like additional training?"

***Procedure***

The link to the online survey was distributed through individual emails to the program leaders of Ontario's 35 SA/DVTC on April 25, 2017. They, in turn, distributed the link to the nurses working within their programs, as the emails of these nurses could not be provided directly to the researchers given that the survey was anonymized. Four subsequent emails were sent to the program leaders over the course of nine weeks, to remind them to distribute the survey link to their nursing staff.

***Statistical analyses***

The data from SurveyMonkey were imported into SPSS 24 (Statistical Package for the Social Sciences). First, respondent sociodemographic characteristics, work related experiences, prior training, and overall competence and training needs, as well as the specific 31 competencies, were examined using descriptive statistics (e.g., proportion, mean, standard deviation).

Next, perceived competence across the four components of care was compared between respondents who indicated having had prior trans-specific training and those who did not. A composite score for competence for each respondent was created by averaging scores within each of the components of care (Cronbach's Alpha was 0.76, 0.83, 0.80, and 0.80 for the initial assessment, medical care, forensic examination, and discharge and referral components, respectively). Mean scores between the two groups for each domain were compared using independent samples t-tests. Respondents with missing data >20% for items in each component were removed. To assess risk of non-response bias in each analysis, several baseline characteristics including age, length of employment, having ever provided direct clinical care to a client who had indicated that they are trans, and prior trans specific training were compared between those excluded from the analysis and those included, and there were no significant differences. A Bonferonni correction was applied for multiple comparisons (4 tests with critical *p*

value set at 0.0127). Additionally, a multivariate regression analysis examining the potential associations between prior trans-specific training and mean composite domain scores, adjusting for potential confounders, was considered; however, given the limited sample size, was not conducted.

Written-in comments from the open-ended question were extracted verbatim and organized thematically.

## Results

### Sociodemographic characteristics and work related experiences

A total of 95 nurses providing frontline care completed the survey. Respondents represented a wide age range with 20 (21.1%) aged 20-30 years, 29 (30.5%) aged 31-45 years, 40 (42.1%) aged 46-60 years, and 6 (6.3%) aged 61+ years. The length of time working for Ontario's SA/DVTCs varied with 13 (13.7%) respondents having worked <1 year, 39 (41.1%) 1-5 years, 15 (15.8%) 6-10 years, and 28 (29.5%) 11+ years. Forty-three (45.3%) respondents had yet to provide direct clinical care to a client identifying as trans (Table 1)

### Prior trans-specific training

Among the 57 of 93 (61.3%) respondents indicating that they had had prior trans-specific training, 27 (47.4%) had undertaken self-directed learning and 20 (35.1%) had received training at conferences, 18 (31.6%) as part of Sexual Assault Nurse Examiner training, 16 (28.1%) from a community organization or group workshop or webinar, 9 (15.8%) as part of an undergraduate nursing course, and 8 (14.0%) as part of a community of practice. The duration of the training reported by 55 respondents varied: 35 (63.6%) had received between 1-4 hours, 12 (21.8%) 5-10 hours, 5 (9.1%) 11-15 hours, and 3 (5.5%) 16+ hours. The type of training modality reported by 53 respondents also varied: 16 (30.2%) had received in-person training only, 20 (37.7%) online

training only, and 17 (32.1%) a combination of both. Topics included: definition of trans, prevalence of sexual assault against trans persons, psychosocial challenges faced by trans persons, trans health, hormone therapy, gender-affirming surgery, use of language including pronouns, disclosure, documentation, assessment, sensitive and supportive approaches, and trans children and youth.

**Level of expertise and benefit of additional training in caring for trans clients**

The majority of 93 respondents indicated either having no expertise (n=31; 33.3%) or a low level of expertise (n=37; 39.8%) in caring for trans clients who have been sexually assaulted; some indicated having a moderate level of expertise (n=14; 15.1%) and very few indicated having a high (n=10; 10.8%) or very high (n=1; 1.1%) level of expertise. Almost all of 94 respondents either strongly agreed (n=59; 62.8%) or agreed (n=31; 33.0%) that they would benefit from "(additional) training" on how to provide appropriate care to trans clients who have been sexually assaulted; 2 (2.1%) each only neither agreed nor disagreed or strongly disagreed.

***Initial assessment***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care initial assessment ranged from 2.81 to 4.39 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 50.7% to 96.0% (Table 2).

Four competencies had a mean rating of more than 4.00: "I know to always refer to a trans client by their chosen name and pronoun(s), even when speaking to others. If unsure of their chosen name or what pronoun they go by, I routinely ask" (mean=4.39); "I am confident that I do not, or would not, show surprise, shock, dismay, or concern when either told or

inadvertently learning that a client is trans" (mean=4.33); "I understand that a trans client may fear assault or belittlement by a healthcare professionals' response to their gender identity or expression" (mean=4.19); and "I am aware a companion of a trans client may not know their gender identity" (mean=4.00). Across these competencies, many respondents indicated that they would benefit from additional training (50.7%, 61.1%, 80.3%, 84.7%, respectively).

Two competencies had a mean rating of less than 3.00: "I understand the distinction between trans identities and intersex conditions" (mean=2.84) and "I know how to document information in the medical record when the name a trans client uses and the gender they present as differs from their legal name and gender" (mean=2.81). Many respondents indicated that they would benefit from additional training on these competencies (90.5%, 96.0%, respectively).

The overall mean score for perceived competence in initial assessment was higher for nurses with prior trans-specific training than those with no such training (3.92 vs. 3.56; p=0.004) (Table 6).

***Medical care***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care medical care ranged from 2.52 to 3.74 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 89.2% to 96.0% (Table 3).

There were no competencies that had a mean rating of more than 4.00.

Two competencies had a mean rating of less than 3.00: "I know how to address the possibility of pregnancy if a trans man/transmasculine client has not had a hysterectomy, is still

within childbearing years, and the nature of the sexual assault suggests it" (mean=2.91) and "I know that if a trans man/transmasculine client is taking hormones, certain types of hormonal contraceptives may be limited in their efficacy" (mean=2.52). Many respondents indicated that they would benefit from additional training on these competencies (96.0%, 96.0%, respectively)

The overall mean score for perceived competence in medical care was higher for nurses with prior trans-specific training than those with no such training (3.50 vs. 3.06; p=0.001) (Table 6).

***Forensic examination***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care forensic examination ranged from 2.73 to 4.11 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 79.2% to 93.0% (Table 4).

Two competencies had a mean rating of more than 4.00: "I know to anticipate that a trans client typically may have been subject to others' curiosity, prejudice, and violence and therefore may be reluctant to report the crime or consent to examination for fear of being exposed to inappropriate questions or abuse" (mean=4.11) and "I am able to carefully explain what is going to be done and why before each step of the examination and respect a trans client's right to decline any part of the examination, particularly if a trans client is reluctant to proceed with an examination due to having been subject to others' curiosity, prejudice, and violence" (mean=4.00). Many respondents indicated that they would benefit from additional training on these competencies (83.1%, 79.2%, respectively).

One competency had a mean rating of less than 3.00: "I am aware of what specific equipment (e.g., pediatric speculum) and tools (e.g., gender-neutral body map) might be needed to assist in the examination of a trans client" (mean=2.73). For this competency, 93.0% of respondents indicated that they would benefit from additional training.

***Discharge and referral***

The mean Likert scale ratings indicating the level of agreement with eight competencies within the component of care discharge and referral ranged from 2.69 to 4.09 (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The proportion of respondents that indicated that they would benefit from (additional) training for each of these competencies ranged from 77.5% to 93.0% (Table 5).

Three competencies had a mean rating of more than 4.00: "I am aware that a trans client may lack or have decreased social supports (e.g., family, friends, trusted service providers)" (mean=4.09), "I am aware that the sexual assault of a trans client may have occurred in the context of a hate crime, which may be important to consider in safety planning" (mean=4.00) and "I am aware that a trans client may face employment barriers due to their gender identity, resulting in heightened rates of sex work that can make them additionally vulnerable to revictimization" (mean=4.00). Across these competencies, many respondents indicated that they would benefit from additional training (77.5%, 87.3%, 85.7%, respectively).

Two competencies had a mean rating of less than 3.00: "I am aware of available trans-positive resources and service providers in the community for a trans client requiring external support" (mean=2.69) and "I can access/make referrals to available trans-positive resources and service providers in the community for a trans client requiring external support" (mean=2.83).

Many respondents indicated that they would benefit from additional training on these competencies (97.2%, 93.0%, respectively).

***Additional desire for and concerns about future trans-specific training***

When respondents were asked about any other issues they have faced or could face when caring for a trans client of sexual assault for which they would like (additional) training, 20 respondents provided comments.

Several nurses emphasized a desire to learn more about: the use of language specifically and trans persons generally (e.g., “I would like to learn some of the terminology used to initially provide care that is non-judgmental…[and] about the different types of trans individuals.", “Understand that not all trans individuals have body dysphoria.”); the creation of supportive environments (e.g., “[I would like to know] how to provide an opportunity for clients to disclose or share personal information.”); the provision of care (e.g., "My main concern is being able to examine trans clients physically, especially … external/internal genitalia, in a sensitive and competent manner.”); and referral for follow-up support (e.g., “I would like to learn of the community resources offered for this population.”).

Some nurses, in thinking about trans-specific training in the future, expressed concerns about a current lack of: experience in the area (e.g., “I have had no experience treating or supporting trans clients in my current position in the SA/DV program”); gender-neutral documentation tools; institutional supports (e.g., “I would not know how to treat this type of client and do not feel supported in my role.”); and understanding of trans issues and trans-positive assets in the community (e.g., “Lack of awareness & education in our community. Discrimination. Lack of referral resources & trained professionals”). One nurse commented that “training as it relates to trans folk may not be perceived as a priority (unfortunately)” and further

added that "[i]t would be nice to have a standard expectation of training and services to this vulnerable population across the province."

## Discussion

A lack of competence in the care of trans clients has been identified as a barrier to health equity by both those who identify as trans and healthcare providers.[29] In our study, we found that the mean rating of competence was 4.00 or greater (strongly agreed/agreed with the statement) for just half of the competencies related to initial assessment (4/8), under half the competencies related to discharge and referral (3/7), and one-quarter of the competencies related to forensic examination (2/8). There were no competencies related to the provision of medical care, one of the most important and fundamental responsibilities of SA/DVTC nursing staff, with a mean level of competence 4.00 or greater.[16 18] These findings indicate several areas of competence that should be strengthened with respect to caring for trans clients among nurses at Ontario's hospital-based violence treatment centres.

Particular areas of competence requiring further development for nurses as indicated in our study by a mean rating less than 3.00 include understanding the difference between trans and intersex, understanding the effects of hormones on the morning after pill, awareness of specific equipment needed to assist in the examination of trans clients, and awareness of and ability to refer to trans-positive resources and service providers in the community. Previous research examining healthcare providers' competence to provide care to trans persons similarly has identified significant gaps. Johnston and Shearer[30] found that less than 10% of internal medicine residents felt that they could make appropriate referrals for gender-affirming surgery or felt confident prescribing hormone replacement therapy. Several other studies have also identified a concerning lack healthcare provider competence in asking about a patient's gender identity.[13,29,31]

Our study suggests that nurses at Ontario's SA/DVTCs both value and want training in the care of trans clients. Almost all respondents felt that they would benefit from additional training overall and the majority also indicated that they would benefit from (additional) training on each of the 31 specific competencies evaluated. In fact, irrespective of whether mean levels of perceived competence on items were high or low, a large proportion of nurses indicated that they would benefit from further training. This enthusiasm for learning more about how to better address the needs of trans clients confirms findings from studies of medical trainees[30] and students[32] and staff working in a New York City-based outpatient clinic [33] Furthermore, it is particularly salient as, in our study, prior trans-specific training was related to increased competence in initial assessment, provision of medical care, forensic examination, and discharge and referral.

Although the Ontario SA/DVTCs seek to embody principles of inclusivity in their practices, many respondents in this study had not cared for trans clients.[16] The proportion of nurses who had experience providing direct clinical care to a client identifying as trans, just over half, was similar to findings from the New York City-based outpatient clinic study.[33] This lack of experience may be partially attributable to trans persons' avoidance of healthcare services due to actual and fears of discrimination and denial of care.[13] It is therefore very important that once nurses have been further trained, SA/DVTCs reach out to trans communities, as prompt receipt of care post-sexual assault can prevent unwanted pregnancy, sexually transmitted infections, and other negative consequences.[34]

This study has several limitations which are important to acknowledge. First, we could not calculate a response rate for our survey as nurses were emailed directly by program leaders. Furthermore, the nurses within each program typically work on-call and the roster frequently

fluctuates due to conflicting job demands, burnout, etc. Therefore, the group of nurses contacted by program leaders initially and at each of the four reminder emails over the course of nine weeks may have been different. As a result, we cannot estimate the potential impact on our findings of nonresponse bias. It is possible that nurses who did not complete the survey differed from those who did in their experiences and opinions. For example, those who completed the survey may have had a greater interest in trans issues and been more likely to endorse the need for additional training. Nonetheless, the study sample was representative of the geographical diversity of Ontario with nurses completing the survey working at SA/DVTCs within all 14 provincial Local Health Integration Networks. Second, the survey could only measure nurses' perceived competence not assess their actual performance in the clinical setting. Third, our exploratory analyses assessing the potential impact of prior trans training on mean domain competence across components of care were not adjusted and may be subject to confounding. To fully understand the influence of potential confounding, the impact of prior training on competence in this area may require further examination with multivariate statistics in larger samples. Finally, the results may be limited in their generalizability to hospital-based violence treatment centre staff. However, given that the forensic nursing model of sexual assault care has been evaluated with high levels of client satisfaction and improved uptake of acute services and sexual assault evidence kit completion,[19,34,35] it has been widely adopted, with over 950 programs globally.[36]

## Conclusion

Lack of competence in the care of trans clients can result in suboptimal healthcare provision and potential further harm.[13,29,31,37,38] Therefore, it is critical that nurses at violence treatment centres have a high level of competence in the care of trans persons who have been sexually assaulted.

Provision of trans-specific training has been shown to improve healthcare provider clinical skills, attitudes, and awareness of provider transphobia.[33] The nurses in our study have clearly indicated that there is a pressing need for such training and so based on the gaps in their competence identified in our survey, we are developing curriculum for nurses working at hospital-based violence treatment centres focused on supporting trans persons who have been sexually assaulted. This training will be rolled out and evaluated at the fall 2018 Sexual Assault Nursing Examiner training[39,40,41] and if, as in Lelutiu-Weinberger et al.'s [33] study of outpatient clinic staff, it improves the competence of nurses who care for trans patients, the training will become a permanent part of the forensic nursing response to sexual assault in Ontario.

## Declarations

Ethics (and consent to participate): Research ethics board approval was obtained for the current study.

Consent for publication: Not applicable as this manuscript does not include details, images, or videos relating to individual respondents.

Competing interests: The authors have no conflicts of interest to declare.

Author contributions: JDM conceived of and designed the study, interpreted the findings, and wrote the manuscript. DK collected the data, interpreted the findings, and wrote the manuscript. SS analyzed and synthesized the data and reviewed and revised the manuscript. SM conceived of and designed the study and reviewed and revised the manuscript. All authors read and approved the final manuscript.

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**Table 1. Characteristics of nurses working in Ontario's hospital-based violence treatment centres**

| Variable | % | n |
|---|---|---|
| **Age** | | **95** |
| 20-30 years | 21.1% | 20 |
| 31-45 years | 30.5% | 29 |
| 46-60 years | 42.1% | 40 |
| 61+ years | 6.3% | 6 |
| **Sex** | | **95** |
| Female | 97.9% | 93 |
| Male | 2.1% | 2 |
| **Gender** | | **95** |
| Woman | 100% | 95 |
| **Level of education?*** | | **95** |
| Hospital-based nursing program | 9.5% | 9 |
| Community college | 27.4% | 26 |
| Bachelor degree | 53.7% | 51 |
| Master's degree | 12.6% | 12 |
| PhD | 0.0% | 0 |
| Professional program (MD, LLB) | 2.1% | 2 |
| Other (please specify) | 4.2% | 4 |
| **Sexual Assault Nurse Examiner trained** | | **93** |
| Yes | 78.5% | 73 |
| No | 21.5% | 20 |
| **Length of employment** | | **95** |
| <1 year | 13.7% | 13 |
| 1-5 years | 41.1% | 39 |
| 6-10 years | 15.8% | 15 |
| 11+ years | 29.5% | 28 |
| **Have you ever provided direct clinical care to a client who has indicated that they are trans?** | | **95** |
| Yes | 45.3% | 43 |
| No | 54.7% | 52 |

*Categories are not mutually exclusive

**Table 2. Perceived level of competence in initial assessment of trans clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I know to always refer to a trans client by their chosen name and pronoun(s), even when speaking to others. If unsure of their chosen name or what pronoun they go by, I routinely ask | 84 | 4.39 | 0.85 | 71 | 36 (50.7) |
| I understand that a trans client may identify as "nonbinary", meaning they do not consider themselves exclusively male or female and/or masculine or feminine (e.g., gender queer, gender-neutral) | 85 | 3.98 | 0.85 | 74 | 55 (74.3) |
| I understand the distinction between trans identities and intersex conditions | 83 | 2.84 | 1.18 | 74 | 67 (90.5) |
| I know how to document information in the medical record when the name a trans client uses and the gender they present as differs from their legal name and gender | 83 | 2.81 | 1.17 | 75 | 72 (96.0) |
| I am confident that I do not, or would not, show surprise, shock, dismay, or concern when either told or inadvertently learning that a client is trans | 84 | 4.33 | 0.75 | 72 | 44 (61.1) |
| I understand that a trans client may fear assault or belittlement by a healthcare professionals' response to their gender identity or expression | 79 | 4.19 | 0.58 | 71 | 57 (80.3) |
| I am aware a companion of a trans client may not know their gender identity | 84 | 4.00 | 0.69 | 72 | 61 (84.7) |
| I routinely consider how a trans client's fears and concerns can affect their initial reactions to a sexual assault, their post-assault needs, and decisions before, during, and after the entire care visit | 84 | 3.76 | 0.90 | 72 | 67 (93.1) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 3. Perceived level of competence in medical care of trans clients who have been sexually assaulted and perceived need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training in this area | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I am aware that a trans client may have discomfort, dysphoria, and/or dissociation from their body due to being trans | 84 | 3.74 | 0.82 | 74 | 67 (90.5) |
| I am aware that some transr clients may use nonstandard labels for certain body parts and may be unable to discuss sex-related body parts at all | 82 | 3.38 | 0.99 | 74 | 66 (89.2) |
| I know how to ask a trans client sensitively about their history of transition-related medical interventions (e.g., hormones and/or surgeries), if relevant to the care being provided | 82 | 3.40 | 0.84 | 74 | 66 (89.2) |
| I am aware that a trans man/transmasculine client who has ovaries and a uterus can become pregnant even when using testosterone and/or not menstruating | 81 | 3.37 | 0.93 | 74 | 66 (89.2) |
| I know how to address the possibility of pregnancy if a trans man/transmasculine client has not had a hysterectomy, is still within childbearing years, and the nature of the sexual assault suggests it | 82 | 2.91 | 1.05 | 75 | 72 (96.0) |
| I know that if a trans man/transmasculine client is taking hormones, certain types of hormonal contraceptives may be limited in their efficacy | 81 | 2.52 | 0.82 | 75 | 72 (96.0) |
| I am aware that there may be (additional) layers of psychological trauma for a trans woman/transfeminine client who has a penis and became erect or ejaculated during the sexual assault | 81 | 3.62 | 0.93 | 75 | 71 (94.7) |
| I am aware that there may be (additional) layers of psychological trauma for a trans man/transmasculine client or a trans woman/transfeminine client with a constructed vagina, after having been vaginally assaulted | 81 | 3.75 | 0.92 | 74 | 71 (95.9) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of

agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 4. Perceived level of competence in forensic examination of trans clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I know to anticipate that a trans client typically may have been subject to others' curiosity, prejudice, and violence and therefore may be reluctant to report the crime or consent to examination for fear of being exposed to inappropriate questions or abuse | 79 | 4.11 | 0.73 | 71 | 59 (83.1) |
| I am able to carefully explain what is going to be done and why before each step of the examination and respect a trans client's right to decline any part of the examination, particularly if a trans client is reluctant to proceed with an examination due to having been subject to others' curiosity, prejudice, and violence | 79 | 4.00 | 0.88 | 72 | 57 (79.2) |
| I am able to confidently reflect a trans client's language when possible and use alternative means of communication (such as anatomically correct dolls or paper and pen for the client to write or draw), if necessary | 79 | 3.09 | 0.92 | 72 | 63 (87.5) |
| I am aware of what specific equipment (e.g., pediatric speculum) and tools (e.g., gender-neutral body map) might be needed to assist in the examination of a trans client | 78 | 2.73 | 1.07 | 71 | 66 (93.0) |
| When following procedures and collecting clothing evidence, I am aware that a trans client may be unwilling to part with prostheses and similar items for reasons of safety and/or cost | 78 | 3.73 | 0.89 | 71 | 61 (85.9) |
| I am aware that a trans client may need to change out of the clothing they were wearing while they were assaulted and/or remove makeup prior to seeking assistance | 79 | 3.46 | 0.89 | 71 | 60 (84.5) |
| I am aware that when preparing official documents, I may need to use conventional language, but I am able to explain to a trans client why I am using language in this circumstance that does not reflect their own | 79 | 3.32 | 0.96 | 70 | 65 (92.9) |
| I am aware that a trans client may be at a heightened risk for HIV acquisition due to unique social, behavioural, structural, and biological issues | 78 | 3.73 | 0.82 | 71 | 67 (94.4) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 5. Perceived level of competence in discharge and referral of trans clients who have been sexually assaulted and need for (additional) training among nurses providing direct clinical care to clients at Ontario's hospital-based violence treatment centres**

| Statement | Perceived level of competence* | | | Would benefit from (additional) training | |
|---|---|---|---|---|---|
| | N** | Mean | SD | N*** | n (%) |
| I am aware that a trans client may be at heightened risk of sexual assault revictimization either by intimate partners or others | 77 | 3.92 | 0.62 | 71 | 56 (78.9) |
| I am aware that a trans client may lack or have decreased social supports (e.g., family, friends, trusted service providers) | 77 | 4.09 | 0.59 | 71 | 55 (77.5) |
| I am aware that a partner of a trans client (trans identifying or not) also may be at a heightened risk of experiencing violence | 77 | 3.73 | 0.76 | 71 | 59 (83.1) |
| I am aware that the sexual assault of a trans client may have occurred in the context of a hate crime, which may be important to consider in safety planning | 77 | 4.00 | 0.76 | 71 | 62 (87.3) |
| I am aware that a trans client may face employment barriers due to their gender identity, resulting in heightened rates of sex work that can make them additionally vulnerable to revictimization | 77 | 4.00 | 0.71 | 70 | 60 (85.7) |
| I am aware of available trans-positive resources and service providers in the community for a trans client requiring external support | 77 | 2.69 | 1.13 | 71 | 69 (97.2) |
| I can access/make referrals to available trans-positive resources and service providers in the community for a trans client requiring external support | 77 | 2.83 | 1.21 | 71 | 66 (93.0) |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **N=total number of respondents indicating their level of agreement with each statement; ***N=total number of respondents indicating whether they would benefit from additional training (yes/no)

**Table 6. Perceived level of competence across components of care by prior trans-specific training at Ontario's hospital-based violence treatment centres**

| Component of care | Prior trans-specific training | | | | *p*-value** |
|---|---|---|---|---|---|
| | Yes | | No | | |
| | N | Perceived level of competence* Mean (SD) | N | Perceived level of competence* Mean (SD) | |
| **Initial assessment** | 52 | 3.92 (0.58) | 31 | 3.56 (0.44) | 0.004 |
| **Medical care** | 50 | 3.50 (0.61) | 31 | 3.06 (0.54) | 0.001 |
| **Forensic examination** | 49 | 3.64 (0.54) | 29 | 3.32 (0.59) | 0.018 |
| **Discharge and referral** | 49 | 3.72 (0.53) | 28 | 3.41 (0.61) | 0.020 |

Note: SD=Standard deviation; *5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree; **$p$ value <0.0127 indicates statistical significance