

BMJ Open Assessment of nurses' competence to care for sexually assaulted trans persons: a survey of Ontario's Sexual Assault/Domestic Violence Treatment Centres

Janice Du Mont,^{1,2} Sarah Daisy Kosa,^{1,3} Shirley Solomon,³ Sheila Macdonald³

To cite: Du Mont J, Kosa SD, Solomon S, *et al.* Assessment of nurses' competence to care for sexually assaulted trans persons: a survey of Ontario's Sexual Assault/Domestic Violence Treatment Centres. *BMJ Open* 2019;**9**:e023880. doi:10.1136/bmjopen-2018-023880

► Prepublication history and additional material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2018-023880>).

Received 9 May 2018
Revised 11 March 2019
Accepted 4 April 2019



© Author(s) (or their employer(s)) 2019. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

¹Women's College Research Institute, Toronto, Ontario, Canada

²Dalla Lana School of Public Health, University of Toronto, Toronto, Canada

³Ontario Network of Sexual Assault/Domestic Violence Treatment Centres, Toronto, Canada

Correspondence to

Dr Janice Du Mont;
janice.dumont@wchospital.ca

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 and prior training information, was collected and summarised 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 certain aspects of care.

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,

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.

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 adults, stratified by respondents' gender identity (cisgender, trans). Their study findings indicated that trans individuals in the USA reported experiencing sexual assault more than twice as frequently as cisgender LGBTQ individuals. Another study by Hoxmeier,⁶ using data from the American 2014 National College Health Assessment, found that among 1805 undergraduate students, trans individuals were approximately five times more likely than those who identified as male 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 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 seek 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 USA found that negative experiences in the emergency department (eg, experiencing unwanted examinations, inappropriate recording of their medical history, assumption of illness, misgendering) led to their avoiding seeking medical care, even among "those who ha[d] not used the [emergency department] but ha[d] heard of such interactions".¹⁰ (Chisolm-Straker, p15)

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 Specialised sexual assault nurses registered with the College of Nurses of Ontario work within 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 in Ontario, which was updated 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 (eg, 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-victimisation and histories of depression and suicidality.^{20–23} It is therefore of key importance that specialised 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 of trans community members and their allies with expertise in violence, trans health and forensic nursing was assembled. Representing national, provincial and local organisations, 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 26 January, 2017, members aided in the development and finalisation of the survey used in this study (see survey development below) and at the second on 20 September, 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 on the US Department of Justice Office on Violence Against Women, *Second Edition of the National Protocol for Sexual Assault Medical Forensic Examinations, Adult/Adolescent*, which contained 25 statements and recommendations focused specifically on responding to trans persons who have been sexually assaulted;¹¹ 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,^{17 24–26} adapted these statements/recommendations into competencies using Bloom's Taxonomy of Learning²⁷ and organised them into four domains representing components of care based on the flow of services 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.^{eg 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

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

Characteristic	%	n
Age		95
20 to 30 years	21.1	20
31 to 45 years	30.5	29
46 to 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 programme	9.5	9
Community college	27.4	26
Bachelor degree	53.7	51
Master's degree	12.6	12
PhD	0.0	0
Professional programme (MD, LLB)	2.1	2
Other (eg, nurse practitioner)	4.2	4
Sexual Assault Nurse Examiner training		93
Yes	78.5	73
No	21.5	20
Length of employment		95
<1 year	13.7	13
1 to 5 years	41.1	39
6 to 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.

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 Organising for Liberation, A. Edgar, personal communication, April 2017). Four items captured sociodemographic characteristics (see [table 1](#)): age (20 to 30 years, 31 to 45 years, 46 to 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 programme, community college, bachelor degree, master's degree, PhD, professional programme, other (please specify)). Three items were related to work experiences (see [table 1](#): Are you Sexual Assault Nurse Examiner trained? (yes, no), How long have you been working for one of Ontario's SA/DVTCs? (<1 year, 1 to 5 years, 6 to 10 years, 11+ years) 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: 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 organisation/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 to 4 hours, 5 to 9 hours, 10 to 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 organised into the following components of care: initial assessment (eight competencies; eg, '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 they go by, I routinely ask'; see [table 2](#) for full list), medical care (eight competencies; eg, 'I am aware a trans client may have discomfort, dysphoria and/or dissociation from their body due to being trans'; see [table 3](#)), forensic examination (eight competencies; eg, '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'; see [table 4](#)) and discharge and referral (seven competencies; eg, 'I am aware that the sexual assault of a trans client may have occurred in

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 (eg, 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 that 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)

*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).

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 programme leaders of Ontario's 35 SA/DVTC on 25 April, 2017. They, in turn, distributed the link to the nurses working within their programmes, as the emails of these nurses could not be provided directly to the researchers given that the survey was anonymised. Four subsequent emails were sent to the programme 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 V.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 (eg, proportion, mean, SD).

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 Bonferroni correction was applied for multiple comparisons (four tests with critical *p* value set at 0.0125). 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.

Table 3 Perceived level of competence in medical care 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 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 trans clients may use non-standard 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 (eg, 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)

*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).

Written-in comments from the open-ended question were extracted verbatim and organised 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 to 30 years, 29 (30.5%) aged 31 to 45 years, 40 (42.1%) aged 46 to 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 to 5 years, 15 (15.8%) 6 to 10 years and 28 (29.5%) 11+ years. Forty-three (45.3%) respondents had provided 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 organisation 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%) 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 overall 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%)

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 (eg, paediatric speculum) and tools (eg, 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)

*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).

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 4.00 or greater: '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 health-care professionals' response to their gender identity or expression' (mean=4.19) and 'I am aware that 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

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 revictimisation 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 (eg, 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 revictimisation	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 am able to 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)

*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).

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 3.75 (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 4.00 or greater.

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

Table 6 Perceived level of competence across components of care by prior trans-specific training among nurses providing direct clinical care to clients 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

*5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree.

†P value <0.0125 indicates statistical significance.

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 94.4% (table 4).

Two competencies had a mean rating of 4.00 or greater: '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 (eg, paediatric speculum) and tools (eg, 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 seven 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 97.2% (table 5).

Three competencies had a mean rating of 4.00 or greater: 'I am aware that a trans client may lack or have decreased social supports (eg, 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 revictimisation' (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 regarding 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 emphasised a desire to learn more about: the use of specific language and trans persons more generally (eg,

"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 (eg, "[I would like to know] how to provide an opportunity for clients to disclose or share personal information."), the provision of care (eg, "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 (eg, "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 (eg, "I have had no experience treating or supporting trans clients in my current position in the SA/DV programme"), gender-neutral documentation tools, institutional supports (eg, "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 (eg, "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 included understanding the difference between trans identity and intersex conditions, understanding the effects of hormones on contraception, awareness of specific equipment and tools 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 gaps. Johnston and Shearer³⁰ 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 in 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 trainees³⁰ and students³² 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 and provision of medical care.

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 under 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 experiences 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 programme leaders. Furthermore, the nurses within each programme typically work on-call and the roster frequently fluctuates due to conflicting job demands, burnout, etc. Therefore, the group of nurses contacted by programme leaders initially and at each of the four reminder emails over the course of 9 weeks may have been different. As a result, we cannot estimate the potential impact on our findings of non-response 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 rather than assess their actual performance in the clinical setting. Third, our exploratory analyses assessing the potential impact of prior trans training on mean 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 generalisability 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 programmes globally.³⁶

CONCLUSION

Lack of competence in the care of trans clients can result in suboptimal healthcare provision and potential risk of 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, therefore, based on the gaps in their competence identified in our survey, we are developing a 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 Nurse Examiner training³⁹⁻⁴¹ 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.

Acknowledgements We would like to thank our Advisory Group including Devon MacFarlane, Director, Rainbow Health Ontario; Kathleen Pye, Director Research and Policy, Egale Canada Human Rights Trust; Jack Woodman, Chief Strategy Officer, Women's College Hospital; Kinnon MacKinnon, PhD Student, Dalla Lana School of Public Health, University of Toronto and Hannah Kia, PhD Student, Dalla Lana School of Public Health, University of Toronto for their contributions to the project. We also owe a debt of gratitude to participating SA/DVTC Program Leaders and nursing staff who made this study possible. Finally, we acknowledge the contributions of Maeve Paterson who helped with early stages of the project and Rebecca Abavi who provided feedback on an early version of the manuscript.

Contributors JDM conceived of and designed the study, interpreted the findings and wrote the manuscript. SDK collected the data, interpreted the findings and wrote the manuscript. SS analysed and synthesised 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.

Funding Janice Du Mont is supported in part by the Atkinson Foundation. This work was funded by the Women's Xchange.

Competing interests None declared.

Patient consent for publication Not required.

Ethics approval Research ethics board approval was obtained for the current study.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement 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.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

REFERENCES

- Blondeel K, de Vasconcelos S, Garcia-Moreno C, et al. Violence motivated by perception of sexual orientation and gender identity: a systematic review. *Bull World Health Organ* 2018;96:29–41.
- Kenagy GP, Bostwick WB. Health and social service needs of trans people in Chicago. *Int J Transgend* 2005;8:57–66.
- Ontario Human Rights Commission. *Policy on preventing discrimination because of gender identity and gender expression*. Toronto, ON: Ontario Human Rights Commission, 2014. Available: <http://www.ohrc.on.ca/sites/default/files/Policy%20on%20preventing%20discrimination%20because%20of%20gender%20identity%20and%20gender%20expression.pdf>
- Stotzer RL. Violence against trans people: A review of united states data. *Aggression and Violent Behavior* 2009;14:170–9.
- Langenderfer-Magruder L, Walls NE, Kattari SK, et al. Sexual victimization and subsequent police reporting by gender identity among lesbian, gay, bisexual, transgender, and queer adults. *Violence Vict* 2016;31:320–31.
- Hoxmeier JC. Sexual assault and relationship abuse victimization of transgender undergraduate students in a national sample. *Violence Gend* 2016;3:202–7.
- Bauer GR, Pyne J, Francino MC, et al. Suicidality among trans people in Ontario: Implications for social work and social justice / La suicidabilité parmi les personnes trans en Ontario: Implications en travail social et en justice sociale. *Service Social* 2013;591:35–62.
- Campbell R, Patterson D, Lichty LF. The effectiveness of sexual assault nurse examiner (SANE) programs: a review of psychological, medical, legal, and community outcomes. *Trauma Violence Abuse* 2005;6:313–29.
- Du Mont J, White D. *Uses and impacts of medico-legal evidence in sexual assault cases: a global review*. Geneva, CH: World Health Organization Press, 2007. Available: http://apps.who.int/iris/bitstream/10665/43795/1/9789241596046_eng.pdf
- Chisolm-Straker M, Jardine L, Bennouna C, et al. Transgender and gender nonconforming in emergency departments: A qualitative report of patient experiences. *Transgend Health* 2017;2:8–16.
- U.S. Department of Justice Office on Violence Against Women. *A national protocol for sexual assault medical forensic examinations, second edition*. Washington, ON: U.S. Department of Justice Office on Violence Against Women, 2013. Available: <https://www.ncjrs.gov/pdffiles1/ovw/241903.pdf>
- Gentlewarrior S, Fountain K. *Culturally competent service provision to lesbian, gay, bisexual and transgender survivors of sexual violence*. Harrisburg, PA: Resource Center on Violence Against Women, 2009. Available: http://new.vawnet.org/Assoc_Files_VAWnet/AR_LGBTSexualViolence.pdf
- Bauer GR, Scheim AI, Deutsch MB, et al. Reported emergency department avoidance, use, and experiences of transgender persons in Ontario, Canada: results from a respondent-driven sampling survey. *Ann Emerg Med* 2014;63:713–20.
- Grant JM, Mottet LA, Tanis J, et al. *Injustice at every turn: A report of the national transgender discrimination survey*. Washington, DC: National Center on Transgender Equality and National Gay and Lesbian Task Force, 2011. Available: http://www.thetaskforce.org/static_html/downloads/resources_and_tools/ntds_report_on_health.pdf
- Munson M, Cook-Daniels L. *A guide for facilitators of transgender community groups: Supporting sexual violence survivors*. Milwaukee, WI: FORGE, 2016. Available: <http://forge-forward.org/2016/05/29/sv-facilitator-guide/>
- Du Mont J, Parnis D. Ontario Network of Sexual Assault Care and Treatment Centres. *An overview of the sexual assault care and treatment centres of Ontario [Revised and Expanded]*. Toronto, ON: Women's College Research Institute, 2002. Available: <http://www.womenscollegehospital.ca/assets/legacy/wcr/PDF/programs/whoapr2003.pdf>
- Du Mont J, Kosa D, Yang R, et al. Determining the effectiveness of an elder abuse nurse examiner curriculum: A pilot study. *Nurse Educ Today* 2017;55:71–6.
- Ontario Network of Sexual Assault/Domestic Violence Treatment Centres (SA/DVTCs). *Sexual Assault Nurse Examiner (SANE) training [E-learning]*. Toronto, ON: Ontario Network of SA/DVTC, 2018. Available: <http://client.dlc-inc.com/WCH/SADVTC/login.php>
- Du Mont J, Macdonald S, White M, et al. Client satisfaction with nursing-led sexual assault and domestic violence services in Ontario. *J Forensic Nurs* 2014;10:122–34.
- Bauer GR, Scheim AI. *Transgender People in Ontario, Canada: Statistics from the Trans PULSE Project to Inform Human Rights Policy*. London, ON: Trans PULSE Project Team, 2015. Available: <http://transpulseproject.ca/research/statistics-from-trans-pulse-to-inform-human-rights-policy/>
- Day K, Stiles E, Munson M, et al. *Forensic exams with trans sexual assault survivors*. Milwaukee, WI: FORGE, 2014. Available: <http://forge-forward.org/event/forensic-exams/>
- FORGE. *SAFE Protocol: Trans-specific annotation*. Milwaukee, WI: FORGE, 2014. Available: <http://forge-forward.org/wp-content/docs/SANE-protocol-trans-inclusive-handout-2.pdf>
- Herman JL, Haas AP, Rodgers PL. *Suicide Attempts Among Trans and Gender Non-Conforming Adults*. Los Angeles, CA: UCLA The Williams Institute, 2014. Available: <http://escholarship.org/uc/item/8xg8061f>
- Du Mont J, Solomon S, Kosa SD, et al. Development and evaluation of sexual assault training for emergency department staff in Ontario, Canada. *Nurse Educ Today* 2018;70:124–9. submitted January.
- Du Mont J, Kosa D, Macdonald S, et al. The promise of an interactive, online curriculum in improving the competence of those working in healthcare settings to address sexual assault. *J Multidiscip Healthc* 2017;10:425–7.
- Du Mont J, Kosa D, Macdonald S, et al. Development of skills-based competencies for forensic nurse examiners providing elder abuse care. *BMJ Open* 2016;6:e009690.
- Anderson LW, Krathwohl DR, Airasian PW, et al; *A taxonomy for learning, teaching, and assessing: a revision of bloom's taxonomy of educational objectives*. New York, NY: Pearson, Allyn & Bacon, 2001.
- Du Mont J, Mirzaei A, Macdonald S, et al. Perceived feasibility of establishing dedicated elder abuse programs of care at hospital-based sexual assault/domestic violence treatment center. *Med Law* 2014;33:189–206.
- McPhail D, Rountree-James M, Whetter I. Addressing gaps in physician knowledge regarding transgender health and healthcare through medical education. *Can Med Educ J* 2016;7:e70–e78.
- Johnston CD, Shearer LS. Internal medicine resident attitudes, prior education, comfort, and knowledge regarding delivering comprehensive primary care to transgender patients. *Transgend Health* 2017;2:91–5.
- Shaffer N. Transgender patients: implications for emergency department policy and practice. *J Emerg Nurs* 2005;31:405–7.
- Chan B, Skocylas R, Safer JD. Gaps in transgender medicine content identified among Canadian medical school curricula. *Transgend Health* 2016;1:142–50.

33. Lelutiu-Weinberger C, Pollard-Thomas P, Pagano W, *et al*. Implementation and evaluation of a pilot training to improve transgender competency among medical staff in an urban clinic. *Transgend Health* 2016;1:45–53.
34. Campbell R, Townsend SM, Long SM, *et al*. Responding to sexual assault victims' medical and emotional needs: a national study of the services provided by SANE programs. *Res Nurs Health* 2006;29:384–8.
35. Sampsel K, Szobota L, Joyce D, *et al*. The impact of a sexual assault/domestic violence program on ED care. *J Emerg Nurs* 2009;35:282–9.
36. *International Association of Forensic Nurses. SANE Program Listing*. Elkridge, MD: Forensic Nurses, 2017. Available: <http://www.forensicnurses.org/?page=a5>
37. Dewey JM. Knowledge legitimacy: how trans-patient behavior supports and challenges current medical knowledge. *Qual Health Res* 2008;18:1345–55.
38. Harbin A, Beagan B, Discomfort GL. Judgment, and Health Care for Queers. *J Bioeth Inq* 2012;9:149–60.
39. Du Mont J, Kia H, Saad M, *et al*. *Providing trans-affirming care for sexual assault survivors: Training manual*. Toronto, ON: Women's College Research Institute, Women's College Hospital and the Ontario Network of Sexual Assault/Domestic Violence Treatment Centres, 2018.
40. Saad M, Kia H, Macdonald S, *et al*. *Providing trans-affirming care for sexual assault survivors: facilitator's Guide*. Toronto, ON: Women's College Research Institute, Women's College Hospital and the Ontario Network of Sexual Assault/Domestic Violence Treatment Centres, 2018.
41. Saad M, Kia H, Macdonald S, *et al*. *Providing trans-affirming care for sexual assault survivor: training Module*. Toronto, ON: Women's College Research Institute, Women's College Hospital and the Ontario Network of Sexual Assault/Domestic Violence Treatment Centres, 2018.