



Assessing uptake of national HIV screening and testing guidance—Part 1: Awareness, use and usefulness

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Abstract

Background: In 2013, the Public Health Agency of Canada released the *HIV Screening and Testing Guide* (the Guide) to support routine HIV screening and testing practices of health care providers in Canada and promote early detection of new HIV cases. Little was known regarding health care providers' awareness and use of the Guide.

Objective: To determine Canadian health care providers' awareness, use and perceived usefulness of the Guide.

Methods: An open, anonymous online survey, including questions on awareness, use and usefulness, was developed with stakeholders, validated and pre-tested. It was then disseminated to a convenience sample of health care providers across Canada between June and August 2016.

Results: A total of 1,075 participants representing all Canadian provinces and territories responded to the survey, with the majority being nurses (54%) and physicians (12%). About two-thirds of respondents (65%) were aware of the Guide; of those, approximately half used it. Thirty-five percent of participants were not aware of the Guide, including none of the 173 health care providers in primary care (family/general practice). Among participants who were aware of and used the Guide, over 80% reported incorporating recommendations from the Guide into their practice and 77% reported frequently or always being able to find information they were looking for.

Conclusions: The *HIV Screening and Testing Guide* appears to be very useful for those who are aware of it and use it; however, awareness of the Guide appears to be low in primary care. Although these results need to be interpreted in light of the convenience sample, it suggests broader dissemination efforts may be needed to reach all of the potential users of the Guide.

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Introduction

In 2014, the Joint United Nations Programme on HIV/AIDS (UNAIDS) announced the global 90-90-90 targets, which sought, by the year 2020, to diagnose 90% of all HIV-positive individuals, have 90% of these individuals on antiretroviral therapy (ART) and, of those on ART, have 90% attain viral suppression (1).

HIV screening and testing is needed in order to make the diagnosis of HIV infection, and, as such, comprehensive HIV screening and testing strategies are essential to reaching the UNAIDS targets. Screening and testing are the first steps to identifying individuals who are HIV-positive and unaware of their infection, which facilitates linkage to care, consequently decreasing morbidity and mortality associated with HIV/AIDS and preventing onward transmission.

At the end of 2014, an estimated 65,040 persons were living with HIV in Canada and an estimated 21% of those were

unaware of their infection (2). This is significant in that those who are unaware of their HIV status are unable to start treatment or take advantage of available support services. In addition, it is estimated that those who are unaware of their infection contribute to 30–50% of all new infections (3,4).

The Public Health Agency of Canada's (PHAC) *HIV Screening and Testing Guide* (the Guide) was released in 2013 to facilitate HIV testing in health service delivery settings (5). The Guide provides evidence-based recommendations regarding who, when and how often to screen for HIV, as well as general information about testing procedures.

The Guide is currently available online through PHAC's website and has been printed and distributed through stakeholders and non-governmental organizations, including the Canadian AIDS Treatment Information Exchange (CATIE). Little is known about



health care providers' awareness and use of the Guide, and whether the Guide is useful to health care providers.

This article describes the results of Part 1 of a larger study assessing the uptake of the Guide. The objective of Part 1 was to evaluate the awareness, use and perceived usefulness of the Guide. The objective of Part 2 was to assess health care providers' knowledge, comfort and clinical practices related to HIV testing (6). The overall study is part of the work underway to inform potential updates of the Guide to support HIV screening and testing practices in Canada.

Methods

Information related to health care providers' awareness and use of the Guide were collected over a three month period (June–August 2016) as part of a larger anonymous online survey. *The Checklist for Reporting Results of Internet E-Surveys* was followed where applicable for the reporting of methodology and results (7). The study was approved by the Health Canada and PHAC Research Ethics Board.

Survey design

The survey was designed in consultation with evaluation, infectious disease and HIV content experts. The design was based on previous PHAC surveys with similar objectives, previous literature on survey design, factors that influence testing behaviour and known barriers and facilitators of testing (8-12). The survey and study protocol were externally peer-reviewed for face validity by an infectious disease physician and an expert in evaluation. Pilot testing of the questionnaire was then conducted with a panel of infectious disease experts prior to full-scale dissemination.

Awareness was assessed by asking participants whether they were aware of the Guide. Those who indicated being aware of the Guide were asked to identify the method (e.g., by email, word-of-mouth, PHAC's website or receiving a print copy of the Guide). Use was assessed by asking participants whether they had used the Guide. If respondents indicated having used the Guide ("users"), they were then asked to report on how often they used it. "Non-users" were defined as those who had not used the Guide, and may or may not have been aware of it. Usefulness was assessed by asking participants how often they were able to find the information they were looking for in the Guide, whether they identified any errors or out of date material in the Guide and whether they regularly incorporated recommendations from the Guide into clinical practice. Further details on these variables, as well as the full survey, are available upon request.

Recruitment and administration

Participants were recruited to the voluntary survey via a link attached to a bilingual (English and French) email invitation sent to online newsletters/listservs and CATIE. Participants were also recruited by email invitations distributed by contacts of other Government of Canada departments and regional offices. A link to the survey was also sent to 23 associations for health professionals (e.g., physicians, nurses, social workers

and community-based service providers). While only three of the professional associations agreed to disseminate the survey (Pacific AIDS Network, Canadian Public Health Association and Canadian AIDS Society), others may have disseminated the survey to their members without informing the research team. Individuals who received the survey via e-mail or newsletter may have also further disseminated the survey among their colleagues and networks so a participation rate cannot be calculated.

The survey was hosted on the Canadian Network for Public Health Intelligence Web Data online surveying tool and was available in English and French. Respondents were provided information related to privacy and data management/storage, length of the survey, purpose of the study and contact information for the principle investigator, prior to providing informed consent to participate. Participation was not incentivized. Participants' responses were included if they were 18 years of age or older, currently practicing and represented health care providers/professionals.

Data management and analysis

Survey responses were collected in a secure electronic database and then downloaded to a password-protected Microsoft Excel file. Responses were anonymous with no personal identifiers collected (e.g., names, addresses, email addresses or IP addresses). Descriptive statistics were used to calculate response frequencies. Analyses were completed using Microsoft Excel.

Results

In total, 1,075 health care providers completed the survey. Survey respondents self-identified from all 13 provinces and territories, with the majority from Ontario, British Columbia and Quebec (Table 1). The majority of respondents were nurses (54%), with physicians (12%) representing the second most common provider type.

Table 1: Demographics of survey participants—Canada, June-August 2016

Demographics	n	%
Province/territory of practice (n=1,069)		
Ontario	375	35.1
British Columbia	152	14.2
Quebec	149	13.9
Saskatchewan	107	10.0
Manitoba	91	8.5
Alberta	79	7.4
New Brunswick	30	2.8
Nova Scotia	29	2.7
Newfoundland and Labrador	22	2.1
Northwest Territories	14	1.3
Prince Edward Island	11	1.1
Yukon	7	0.7
Nunavut	3	0.3

Table 1: Demographics of survey participants—Canada, June-August 2016

Demographics (con't)	n	%
Type of provider (n=1,071)		
Nurse	577	53.9
Physician	127	11.9
Community health worker	95	8.9
Nurse practitioner	84	7.8
Social worker	52	4.9
Counsellor	39	3.6
Midwife	8	0.7
Medical resident	0	0.0
Other health care provider	89	8.3
Area of practice (n=1,055)		
STI/Public Health	455	43.1
Family/General practice	173	16.4
Specialist	114	10.8
Emergency/Urgent care	27	2.6
Other (please specify)	286	27.1
Setting (n=1,061)		
Large urban population centre (100,000+)	564	53.2
Medium population centre (between 30,000 and 99,999)	181	17.1
Small population centre (between 1,000 and 29,999)	234	22.1
Rural area (<1,000)	62	5.8
Geographically isolated/remote (not accessible by road or only by a dirt/winter road)	20	1.9
Years of practice (n=1,069)		
> 20 years	409	38.3
15 – 19 years	141	13.2
10 – 14 years	149	13.9
5 – 9 years	177	16.6
< 5 years	193	18.1

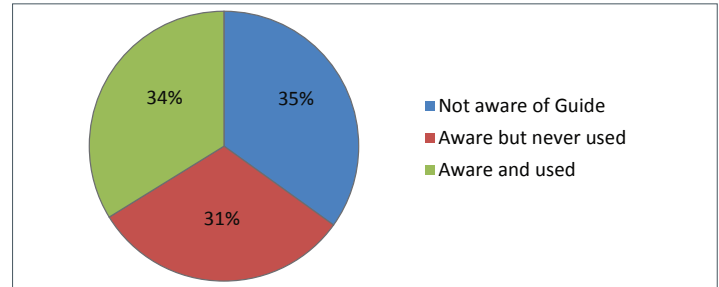
Abbreviation: n, number
 Note: Sample sizes varied between n=1055-1071 as individual questions were voluntary

Most respondents (43%) worked in the area of sexually transmitted infections (STIs) and public health. Over 25% of respondents indicated that their primary area was 'other,' such as corrections, health promotion and public health. Family/general practice (16%), specialist (10%) and emergency/urgent care (3%) made up the remainder of the responses (Table 1). The majority of participants practiced in large urban population centres (53%). More than a third of providers had been practicing for more than 20 years (Table 1).

Awareness

Approximately two-thirds of participants were aware of the Guide and, of those, half had used it (Figure 1). Nurses were the most aware of the Guide and health care providers who had been practicing for longer periods of time were more likely to be aware of the Guide. None of the health care providers who primarily practice in family/general care reported being aware of the Guide.

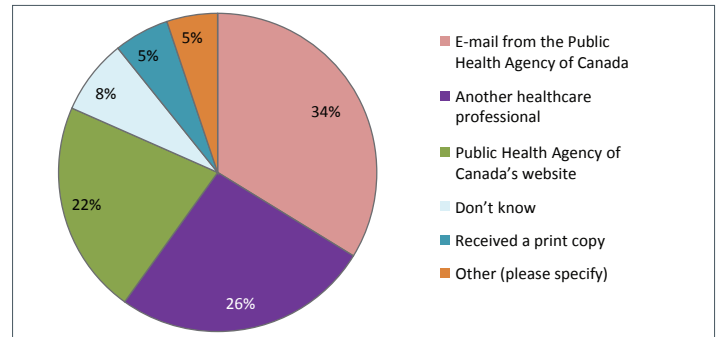
Figure 1: Percentage of respondents who are aware of and who use the Guide (n=1071)



Abbreviation: n, number

The most common ways of becoming aware of the Guide were via e-mail from PHAC (34%), a colleague (26%) or the PHAC website (22%) (Figure 2).

Figure 2: How respondents became aware of the Guide (n=696)

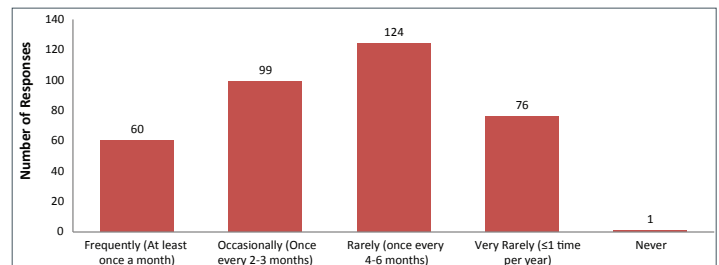


Abbreviation: n, number

Use

Of 359 users of the Guide, 16% reported using the Guide frequently (at least once a month), 28% reported occasional use of the Guide (once every two to three months), 35% reported rare use of the Guide (once every four to six months) and 21% reported very rare use of the Guide (less than once a year) and 0.3% reported never having used the Guide (Figure 3). Because they were not aware of the Guide, no health care providers in family/general practice had used it.

Figure 3: Frequency of use of the Guide by those who indicated having used it (n=359)



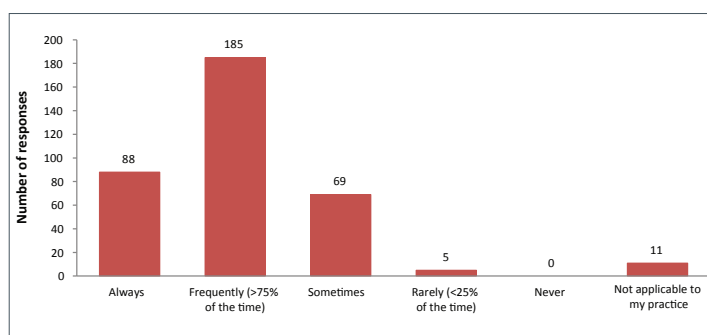
Abbreviation: n, number



Usefulness

Of those who used the guide, the majority (84%) reported that they regularly incorporated recommendations from the Guide in their practice. Most users (77%) indicated being able to find the information they were looking for at least 75% of the time (Figure 4). Only 13 users (3.6%) reported finding errors or out-of-date material in the Guide. This included concerns about the practicality and conciseness of the Guide and the need to update the Guide with respect to new technologies, such as point-of-care testing and pre-exposure prophylaxis (PrEP).

Figure 4: How often users of the Guide are able to find the information they were looking for when using it (n=358)



Abbreviation: n, number

Discussion

Overall, the results of this national survey suggest that health care providers have only moderate awareness of PHAC's *HIV Screening and Testing Guide* but those who had, reported that they regularly incorporated recommendations from the Guide in their practice. It was noted that in a few areas, improvements could be made in the practicality/conciseness of the Guide and incorporating information on new prevention technologies such as PrEP would be useful.

Awareness may have been impacted by the dissemination methods used when first distributing the Guide. Email, the PHAC website and word-of-mouth appear to be effective knowledge dissemination methods as many respondents indicated that they learnt about the Guide through these routes. The avenues of dissemination may have been more likely to target health care providers in the area of sexual health who would be more comfortable with HIV testing than other health care providers.

The strengths of the current study include the geographically representative sample, with respondents from all provinces and territories, and the diverse range of health care providers. Moreover, the survey was comprehensive, covering a number of areas that could be used to update the Guide.

Limitations include the use of a convenience sample, so that the participants may not be representative of all health care providers in Canada and it is not possible to generalize the results to all practitioners in Canada. This may have been particularly true of primary care health care providers. Moreover,

the use of self-reported measures with respect to use of the Guide could have been subject to recall bias.

Conclusion

Awareness of the PHAC's *HIV Screening and Testing Guide* among health care providers could be improved. Although the current results need to be interpreted in light of the convenience sample, it suggests broader dissemination efforts to reach all of the potential users of the Guide may be needed as part of the overall effort to eliminate HIV in Canada.

Authors' statement

GT—conceptualization, methodology, data collection and curation, formal analysis, writing—original draft, writing—review and editing, supervision, project administration
 TA—methodology, data collection and curation, writing—original draft, writing—review and editing
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Conflict of interest

None.

Contributors

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References

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). 90-90-90: An ambitious treatment target to help end the AIDS epidemic. 2014. <http://www.unaids.org/en/resources/documents/2017/90-90-90>
2. Public Health Agency of Canada. Summary: Measuring Canada's progress on the 90-90-90 HIV Targets. Ottawa; 2016. <http://www.healthycanadians.gc.ca/publications/diseases-conditions-maladies-affections/hiv-90-90-90-vih/index-eng.php>. [Accessed 12/6, 2016.]
3. Skarbinski J, Rosenberg E, Paz-Bailey G, Hall HI, Rose CE, Viall AH et al. Human immunodeficiency virus transmission at each step of the care continuum in the United States. *JAMA Intern Med* 2015 Apr;175(4):588–96. DOI (<http://dx.doi.org/10.1001/jamainternmed.2014.8180>). PubMed (https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=25706928&dopt=Abstract).
4. Marks G, Crepaz N, Janssen RS. Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. *AIDS* 2006 Jun;20(10):1447–50. DOI (<http://dx.doi.org/10.1097/01.aids.0000233579.79714.8d>). PubMed (https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=16791020&dopt=Abstract).
5. Public Health Agency of Canada. Human Immunodeficiency Virus: HIV Screening and Testing Guide. Ottawa; 2013. http://www.catie.ca/sites/default/files/EN_HIV-Screening-Guide-2013.pdf
6. Traversy G, Austin T, Yau J, Timmerman K. Assessing uptake of national HIV screening and testing guidance—Part 2: Knowledge, comfort and practice. *Can Commun Dis Rep* 2017;43(12):266-70. <https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2017-43/ccdr-volume-43-12-december-7-2017/hiv-screening-testing-canada-part-2.html>
7. Eysenbach G. Improving the quality of Web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). *J Med Internet Res* 2004 Sep;6(3):e34. DOI (<http://dx.doi.org/10.2196/jmir.6.3.e34>). PubMed (https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=15471760&dopt=Abstract).
8. Rank C, Remis RS, Swantee C, Wu K. Patterns of HIV testing among Ontario physicians. *Can J Public Health* 2010 Jul-Aug;101(4):294–9. PubMed (https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=21033534&dopt=Abstract).
9. Smith CR, Pogany L, Foley S, Wu J, Timmerman K, Gale-Rowe M et al. Knowledge and counselling practices of Canadian physicians related to antibiotic use and antimicrobial resistance: A two-cycle national survey in 2014/2015. *Can Fam Phys*. Forthcoming.
10. Skinner K. Developing a tool to measure knowledge exchange outcomes. *Can J Program Eval* 2007;22(1):49–73.
11. Traversy GP, Austin T, Ha S, Timmerman K, Gale-Rowe M. An overview of recent evidence on barriers and facilitators to HIV testing. *Can Commun Dis Rep* 2015;41(12):304-12. <https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2015-41/ccdr-volume-41-12-december-3-2015-good-news-on-hiv/ccdr-volume-41-12-december-3-2015-good-news-on-hiv-1.html>
12. Seto J, Kapral O, Wong T, Gale-Rowe M, Demers A, Dodds J et al. Differences among Canadian family practitioners by years of practise in uptake of sexually transmitted and blood-borne infections (STBBIs) Clinical Recommendations (STI&AIDS World Congress 2013 Vienna, Austria). *Sex Transm Infect* 2013 Jul;89 Suppl 1:A391. DOI (<http://dx.doi.org/10.1136/sextrans-2013-051184.1225>).