Gender-Inclusive Fellowship Naming and Equity, Diversity, and Inclusion in Radiology: An Analysis of Radiology Department Websites in Canada and the United States

Tyler D. Yan, Lauren E. Mak, MD, PhD, MSc, Evelyn F. Carroll, MD, Faisal Khosa, MD, MBA, and Charlotte J. Yong-Hing, MD, FRCPC

Abstract

Purpose: Transgender and gender non-binary (TGNB) individuals face numerous inequalities in healthcare and there is substantial work to be done in fostering TGNB culturally competent care in radiology. A radiology department’s online presence and use of gender-inclusive language are essential in promoting an environment of equity, diversity, and inclusion (EDI). The naming of radiology fellowships and continuing medical education (CME) courses with terminology such as “Women’s Imaging” indicates a lack of inclusivity to TGNB patients and providers, which could result in suboptimal patient care.

Methods: We conducted a cross-sectional analysis of all institutions in Canada and the United States (US) offering training in Breast Imaging, Women’s Imaging, or Breast and Body Imaging. Data was collected from each institution’s radiology department website pertaining to fellowship names, EDI involvement, and CME courses.

Results: 8 Canadian and 71 US radiology fellowships were identified. 75% of Canadian and 90% of US fellowships had gender-inclusive names. One (12.5%) Canadian and 29 (41%) US institutions had EDI Committees mentioned on their websites. Among institutions publicly displaying CME courses about breast/body or women’s imaging, gender-inclusive names were used in only 1 (25%) of the Canadian CME courses, compared to 81% of the US institutions.

Conclusions: Most institutions in Canada and the US have gender-inclusive names for their radiology fellowships pertaining to breast and body imaging. However, there is much opportunity to and arguably the responsibility for institutions in both countries to increase the impact and visibility of their EDI efforts through creation of department-specific committees and CME courses.

Résumé

Objectif: Les personnes transgenres et non binaires (TGNB) font face à de nombreuses inégalités en matière de soins de santé et il reste beaucoup de travail à accomplir pour promouvoir des soins culturellement pertinents pour les personnes TGNB. La présence en ligne d’un service de radiologie et l’utilisation d’un langage inclusif des genres sont essentielles pour la promotion d’un environnement offrant équité, diversité et inclusion (EDI). La dénomination des bourses de recherche en radiologie et les cours de formation médicale continue avec une terminologie du type <<Imagerie des femmes>> indiquent un manque d’inclusivité aux patient.e.s et prestataires de soins TGNB, ce qui pourrait déboucher sur des soins sous-optimaux.

Méthodes: Nous avons mené une analyse transversale de tous les établissements au Canada et aux États-Unis proposant une formation en imagerie mammaire, imagerie des femmes ou imagerie mammaire et du corps. Des données ont été tirées du site Web du service de radiologie de chaque établissement pour ce qui concerne les noms des bourses de recherche, l’implication pour l’EDI et les cours de FMC. Résultats: Huit (8) bourses canadiennes et 71 bourses américaines en radiologie ont été identifiées. 75% des bourses canadiennes et 90% des bourses américaines avaient des noms neutres en matière de genre. Dans un cas (12.5%) d’établissement canadien et 29 cas (41%) d’établissements américains, un comité EDI

1Faculty of Medicine, University of British Columbia, Vancouver, BC, Canada
2Department of Radiology, University of Toronto, Toronto, ON, Canada
3Department of Radiology, Mayo Clinic, Rochester, MN, USA
4Department of Radiology, Vancouver General Hospital, Vancouver, BC, Canada
5Department of Diagnostic Imaging, BC Cancer, Vancouver, BC, Canada

Corresponding Author:
Tyler D. Yan, Medical Undergraduate Program, University of British Columbia, 9848 Waller Court, Richmond, BC, Canada.
Email: tyler.yan7@gmail.com
était mentionné sur leur site Web. Parmi les établissements affichant publiquement des cours de FMC sur l'imagerie mammaire et du corps ou des femmes, des noms neutres en termes de genre n'étaient utilisés que par un seul des cours de FMC canadiens comparativement à 81% des établissements aux États-Unis. Conclusions: La plupart des établissements canadiens et américains ont des noms neutres en matière de genre pour leurs bourses de recherche en radiologie portant sur l'imagerie mammaire et du corps. Cependant, il reste de grandes possibilités d'amélioration et cela incombe clairement aux établissements des deux pays d'augmenter l'impact et la visibilité de leurs efforts d'ÉDI par la création de comités spécifiques aux services et de cours de FMC.

Keywords
transgender, radiology, gender-inclusive, health equity, diversity, gender-neutral language

Introduction
The global population of transgender and gender non-binary (TGNB) individuals is estimated to be up to 25 million people. In the United States (US), a study from 2016 reported that 1.4 million Americans (0.6% of the US population) identify as TGNB, a figure that has doubled in a decade. Despite this, TGNB individuals suffer from inequalities in the provision of healthcare, with a large survey examining the experiences of 27,715 respondents reporting that 28% had postponed medical care even when sick or injured, and one-fifth were refused care because of their gender identity. A survey of more than 6,450 TGNB participants found that 28% of respondents were subjected to harassment in medical settings and 50% had to teach their medical providers about transgender care. Radiology departments are not exempt from this, and a recent survey of US breast imaging facilities reported that many do not have the necessary procedures and policies to provide inclusive environments for TGNB patients.

The use of gender-inclusive language is at the forefront of ensuring respectful communication and provision of healthcare and imaging. At the individual level, this may take the form of asking for names and pronouns, as experiences of gender affirmation are known to be protective against mental health problems. On the contrary, over 40% of TGNB individuals are reported to have attempted suicide at some point in their lifetimes, with experiences of discrimination or mistreatment in healthcare being a risk factor for suicide thoughts and attempts.

At the systems level, terminology such as “women’s imaging” represents a lack of inclusivity to non-binary and transmasculine audiences, yet continues to be used among names of radiology fellowship offerings. The aim of this study was to examine the current landscape of gender-inclusive terminology among radiology fellowship programs and public online profiles of equity, diversity, and inclusion (EDI) among Canadian and US radiology departments and identify areas for improvement.

Methods
We collected and compiled information on all the radiology fellowships offering training in Breast Imaging, Women’s Imaging, Breast and Body Imaging, or similar names in Canada and the US. In the US, fellowship match outcome data from the National Resident Matching Program database was consulted. Canadian fellowships were identified from individual institution websites. After identification of all institutions offering the fellowships of interest, data was collected from each institution’s Department of Radiology academic website. Data collection was from September to October 2021 by three team members (TY, LM, and EC) and reviewed for accuracy and consistency by a single team member (TY). The primary outcome collected from each website was the name of the institution’s fellowship program. “Gender-inclusive” naming was determined as those referring to anatomic body part instead of gender-specific terms (ie, “Breast and Abdominal Imaging” is gender-inclusive, while “Women’s Imaging” is not). Secondary outcomes included the presence of Department of Radiology-specific EDI Committees, EDI Continuing Medical Education (CME) courses, and CME courses about breast, breast and body, or women’s imaging.

Endpoints collected were dichotomous and thus analyzed using the χ² or Fisher exact test and presented as frequencies with percentages. All analyses were conducted with R version 4.0.5. P-values < .05 were considered statistically significant, and all tests were two-sided. Ethics approval was not required since the study did not include human or animal subjects and the data was collected from publicly available sources. We also applied the “A pRoject Ethics Community Consensus Initiative” (ARECCI) screening tool which scored minimal risk and indicated that our study did not require research ethics board review.

Results
A total of 8 Canadian and 71 US radiology programs offering fellowship training in Breast Imaging, Women’s Imaging, or Breast and Body Imaging were identified. Among Canadian fellowship programs, 6 of 8 (75%) had gender-inclusive naming, compared to 64 of 71 (90%) US fellowship programs (Table 1). Fellowship program names in Canada that were gender-inclusive included “Breast Imaging,” “Abdominal and Breast Imaging,” “Breast/Cross-sectional Imaging,” and “Obstetrical/Fetal Imaging”. In the US, gender-inclusive names
included “Breast Imaging,” “Breast and Body Imaging,” and “Breast Imaging and Intervention”. In contrast, fellowship program names that were not gender-inclusive included “Women’s Imaging,” “Women’s Radiology,” “Women’s and Breast Imaging,” and “Mammography/Women’s Imaging”.

Among the Canadian institutions, only one (12.5%) Department of Radiology acknowledged an EDI Committee on its website, compared to 29 (40.8%) US institutions. Radiology CME EDI courses were infrequently found on institution websites in both countries (12.5% in Canada vs 8.5% in the US).

Radiology breast, breast and body, or women’s imaging CME courses were more frequently reported among Canadian institutions (50% in Canada vs 22.5% in the US). Among those identified, 1 of 4 (25%) Canadian and 13 of 16 (81%) US CME courses used gender-inclusive terminology. Examples of CME course names that were not gender-inclusive included the “Annual Women’s Imaging Conference” and “Women’s Health: Imaging and Treatment Guidelines for Primary Care Providers”.

The correlation between Canadian and US institutions with gender-inclusive fellowship names and the secondary outcomes (existence of an EDI committee, EDI CME course, CME course about breast/women’s imaging, and gender-inclusive naming of the CME course) are summarized in Tables 2 and 3, respectively. None of the secondary outcomes were associated with having a gender-inclusive radiology fellowship program name in either country.

### Discussion

In 2015, a paper in the *American College of Radiology Bulletin* called to action the need for gender-affirming environments among radiology departments. Despite this, the radiology literature is lacking on topics of TGNB health compared to other medical disciplines. The current landscape of radiology literature continues to be limited by the outdated use of binary gender data which fails to encompass the broad spectrum of TGNB radiologists and trainees. The available research on TGNB patient experiences shows room for improvement in fostering TGNB culturally competent care in radiology. In a survey of 363 TGNB patients, more than 70% reported having had a negative encounter at an imaging center including use of inappropriate pronouns, being misgendered in the radiology report, and voicing concern that personnel were uncomfortable caring for a TGNB patient.
Our study quantified the use of gender-inclusive language among radiology departments in the US and Canada, with 75% of Canadian institutions and over 90% of US institutions having gender-inclusive radiology fellowship program names. We additionally took stock of radiology departments’ online EDI presence through the existence of publicly acknowledged EDI committees and CME courses. Despite the high number of gender-inclusive named fellowship programs, many of these institutions do not have an EDI committee listed on their website. Interestingly, the one Canadian institution that had an EDI committee referred to their fellowship as “Women’s Imaging”. However, this institution has expressed interest in changing the fellowship’s name to adopt more inclusive language after noticing advocacy efforts from organizations such as Canadian Radiology Women. When radiology departments do rename their fellowship programs to have gender-inclusive wording, we encourage them to share the reasons why they changed and to advocate for more widespread change.

In the US, there was a noticeable trend toward institutions with gender-inclusive fellowship names to also have EDI committees and gender-inclusive CME course names. However, the small number of US institutions that has yet to adopt gender-inclusive fellowship program names limits the statistical power of our comparison. Compared to their Canadian counterparts, there was a trend toward US institutions having a greater proportion of gender-inclusive names for breast, breast and body, or women’s imaging CME courses. Renaming a CME course with more inclusive language can be as simple as changing from “Women’s Imaging” to “Breast, Obstetrical, and Gynaecological Imaging”, as done by the one Canadian institution identified to have a CME course with gender-inclusive naming.

Using gender-inclusive names for fellowship programs and CME courses, as well as creating EDI committees and courses are just some of the steps in acknowledging the diversity of individuals in radiology and the patient populations we serve. Cultural competency starts during medical and radiography education, in which more than 70% of radiography educators indicated the importance of TGNB topics in the teaching curriculum to be moderate or extreme, but felt limited in their preparedness to teach these imaging considerations.

In a 2011 study of undergraduate medical schools in the US and Canada, the median reported time dedicated to teaching lesbian, gay, bisexual, and transgender (LGBT) related content in the entire curriculum was only 5 hours. This highlights the importance of transgender sensitivity training, basics of transgender health, and imaging manifestations of gender-affirming care in fostering a truly educated radiology department about the needs of TGNB patients. Furthermore, policies and procedures including asking about gender identity, names, and pronouns on intake forms, offering gender-inclusive restrooms and dressing rooms, redesigning facilities to avoid gender-connoting color schemes or signage, and publicly displaying non-discriminatory policies and reading materials can help promote a safe environment.

We believe our data will serve as a road map for institutions to take steps in creating inclusive environments in radiology for TGNB individuals. Furthermore, despite an institution being accounted for in our data as having an EDI committee or CME course, there were several instances in which this information could only be found after a prolonged and extensive search by the investigators. Our data highlights the importance of radiology departments showcasing their EDI committees and CME courses on their websites, as an institution’s public presence is foundational to the education of providers and making patients feel welcome.

Of note, there were numerous cases of institutions having general EDI committees but not radiology-specific EDI committees. We urge institutions to consider creation of an EDI committee at the department of radiology level, as the radiographic needs of TGNB individuals may be missed by the overarching goals of an institution-wide committee. To successfully bring about change, commitment from departmental leadership is paramount in making diversity a priority and this can be exemplified by the creation of a radiology-specific EDI committee.

Our study is not without its share of limitations. First, all data collected was from publicly available websites made by each institution. We may have underestimated the true number of EDI committees and CME courses offered by each radiology department. However, this is a central message of our study, which wishes to highlight only those that are publicly visible and encourage institutions to showcase their pledge to EDI through a public online presence. It is important to note that the websites reviewed in our study are those of the academic universities and not the hospitals, which one may argue could have less of an effect on patients as they are not the usual target audience for academic websites. One such way of promoting a greater impact among patients is for EDI content to be displayed through hospital websites too. Nevertheless, it is known that transgender stigma operates at multiple levels (i.e., individual, interpersonal, and structural), and that while the implementation of gender-inclusive fellowship names and CME courses on academic platforms is seemingly not directly visible to patients, it is these policies and practices that help to lessen the burden of structural stigma toward TGNB individuals.

Lastly, the lack of specificity in fellowship program names may limit our study in identifying appropriate gender-inclusive terminology. For example, a “women’s and breast imaging” fellowship may truly reflect a difference in content from “breast and abdominal imaging”, which in fact may be more aptly named “breast, obstetrical, and gynaecological imaging”. We urge for institutions to be appropriately specific when considering renaming fellowships and CME courses with gender-inclusive language.

Conclusion

Utilizing gender-inclusive language and terminology is a first step in providing a more welcoming and inclusive environment for TGNB patients and healthcare providers. Gender-inclusive
language is used in the names of most radiology fellowship programs in Canada and the US. Where many radiology departments fall short is the lack of EDI committees and CME courses. Canadian institutions in particular can make a greater effort to use inclusive language in breast and body imaging CME courses. Radiology departments should publicly showcase their commitment to EDI on their websites. It is the responsibility of institutions and individuals to educate themselves about transgender health and to make changes toward inclusive environments for improved patient care and healthcare worker mental health.

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ORCID iDs
Tyler D. Yan https://orcid.org/0000-0002-1898-7136
Faisal Khosa https://orcid.org/0000-0001-5681-7683

References
1. Winter S, Diamond M, Green J, et al. Transgender people: health at the margins of society. Lancet. 2016;388(10042):390-400.
2. Flores A, Herman J, Gates G, Brown T. How Many Adults Identify as Transgender in the United States? University of California; 2016. https://williamsinstitute.law.ucla.edu/publications/trans-adults-united-states/. Accessed November 22, 2021.
3. James S, Herman J, Rankin S, et al. The Report of the 2015 U.S. Transgender Survey. National Center for Transgender Equality; 2016. https://transequality.org/sites/default/files/docs/usts/USTS-Full-Report-Dec17.pdf. Accessed November 22, 2021.
4. Grant J, Motter L, Tanis J. Injustice at Every Turn: A Report of the National Transgender Discrimination Survey. National Center for Transgender Equality and National Gay and Lesbian Task Force; 2011. https://transequality.org/sites/default/files/docs/resources/NTDS_Report.pdf. Accessed November 22, 2021.
5. Goldberg JE, Moy L, Rosenkranz AB. Assessing transgender patient care and gender inclusivity of breast imaging facilities across the United States. J Am Coll Radiol. 2018;15(8):1164-1172. doi:10.1016/j.jacr.2018.05.007.
6. Hughto JMW, Gunn HA, Rood BA, Pantalone DW. Social and medical gender affirmation experiences are inversely associated with mental health problems in a U.S. non-probability sample of transgender adults. Arch Sex Behav. 2020;49(7):2635-2647. doi:10.1007/s10508-020-01655-5.
7. Edwards M. Allied practice: making your practice safe for transgender patients takes subtle but vital considerations. ACR Bulletin. 2015;9:14-16.
8. Stowell JT, Grimstad FW, Kirkpatrick DL, Brown LR, Flores EJ. Serving the needs of transgender and gender-diverse persons in radiology. J Am Coll Radiol. 2019;16(4):533-535. doi:10.1016/j.jacr.2018.12.050.
9. Lebel K, Hillier E, Spalluto LB, et al. The status of diversity in Canadian radiology—where we stand and what we can do about it. Can Assoc Radiol J. 2021;72(4):701-709. doi:10.1177/0846537120978258.
10. Grimstad FW, Stowell JT, Gaddis M. Survey of experiences of transgender and gender nonbinary patients during imaging encounters and opportunities for improvement. Am J Roentgenol. 2020;215(5):1136-1142. doi:10.2214/AJR.19.22558.
11. Clark KR, Vealé BL. Assessing transgender-related content in radiography programs in the United States: a survey of educators. J Med Imaging Radiat Sci. 2018;49(4):414-419. doi:10.1016/j.jmir.2018.06.050.
12. Obedin-Maliver J, Goldsmith ES, Stewart L, et al. Lesbian, gay, bisexual, and transgender–related content in undergraduate medical education. JAMA. 2011;306(9):971. doi:10.1001/jama.2011.1255.
13. Stowell JT, Zavaletta VA, Carroll EF, Grimstad FW. Multidisciplinary approach to imaging for gender-affirming surgery: engaging surgeons, radiologists, and patients to ensure a positive imaging experience. Ann Transl Med. 2021;9(7):610. doi:10.21037/atm-20-6431.
14. Huang S-Y, Zhang M, David M. Radiology’s engagement with transgender breast imaging: review of radiology practice websites and publications. J Breast Imaging. 2020;2(2):147-151. doi:10.1093/jbwi/zwz081.
15. Yong-Hing CJ, Patlas MN. Diversity in Canadian radiology: success requires leadership commitment. Can Assoc Radiol J. 2020;71(4):423-424. doi:10.1177/0846537120916069.
16. Hughto JMW, Reisner SL, Pachankis JE. Transgender stigma and health: a critical review of stigma determinants, mechanisms, and interventions. Soc Sci Med. 2015;147:222-231. doi:10.1016/j.socscimed.2015.11.010.