Assessing Physician Assistant perspectives on transgender and gender diverse health content in the didactic (pre-clinical) curriculum: A survey.

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A capstone project submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfilment of the requirements for the degree of

MASTER OF PHYSICIAN ASSISTANT STUDIES

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Winnipeg, Canada
15 May 2026

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ABSTRACT

Introduction: There are over 100,000 Canadians who are transgender or gender diverse, with younger people increasingly identifying as part of this community. Transgender and gender diverse (TGD) patients face numerous barriers to accessing health services, including a perceived lack of practitioner knowledge, leaving this population with unmet health needs and poorer health outcomes. Introducing TGD healthcare earlier on in medical education can help close the knowledge gap between patient and practitioner, increase practitioner comfort, and improve patient outcomes. **Objectives:** The purpose of this study is to evaluate the perspectives of graduated physician assistants (PAs) from the University of Manitoba Master of Physician Assistant Studies (MPAS) program on the quality and adequacy of TGD content in the didactic (pre-clinical) curriculum. **Methods:** Previous University of Manitoba MPAS graduates were sent a link to complete an online, anonymous survey that explored their education during their didactic curriculum around TGD patients and healthcare. **Results:** Many previous graduates had basic knowledge of TGD individuals and health, but the majority felt their previous didactic education inadequately prepared them for working with TGD individuals within their practice. **Conclusion:** Increasing TGD content within the didactic curriculum could help improve the knowledge and comfort of graduated PAs, which in turn would help improve health outcomes for TGD patients. There are important logistical considerations within PA programs that would make TGD curriculum expansion challenging, but this represents an area of opportunity for the University of Manitoba MPAS program.

INTRODUCTION

Common terminology and gender affirming care

In Canada, there are over 100,000 transgender and gender-diverse (TGD) individuals, with that number expected to continue growing as young people increasingly identify as part of this community.[1] *Transgender*, or *trans*, describes someone whose *gender identity* – or their individual, internal sense of gender– differs from what is generally associated with their sex assigned at birth – often male or female.[2] This is in contrast to someone who is *cisgender,* or *cis*.[2] *Non-binary* or *gender diverse* are umbrella terms encompassing various identities that do not align with the binary man/woman categorization of gender, representing individuals that fall along a spectrum or outside of that spectrum completely.[2] A person's gender identity can be separate from their *gender expression*, or how someone chooses to portray their gender to others, and these can both change for an individual over their lifetime.[2] Even within the broader 2SLGBTQ+ community, TGD people have unique healthcare experiences and needs, leading to the greater need for high-quality gender affirming care within medicine.

The term *gender affirming care (GAC)* encompasses a broad, interdisciplinary approach that focuses on supporting and affirming an individual's gender identity and expression.[3] This may include specific aspects of medical care, but also describes the general approach that practitioners have towards these patients. High-quality GAC has been associated with better quality of life scores, decreased symptoms of anxiety and depression, decreased suicidal intent, and improved physical and mental wellbeing.[3,4] However, despite well-documented and researched benefits, complex barriers continue to persist when it comes to a patient's ability to access high-quality GAC.

Accessing GAC

Primary care providers, including Physician Assistants (PAs), are often the starting point for any individual seeking care and serve as a common first step for many TGD patients who are looking for GAC related to both medical and social transitioning.[3,4] An individual's medical transition may involve various procedures or interventions to help their gender expression align more with their identity. These can include hormone replacement therapy (HRT), chest masculinization or feminization surgery ("top" surgery), or various "bottom" surgeries (including phalloplasty, metoidioplasty, vaginoplasty, and others).[3,5] An individual's social transition occurs through their gender expression, adjusting it to more align with their identity. This can include things like changing how they style themselves, changing their pronouns or name, undergoing voice training, and more. Each person will have a different goal for transitioning and have individual opinions about how they want their transition to proceed. GAC arose to help provide autonomy and facilitate these changes and provide individualized medicine that is respectful and reflective of that individual's gender identity and journey.

GAC was developed as an interdisciplinary approach between physicians/PAs, social workers, psychologists, and other allied health professionals that prioritizes mental health and holistic wellbeing to support TGD patients.[3,6] This includes specific health services as part of an individual's transition, but also across different healthcare settings, such as the emergency room or family medicine clinic. No matter the setting, PAs can have significant impacts on whether TGD patients feel comfortable accessing care and their future health outcomes, including how likely they are to return for necessary care.[3-6] Being aware of the barriers that TGD individuals face when accessing healthcare, and how to navigate them, helps improve access to care and overall health outcomes.

Barriers to GAC

Various barriers have been identified by patients when it comes to accessing GAC, from when they first reach out to the medical system and throughout their entire care journey.[3,5,6] It has previously been found that transgender patients broadly have less connection to primary care than the national average, and even fewer have primary care providers that they feel comfortable discussing TGD-specific aspects of their care.[4] They are more likely to have previous care relationships end, to be rejected by practitioners, or not return for necessary care.[4-6] Bridgwater et al. (2024) categorized their findings around barriers to accessing GAC in Manitoba in three categories: personal barriers, system-related barriers, and a third category around mental health care barriers, arising from their findings when interviewing individuals who had accessed GAC in the province.[3]

Personal barriers were those such as finances (being able to afford hormones or take time off for surgery recovery), the unspoken need for self-advocacy and personal knowledge of their healthcare options (many patients noting that they felt they had to be more medically literate about the subject than if they were trying to access other forms of care), and anxiety around feeling like they needed to say the right thing to avoid provider and staff stigma.[3] System barriers included wait times, underfunded and understaffed programs, and discrepancies between cis and trans people in accessing GAC (such as cis women accessing estrogen for menopausal hormone therapy with relative ease compared to trans women accessing estrogen for hormonal replacement therapy).[3] While there has been extensive research done into these barriers and exploring the difficulties faced by the community in accessing GAC, there has been less emphasis on finding solutions to these issues.[7,8]

As mentioned previously, a common finding was the perceived patient-provider knowledge gap, where even those patients who had a positive relationship with their primary care practitioner expressed frustration at the lack of knowledge around TGD healthcare.[3,4] This gap can lead to friction between patient and practitioner, and can lead to poorer long-term health outcomes overall.[3,4,7,8] This concept of the perceived knowledge gap has come up across publications, calling for more support for medical learners and new practitioners to help close the gap and become competent in taking a gender-affirming approach to their work regardless of specialty. While having an in-depth knowledge around HRT or the various gender-affirming surgical procedures is not necessary for most general practitioners, it is argued that having a basic approach on how to affirm someone's gender identity and support them throughout their medical transition should be a foundational skill for interacting with all patients.

The patient-practitioner knowledge gap

Helping to close the knowledge gap between the TGD patient and the practitioner is essential to helping TGD people feel supported and respected within healthcare. TGD individuals emphasize the positive role that affirming, respectful, and knowledgeable practitioners can have on their holistic wellness, placing value on both health outcomes but also overall patient experience.[3,5-7] Stigma and fear of discrimination continue to be the main barriers that prevent TGD patients from seeking care, but beyond this there exists a healthcare system that was not educated or set up for their needs.[7,8] A lack of autonomy and perceptions of practitioners "gatekeeping" information and treatment options makes it harder for TGD individuals to navigate the medical system, leading to patients acutely feeling the power imbalance that exists between patient and practitioner.[8] In a field of care where accessing safe, respectful medical interventions can literally be life or death for some patients, it is important to examine why practitioners are often not set

up for success in caring for their TGD patients and helping them access high-quality gender-affirming services. Research has shown that addressing these issues early on leads to better outcomes, starting all the way at the start of medical education programs within their didactic or pre-clinical content.[8,9]

TGD content in medical education

It has been shown in previous studies that including TGD content earlier on in medical education helps improve understanding and tolerance in those same learners once they begin practicing and interacting independently with TGD patients.[9,10] Unfortunately, it has also been shown that TGD content in the didactic curriculum within medical schools has been historically lacking, leading to practitioners feeling as though they do not have the knowledge to work with TGD patients.[9] This has repeatedly been identified as a barrier to high-quality care for TGD patients, leading to poorer health outcomes as discussed previously and across literature.[10,11]

There are few studies that have categorized the content taught within didactic healthcare curriculums related to TGD healthcare, none of which have looked at PA training within Canada. PA programs are designed with a more generalist role in mind, reflecting a fast-paced didactic curriculum that must teach students many high-yield concepts across various areas of medicine within a year. In the US, the majority of PA programs offered at least 1 hour of teaching related to TGD content, but only around 20% consider their coverage "good" or "very good" when interviewing Program Directors.[12] Furthermore, a majority of this content was shown to focus on medical interviewing and patient assessment skills, not the medical needs of TGD patients.[12,13] While not all PAs will need to know details related to TGD healthcare and the specifics of surgeries or prescribing, there should be a general understanding of how to approach these patients across specialties.[9,11] This requires an understanding of what is being taught currently

and where there are opportunities to improve care delivery and medical training. This study is the first of its kind in Canada looking at gaps in TGD teaching related to PA didactic training, directly surveying previous PA learners and the impact of their didactic education on their current practice.

PURPOSE OF THE STUDY

The purpose of this study is to explore the perspectives of previous graduates of the University of Manitoba Master of Physician Assistant Studies (MPAS) program related to their didactic (pre-clinical) education on TGD patients and healthcare.

The main objective is to evaluate these perspectives around the quality and adequacy of gender-diverse and transgender content in the didactic curriculum. Secondary objectives are to identify potential areas of opportunity for improving TGD coverage in the didactic curriculum, and to allow for further research into targeted interventions and educational resources in the future.

METHODS

Survey Design

This project used a survey-approach that utilized multiple choice, multi-select, and Likert scales to collect quantitative data around the didactic coverage of TGD health content. An open-text box was included at the end of the survey inviting participants to enter any additional comments for the researchers to qualitatively analyze.

The survey was a modified version of the Stanford Medical School LGBT Medical Education Assessment (LGBT-MEA), with adaptations designed to focus on TGD healthcare (Appendix A).[14] Specific content areas used in the Likert scales were pulled from the Word Professional

Association for Transgender Health (WPATH) Standards of Care 8, which provides guidelines on providing TGD healthcare.[15]

REB Approval

This study was approved by the University of Manitoba Human Research Ethics Board on 30 January 2026 under protocol number HE2025-0433.

Survey Distribution and Inclusion Criteria

The survey link was distributed through the University of Manitoba MPAS office through their Alumni email list. Individuals were invited to complete a 12-item survey based on two inclusion criteria: they had to have completed the MPAS program through the University of Manitoba, and able to submit an anonymous survey.

Analysis

Data analysis included both qualitative review and thematic review of responses. Descriptive statistics were collected to develop a more general overview of TGD didactic teaching. Written responses were analyzed thematically but direct quotes were omitted from the final publication due to concerns over anonymity.

RESULTS

There were 39 responses to the survey, all of which met the inclusion criteria. Participants graduated between 2010 – 2025. Graduation years were categorized by ranges (2010-2014, 2015-2019, 2020-2024, 2025) based on when major curriculum changes were expected to have occurred secondary to accreditation processes. The majority of the participants were graduates from between 2015 – 2024, reflecting two different accreditation cycles (table 1). There was an overrepresentation of 2025 graduates compared to other brackets, with one year making up

12.8% while only comprising 6.67% of previous graduates. The majority either worked or are working within specialty care, including surgery, and three had worked within transgender health. There was no association between year of graduation and specialities that respondents had worked in, and many had worked in multiple specialties (12/39; 30.7%).

Table 1: Respondent Characteristics (n=39)

Graduation Year	
2010 – 2014	7/39 (17.9%)
2015 – 2019	13/39 (33.3%)
2020 – 2024	14/39 (35.9%)
2025	5/39 (12.8%)
Previous/Current Specialty	
Primary Care	14
Urgent/Emergency Care	12
Specialty Care	24
Transgender Care	3

The next questions asked more broadly about basic concepts covered within the didactic year, focusing on being taught the difference between gender identity and biological sex and if they were taught to obtain information regarding a patient's gender identity. Over two third of participants responded positively to both topics being covered within their didactic curriculum (table 2). For those who were not taught these skills, the majority (46.2%) were graduates between 2010 and 2014, with most individuals who graduated in later years responding positively to these questions.

Table 2: Basic skills in TGD medicine (n=39)

Taught different between gender identity and biological sex	
Yes	25/39 (64.1%)
No	11/39 (28.2%)
Don't know	3/39 (7.7%)
Taught to obtain information regarding gender identity	
Yes	26/39 (66.7%)
No	10/39 (25.6%)
Don't know	3/39 (7.7%)

To gather a baseline of if and how respondents were taught about more in-depth TGD topics, individuals indicated how this content was taught during their didactic year. 20/39 respondents indicated that this content was taught in discrete lectures/modules, 4/39 indicated it was interspersed throughout various parts of their didactic curriculum, 11/39 indicated it was not taught, and the remaining 4/39 were unsure (figure 1). Of the 28/39 who indicated they were taught TGD content in either manner or were unsure were then asked to expand on where they may have been taught about specific TGD health concepts (table 3), and whether they thought this coverage was optimal or not (table 4). Responses were based on either where the content was (in the curriculum, in supplemental/non-required content, not in the curriculum, or don't know) and then a Likert scale based on how participants felt the topics were covered (too little coverage, optimal coverage, too much coverage, or not covered).

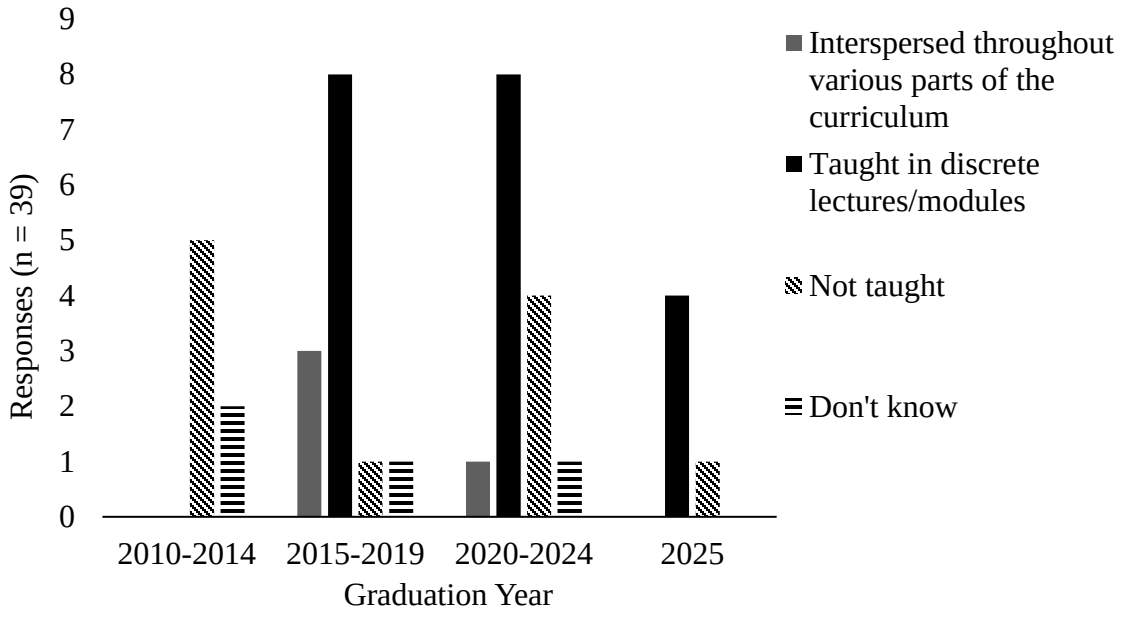

Figure 1: Methods of TGD content delivery by graduation year (n = 39)

For most respondents who graduated after 2014, TGD content was taught in discrete lectures or modules within the didactic year. For the most recent graduation year this trend stays the same, with most respondents in this range indicating they were taught in discrete lectures or modules. Prior to this, in 2010 – 2014, this content was not taught or individuals were unsure. One unsure individual noted that most topics were not covered, but some may have been. The other notes that they received teaching in supplemental materials and on rotation, but not within the didactic year.

Table 3: Assessing how respondents were taught about key areas of TGD health (n=28)

	Yes, in curriculum	Yes, in supplemental/ non-required content	Not in curriculum	Don't know
Barriers to accessing medical care for TGD individuals	11/28 (39.3%)	8/28 (28.6%)	5/28 (17.9%)	4/28 (14.3%)
Safer sex for TGD people	6/28 (21.4%)	9/28 (31.2%)	8/28 (28.6%)	5/28 (17.9%)
Gender identity labels	16/28 (57.1%)	6/28 (21.4%)	5/28 (17.9%)	1/28 (3.57%)
Medical transitioning	5/28 (17.9%)	6/28 (21.4%)	14/28 (50.0%)	3/28 (10.7%)
Social transitioning	7/28 (25.0%)	3/28 (10.7%)	15/28 (53.6%)	3/28 (10.7%)
Gender dysphoria diagnoses	6/28 (21.4%)	5/28 (17.9%)	13/28 (46.4%)	4/28 (14.3%)
Referring TGD for specialized care	5/28 (17.9%)	7/28 (25.0%)	13/28 (46.4%)	3/38 (10.7%)
Gender affirming surgeries	1/28 (3.57%)	10/28 (35.7%)	14/28 (50.0%)	3/28 (10.7%)

In table 3, respondents who indicated that they had been taught about TGD in some form within the didactic year (or those who were not sure) were asked about specific areas of TGD medicine from the WPATH Standards of Care 8th ed.[15] and if these topics were taught to them, if resources were provided for further self study on the topics, or if they were not covered within the didactic

year. For those who were taught about TGD content, only three of the more in-depth WPATH topics were covered in some form more than 50% of the time (barriers to care, safer sex for TGD people, and gender identity labels), with only gender identity labels being taught to more than half of respondents within the curriculum. Other topics, such as medical transitioning and where to refer TGD patients, were either left out of the curriculum or not something that respondents remember from their didactic years.

Participants were then asked to evaluate the adequacy of the content within the didactic year related to the same topics previously covered (table 4). For all but one topic, most respondents rated the coverage as "too little" or that the topic had not been covered at all. No respondents indicated that any topic had been covered too much, and very few felt that coverage was not necessary for some of the topics. Barriers to TGD accessing care and gender affirming surgeries were two categories where over half of respondents believed there was too little coverage, and exactly half believed there was too little coverage for medical transitioning and where to refer TGD individuals for specialized care. There were no topics where half or more of respondents felt received optimal coverage, with gender identity labels being the closest (42.9%). There was improvement seen over the years, with recent graduates more likely to indicate that there was too little coverage instead of not covered at all.

Table 4: Assessing how participants felt about their TGD didactic education

	Too much coverage	Optimal coverage	Too little coverage	Not covered	Coverage not needed
Barriers to accessing medical care for TGD individuals	0/28	7/28 (25.0%)	19/28 (67.9%)	2/28 (7.14%)	0/28
Safer sex for TGD people	0/28	9/28 (32.1%)	11/28 (39.3%)	7/28 (25.0%)	1/28 (3.57%)
Gender identity labels	0/28	12/28 (42.9%)	11/28 (39.3%)	3/28 (10.7%)	1/28 (3.57%)
Medical transitioning	0/28	5/28 (17.9%)	14/28 (50.0%)	8/28 (28.6%)	1/28 (3.57%)
Social transitioning	0/28	6/28 (21.4%)	12/28 (42.9%)	8/28 (28.6%)	2/28 (7.14%)
Gender dysphoria diagnoses	0/28	6/28 (21.4%)	11/28 (39.3%)	11/28 (39.3%)	0/28
Referring TGD for specialized care	0/28	5/28 (17.9%)	14/28 (50.0%)	9/28 (32.1%)	0/28
Gender affirming surgeries	0/28	4/28 (14.3%)	15/28 (53.6%)	9/28 (32.1%)	0/28

All respondents, including those omitted from the Likert scales, were then asked to rate their overall didactic education related to TGD people and healthcare. The majority (25/39) rated it as "poor", with only 3/39 rating it as "good"; 9/39 individuals rated it as "fair" and 2/39 were unsure (figure 2). There was no obvious trend when comparing responses to graduation year

(figure 3), with 2015-2019 graduates most likely to rate their TGD didactic education as anything other than “poor”.

Respondents were then asked if they felt their didactic education adequately prepared them for working with TGD patients within their current practice. Similarly, the majority (29/39) felt it had not, with 8/39 believing it had and 2/39 being unsure/declining to answer (figure 4). When comparing responses to graduation year, there was overall improvement, but the majority of respondents across years still felt unprepared for this aspect of their future practice (figure 5). There was the most improvement between the 2010-2014 and 2015-2019 brackets, with the greatest proportion of positive responses being from those 2015-2019 graduates. However, this rate of improvement does not seem to be sustained over time.

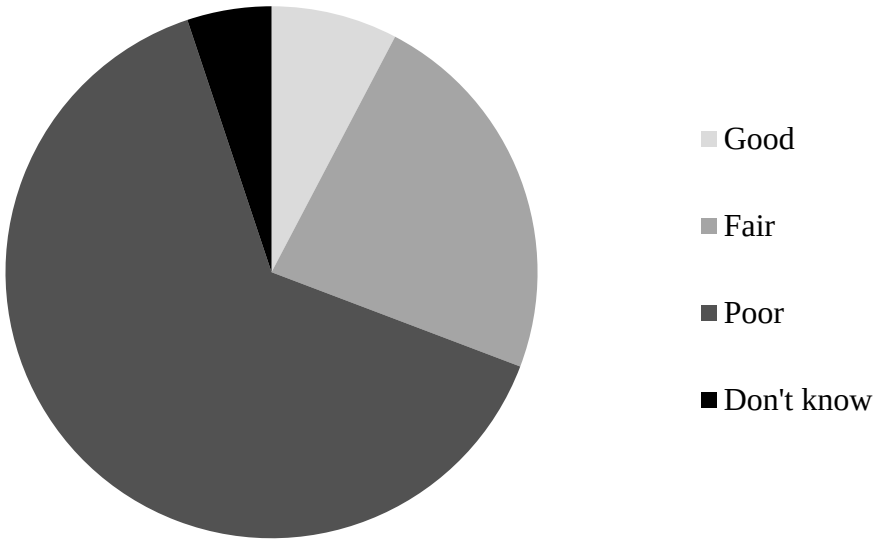

Figure 2: Respondents overall opinions on the coverage of TGD content within the didactic year

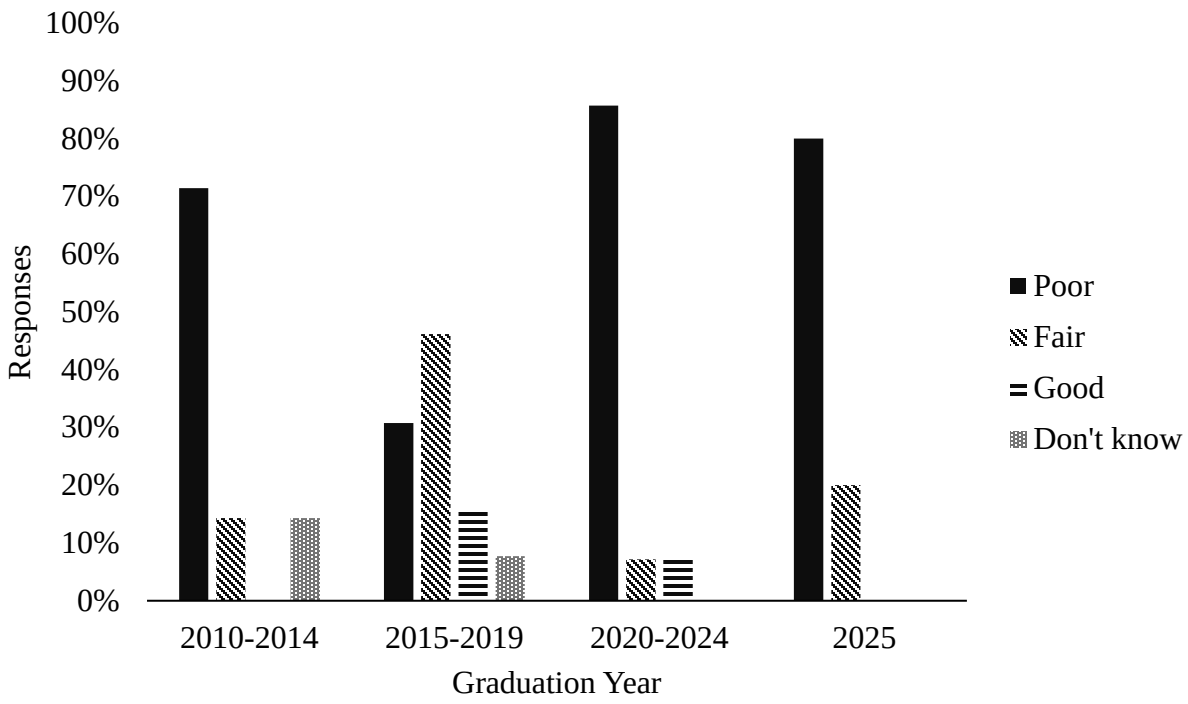

Figure 3: Respondents overall opinions on the coverage of TGD didactic content related to graduation year

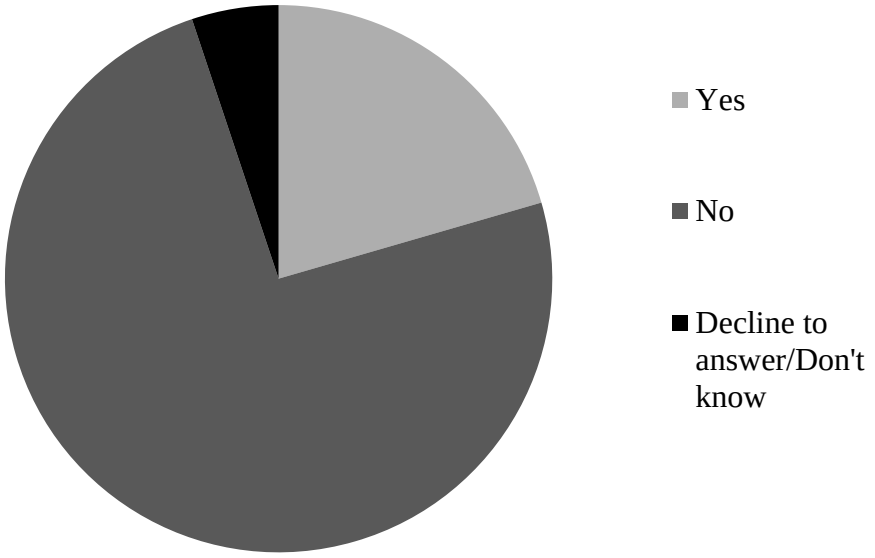

Figure 4: Respondents overall opinions on the adequacy of their TGD didactic education related to their current practice

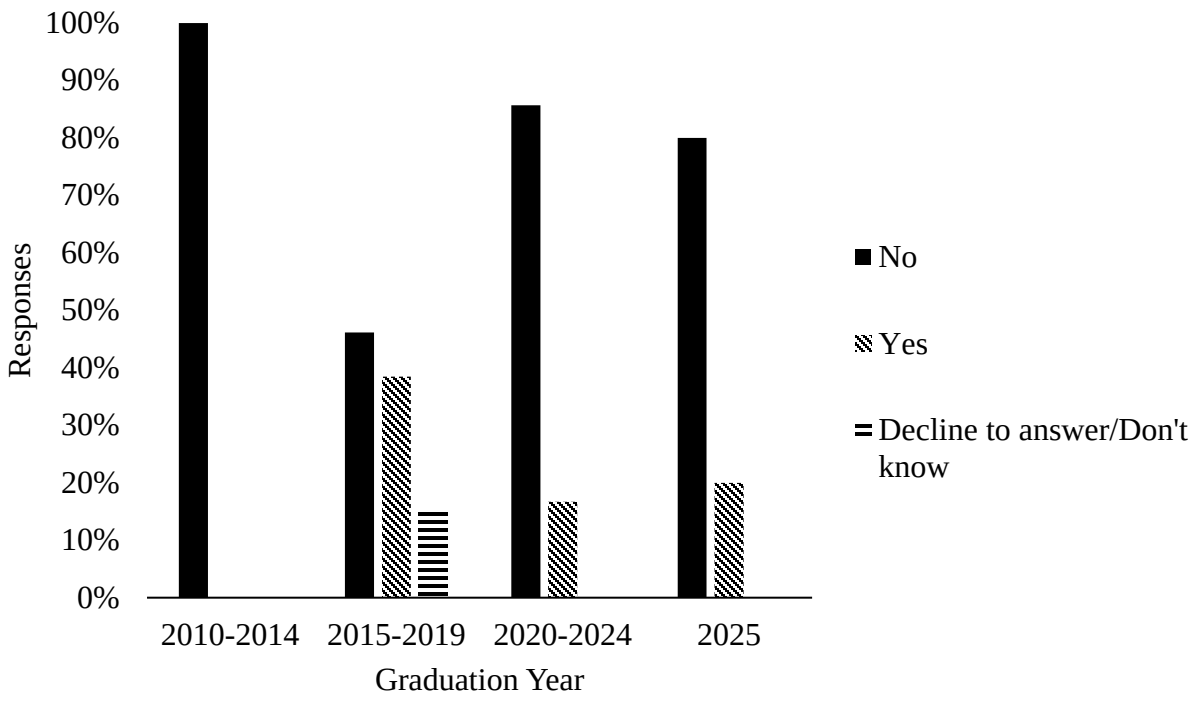

Figure 5: Overall opinions on the adequacy of TGD didactic education related to current practice by graduation year

At the end of the survey, respondents were invited to add comments to a free text box related to their education. 17/39 respondents left comments with varied opinions on the topic, which are thematically discussed below. Three respondents discussed a lack of education within their didactic year, but that supplemental opportunities at TGD healthcare settings or through their own projects they gained much of this experience. Two comments discussed how it was more reflective of the lack of awareness of TGD communities and health needs in late 2000's and early 2010's society. Six comments were in favour of adding more TGD content within the curriculum, identifying ways it has since impacted their practice or specific topics that would be beneficial to learn more about, such as medical transitioning and where to refer TGD patients within the city. two respondents were against adding more TGD-specific content to the curriculum, one of whom noted that they believe it was important to have in the curriculum, but that there were already

many other high-yield topics in medicine that were not getting adequate covered within the time-limited didactic year. Full comments were omitted, as many contained information that could be used to identify the respondent.

DISCUSSION

There was a good response rate to the survey, with individuals across graduation years and specialties represented. There was an overrepresentation of 2025 graduates, and while this does allow for a better assessment of the most recent didactic curriculum as opposed to a five-year aggregate, it must be noted that the perspectives of new graduates may continue to evolve rapidly as they gain more independent clinical experience, which could in turn affect how they rate their previous didactic education. Most respondents reported having been taught basic skills for working with TGD individuals, but felt they were lacking in more in-depth knowledge that would have benefitted them within their practice.

Overall preparedness and perspectives

Overall, across specialities and graduation years, graduated PAs felt their didactic education around TGD individuals and healthcare was poor and did not prepare them for working with these patients in the future. This is a major area of opportunity for the University of Manitoba PA program, where small changes to TGD didactic teaching could significantly improve outcomes for future practitioners and their patients.

For the purposes of answering the questions from this current study, the consensus across specialties and graduation years was a feeling of unpreparedness when approaching clinical situations involving TGD patients, and a lack of a standard approach when assessing and working with these individuals. Many commented that this preparation was inadequate for their

learning when it came to providing high-quality GAC to TGD patients, and pushed for more inclusion within the didactic curriculum.

Basic skills and knowledge

When it comes to TGD health education, there are varying curriculum standards and educational models that have been proposed without an adopted standard, leaving variation in what is considered basic knowledge and what is considered more in-depth knowledge that may not be relevant for a generalist practitioner. Bidell (2017) explores this topic within their research, based on a tripartite model highlighted by different educational programs focusing on (1) awareness of personal and societal prejudices and biases against LGBT+ patients, (2) developing appropriate clinical skills and training to be effectively provide care to this group, and (3) having a working knowledge of LGBT+ psychosocial/health issues.[16]

These three groupings (attitudinal awareness, clinical preparedness, and basic knowledge) were used as a framework for looking at the results for this current study. As Physician Assistants, there is an emphasis on basic skills and knowledge to enable students to graduate with a broad, generalized base of information to develop upon within their future careers. Being able to understand the difference between gender identity and biological sex, and how to obtain information regarding someone's gender identity, were both considered basic skills.[16] These were taught to most students, hovering around the two-thirds mark for both topics (table 2). The majority of those who were not taught these skills were from the 2010 to 2014 bracket, which likely reflects a time before the TGD population became more recognized within both healthcare and health research, and more widely in society. As one 2010 – 2014 graduate commented, "it was as current as social standards were at the time".

These are two foundational topics, as they provide the PA student with knowledge that can be used across various specialities. This is significant, since many PA graduates will work in more than one area of practice. Previous research has shown that learning these basic skills can help practitioners gather important health information and improve their relationship with patients, resulting in less delays in care and a greater chance that patients will feel comfortable disclosing this gender identity with their practitioners.[16]

Other basic knowledge, such as that of barriers to accessing GAC and gender identity labels, were taught within discrete lectures/modules or supplemental content to over half of the previous graduates (table 3). This shows a promising preexisting curriculum that can be expanded upon, as many graduates felt the coverage was still suboptimal when they reflect on their didactic years (table 4). Looking at the more in-depth topics surrounding TGD showed similar trends, where if topics were covered, they were often covered at a surface level and left graduates feeling unprepared for caring for the TGD population within their practice.

As mentioned previously, there are very few educational standards or guides on what should be taught to medical learners, and no guidelines related to PA education within Canada. This results in individual programs determining what to cover and to what extent, often fitting in supplemental lectures to complement core teaching when time and scheduling permits. With PA education, this is more difficult due to the time constraints the program is built around, which is discussed further below. However, this study shows areas that are already adequate within the didactic year and highlights many areas that could use more coverage, whether that be within the didactic year or offered as post-graduate continuing medical education for PAs early on in their careers. It can also be helpful in evaluating pre-existing TGD content within the curriculum, with the aim to streamline what is taught and how it can best be presented to future PA learners.

Current curriculum and future consideration

In Manitoba, the MPAS training program is a two-year accelerated program that aims to teach a generalist curriculum to individuals within 12 months, followed by 13 months of clinical training to cement these skills and knowledge within new grads. This leads to caution when discussing additional content within the PA didactic curriculum, as this period is ideally focused on high-yield, widely applicable clinical basics that are more relevant for the average patient. As some respondents to this survey highlighted, adding in more teaching on TGD patients and care could detract from other high-yield topics that are already sparsely covered within the didactic year, especially if it as done as discrete modules. Within the comments of the study, there was also a push for more information to be integrated within pre-existing didactic content, such as barriers to care, medical transitioning, and where to send referrals (table 4).

Previous groups have tried to create 2SLGBTQ+ curricula for medical learners, without a widely adopted standard thus far.[17] There has also been an increased recognition that broadly combining TGD experiences with other 2SLGBTQ+ experiences can detract from the unique needs of these individuals, especially within healthcare.[18] Having TGD education as a separate entity from broader 2SLGBTQ+ education helps recognize these unique needs, and there is a push happening now within research to integrate TGD content within pre-existing, organ system-based approaches to medical education, such as adding the content to endocrinology or reproductive health blocks.[17]

While there are no current curriculum standards for 2SLGBTQIA+ education in medical education, multiple groups in Canada and America have created post-graduate resources for self-paced learning, such as Trans Care BC, The Fenway Institute, and the Canadian Queer Medical Students Association.[19-21] No studies found had assessed the efficacy of post-graduate continuing

medical education within Canada when it comes to TGD patients and healthcare skills, knowledge, but could offer a future avenue for PA research.

Limitations

There are inherent limitations in this study. As this research study was based on gathering the perspectives of PA graduates who were all trained through the University of Manitoba, it may not be broadly generalizable to other programs. In addition, the data was completely self-reported and collected anonymously via the internet, which has an unavoidable degree of uncertainty when it comes to the identity of respondents and the validity of their answers. However, the risk of this was mitigated by the recruitment strategy, where the MPAS office reached out directly to previous graduates.

This research also asked PAs from across specialities, which may have caused bias when assessing how necessary respondents felt TGD content was for their didactic education. Future research may benefit from looking at whether PAs who work in specific areas, such as primary care or transgender health, would have different perspectives from those who worked in fields like urgent care or certain subspecialties, who may not interface as commonly with TGD patients and may not require as much in-depth knowledge.

Finally, there is a limitation in terms of content continuity, as the five-year brackets used to organize responses are based on accreditation years. While major changes are expected to occur in conjunction with this schedule, didactic content is also regularly adjusted based on the feedback of previous students. This means there are changes that occur within these brackets that may not be accurately portrayed within these results.

Future research steps

It is important to recognize the limitations of this current study and overall body of literature surrounding TGD communities, particularly looking at longitudinal data and the long-term impact of GAC. While TGD people are not new, there is still a lack of data and widely adopted best practices for this community and how related topics are taught within medical education. More descriptive studies would be additionally beneficial for this research topic, with the aim of helping determine what should be included and how the content could best be integrated into the didactic PA curriculum or to inform the development of post-graduate learning resources. While this paper looks at preexisting gaps and opportunities within the didactic year, there are many future studies that could expand on this topic to create a better, more comprehensive plan for teaching TGD content to future PAs.

CONCLUSION

Graduated Physician Assistants from the University of Manitoba MPAS program broadly rated their TGD didactic education as poor, not preparing them for their future practice as PAs. Many respondents noted it would be beneficial for more in-depth teaching on TGD content. However, this teaching would have to be balanced with other areas of medicine within a time-limited didactic curriculum. Further research could evaluate post-graduate PA resources for TGD healthcare education, or how the current teaching of TGD content in the didactic year could be improved upon.

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APPENDIX A: Instruments

Evaluating perceptions of PA didactic teaching in key areas of transgender health

Inclusion criteria:

1. Completion of the University of Manitoba MPAS program
2. Submission of an anonymous survey

Questions

1. By proceeding with this survey, I consent to participation.
    1. Yes
    2. No

2. Are you a previous graduate of the MPAS program through the University of Manitoba?
    1. Yes
    2. No

3. What year did you graduate the MPAS program?
    1. 2010-2014
    2. 2015-2019
    3. 2020-2024
    4. 2025

4. What area(s) have you worked/are working in? (select all that apply)
    1. Primary care
    2. Urgent/Emergency care
    3. Specialty care
    4. Transgender care

(Transgender: a person whose gender identity does not correspond with what is socially expected based on their sex assigned at birth [Egale])

5. During your PA education, were you taught the difference between gender identity and biological sex?
   Gender identity: a person's internal and individual experience of gender [Egale]
   Biological sex: a set of biological attributes that are generally assigned as male or female [CIHR]
    1. Yes
    2. No
    3. Don't know

6. When learning how to interview patients, were you taught to obtain information regarding gender identity?
    1. Yes
    2. No
    3. Don't know

7. Please complete the following statement: In the pre-clinical curriculum, transgender/gender-diverse content was:
    1. Interspersed throughout various parts of the curriculum
    2. Taught in discrete lectures/modules
    3. Not taught
    4. Don't know

8. Did your PA training offer teaching in the following areas at any point in the didactic curriculum?
   Answer selections include: "Yes, in curriculum", "Yes, in supplemental/non-required content", "Not in curriculum", "Don't know"
    1. Barriers to accessing medical care for transgender/gender-diverse (T/GD) individuals
    2. Safer sex for T/GD people, including STI coverage
    3. Gender identity labels, including culturally important labels (i.e. Two-Spirit)
    4. Medical transitioning *(involving/accessing medical treatments that change one's physical features to align more with their gender identity, such as hormone therapy)*
    5. Social transitioning *(publicly affirming one's gender identity to others through social changes, such as "coming out", changing one's name/pronouns, or changing their style of dress)*
    6. How to diagnose an individual with gender dysphoria
    7. Where to refer patients for specialized T/GD care
    8. Gender affirming surgery (ex. bilateral mastectomy, vaginoplasty)

9. Please indicate your opinion on how the following areas were covered in your PA didactic curriculum. *-> triggered by the answers from question 10 (how do we do this?)*
   Answer selections include: "Coverage not needed", "Too little coverage", "Optimal coverage", "Too much coverage", "Not covered"
    1. Barriers to accessing medical care for transgender/gender-diverse (T/GD) individuals
    2. Safer sex for T/GD people, including STI coverage
    3. Gender identity labels, including culturally important labels
    4. Medical transitioning
    5. Social transitioning
    6. How to diagnose an individual with gender dysphoria
    7. Where to refer patients for specialized T/GD care
    8. Gender affirming surgery

10. Please describe your opinion on the overall coverage of T/GD content in your PA didactic year.
    1. Good
    2. Fair
    3. Poor
    4. Don't know

11. Do you feel the didactic curriculum adequately prepared you for working with T/GD patients within your current field of practice?
    1. Yes
    2. No
    3. Decline to answer/Don't know

12. Are there any other comments that you wish to add related to the didactic curriculum for T/GD care? (*Free text box)*

APPENDIX B: Survey Consent Statement

Study Title: Assessing Physician Assistant perspectives on transgender health education in the didactic (pre-clinical) curriculum: A survey.

Student Principal Investigator: Rory Chongva, Master's Student with the Department of Physician Assistant Studies, Rady Faculty of Health Sciences, chongvar@myumanitoba.ca

Student Advisor: Dr. Harpreet Gill, Department of Pediatrics and Child Health, Rady Faculty of Health Sciences, Harpreet.Gill@umanitoba.ca

None of the researchers have any conflicts of interest in this study.

Thank you for your interest in this survey! You are being invited to participate in a research study as part of a capstone project by Rory Chongva, exploring perspectives from previous U of M graduates related to their education on transgender and gender diverse patients and healthcare within their pre-clinical curriculum. This consent statement is only part of the informed consent process. If you want more details about something mentioned here or information not included here, please reach out to the Student PI via their email above. Please take the time to read this statement carefully. It is important to understand what is being asked of you, any related risks/benefits, and how the information you provide will be used and stored.

If you decide to take part in this study, you will be asked to complete an online survey through Microsoft Forms. The survey should take around 10-15 minutes to complete. The survey is minimal risk, meaning the risks are no greater than what you may encounter in your daily life. There are no direct benefits to you by participating in this study, but we hope to learn more about transgender/gender-diverse health education so we can develop better curriculum/learning resources to benefit future PA learners. There is no compensation for this study.

All the information you provide as a participant is confidential and anonymous, meaning we as researchers keep it safe and have no way to link it back to individual respondents. Your information will be stored on a secure platform approved by the University of Manitoba. When we share the results of this study, we will combine everybody's responses, meaning no one will see your answers. No identifiable data will be collected. Aggregate data will be shared as an appendix to the final project, available for viewing through MSpace (expected in May 2027). The study results will be shared through 1) publication of the final capstone project, and 2) journal publications and presentations in relevant academic fields.

Your participation in this study is completely voluntary. You can choose to answer questions as you are comfortable with. You may withdraw from the study by not submitting your answers at any time and exiting the browser. However, due to the data collection process, you will be unable

to withdraw from the study once you have submitted your answers. This is because we can't link your data back to you. Please note you must complete the survey in one sitting.

Results are expected to be available on MSpace for viewing by May 2027.
Designated University of Manitoba personnel may check that this study is being done safely and properly. To do this, they may review the research records.
This study has been reviewed and approved by a Research Ethics Board at the University of Manitoba. However, this does not mean that participation is risk-free. If you have questions about your rights as a research participant, you may contact the Office of Human Research Ethics at humanethics@umanitoba.ca or (204) 474-7122.
If you have any questions, concerns, or complaints about this study, you may contact any members of the research team listed on the first page or the Office of Human Research Ethics.

Consent:
By participating in this study, I agree that:

- I have read the above information.
- I have had the opportunity to ask and have answered all of my questions.
- I understand what is being asked of me.
- I will be taking part in a research study.
- I may freely stop or leave the research study activities at any time.
- My information may be shared outside the University of Manitoba.
- I do not waive my legal rights by participating in the study.

Notice Regarding Collection, Use, and Disclosure of Personal Information
Your personal information is being collected under the authority of *The University of Manitoba Act*. The University of Manitoba is committed to preserving your right to privacy. The information you provide will be used by the University to support our research. Your personal information will not be used or disclosed for other purposes, unless permitted by *The Freedom of Information and Protection of Privacy Act* or *The Personal Health Information Act*. If you have any questions about the collection of personal information: Ph: 204-474-9462 or Email: fippa@umanitoba.ca

APPENDIX C: Tables and Figures

Table 5: Respondent Characteristics (n=39)

Graduation Year	
2010 – 2014	7/39 (17.9%)
2015 – 2019	13/39 (33.3%)
2020 – 2024	14/39 (35.9%)
2025	5/39 (12.8%)
Previous/Current Specialty	
Primary Care	14
Urgent/Emergency Care	12
Specialty Care	24
Transgender Care	3

Table 6: Basic skills in TGD medicine (n=39)

Taught different between gender identity and biological sex	
Yes	25/39 (64.1%)
No	11/39 (28.2%)
Don’t know	3/39 (7.7%)
Taught to obtain information regarding gender identity	
Yes	26/39 (66.7%)
No	10/39 (25.6%)
Don’t know	3/39 (7.7%)

Table 3: Assessing how respondents were taught about key areas of TGD health (n=28)

	Yes, in curriculum	Yes, in supplemental/ non-required content	Not in curriculum	Don't know
Barriers to accessing medical care for TGD individuals	11/28 (39.3%)	8/28 (28.6%)	5/28 (17.9%)	4/28 (14.3%)
Safer sex for TGD people	6/28 (21.4%)	9/28 (31.2%)	8/28 (28.6%)	5/28 (17.9%)
Gender identity labels	16/28 (57.1%)	6/28 (21.4%)	5/28 (17.9%)	1/28 (3.57%)
Medical transitioning	5/28 (17.9%)	6/28 (21.4%)	14/28 (50.0%)	3/28 (10.7%)
Social transitioning	7/28 (25.0%)	3/28 (10.7%)	15/28 (53.6%)	3/28 (10.7%)
Gender dysphoria diagnoses	6/28 (21.4%)	5/28 (17.9%)	13/28 (46.4%)	4/28 (14.3%)
Referring TGD for specialized care	5/28 (17.9%)	7/28 (25.0%)	13/28 (46.4%)	3/38 (10.7%)
Gender affirming surgeries	1/28 (3.57%)	10/28 (35.7%)	14/28 (50.0%)	3/28 (10.7%)

Table 4: Assessing how participants felt about their TGD didactic education

	Too much coverage	Optimal coverage	Too little coverage	Not covered	Coverage not needed
Barriers to accessing medical care for TGD individuals	0/28	7/28 (25.0%)	19/28 (67.9%)	2/28 (7.14%)	0/28
Safer sex for TGD people	0/28	9/28 (32.1%)	11/28 (39.3%)	7/28 (25.0%)	1/28 (3.57%)
Gender identity labels	0/28	12/28 (42.9%)	11/28 (39.3%)	3/28 (10.7%)	1/28 (3.57%)
Medical transitioning	0/28	5/28 (17.9%)	14/28 (50.0%)	8/28 (28.6%)	1/28 (3.57%)
Social transitioning	0/28	6/28 (21.4%)	12/28 (42.9%)	8/28 (28.6%)	2/28 (7.14%)
Gender dysphoria diagnoses	0/28	6/28 (21.4%)	11/28 (39.3%)	11/28 (39.3%)	0/28
Referring TGD for specialized care	0/28	5/28 (17.9%)	14/28 (50.0%)	9/28 (32.1%)	0/28
Gender affirming surgeries	0/28	4/28 (14.3%)	15/28 (53.6%)	9/28 (32.1%)	0/28

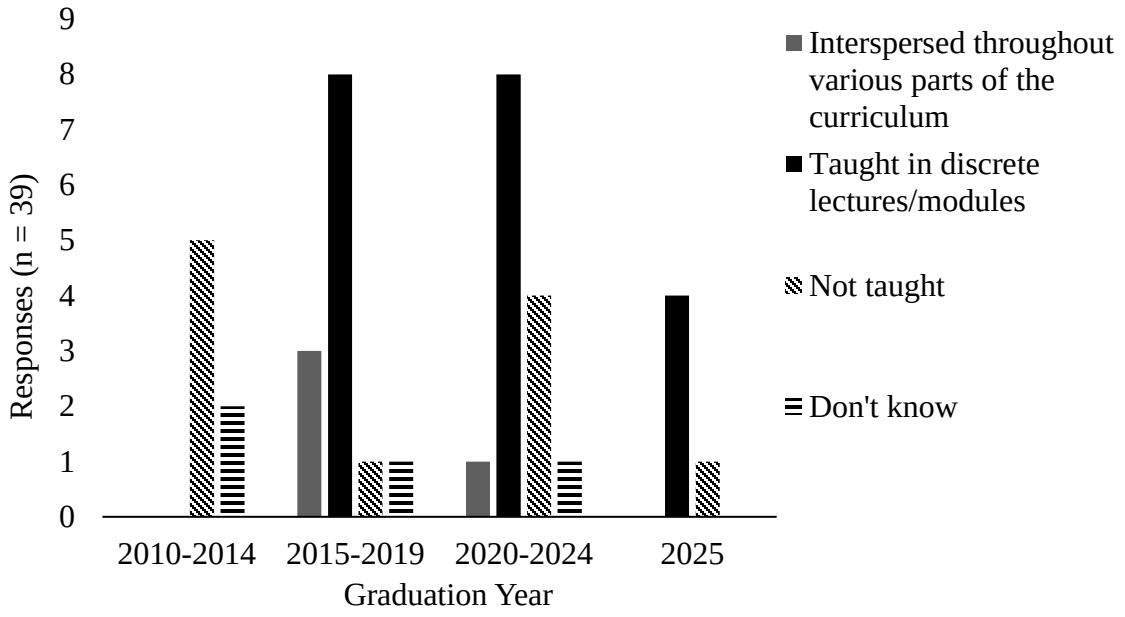

Figure 6: Methods of TGD content delivery by graduation year (n = 39)

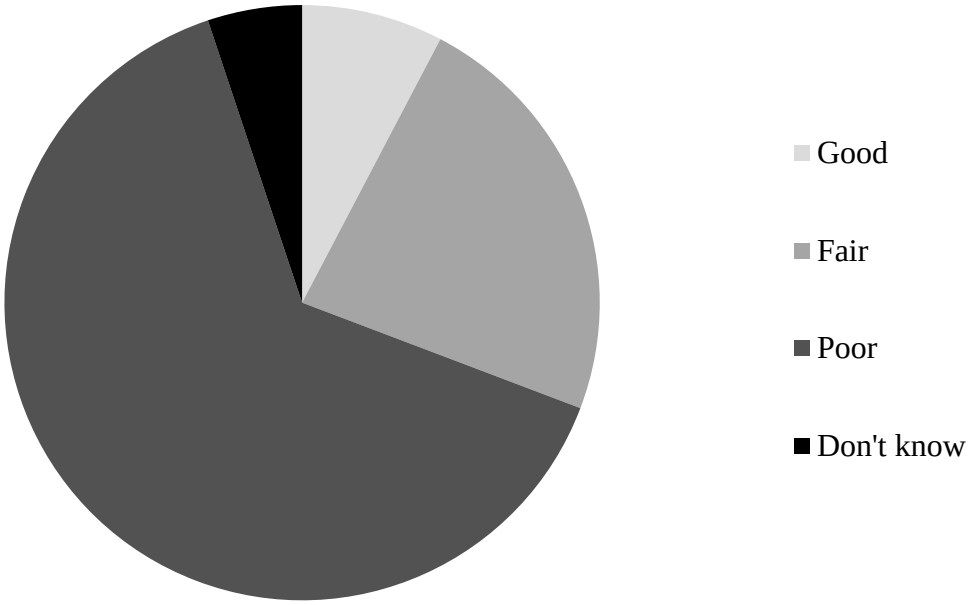

Figure 7: Respondents overall opinions on the coverage of TGD content within the didactic year

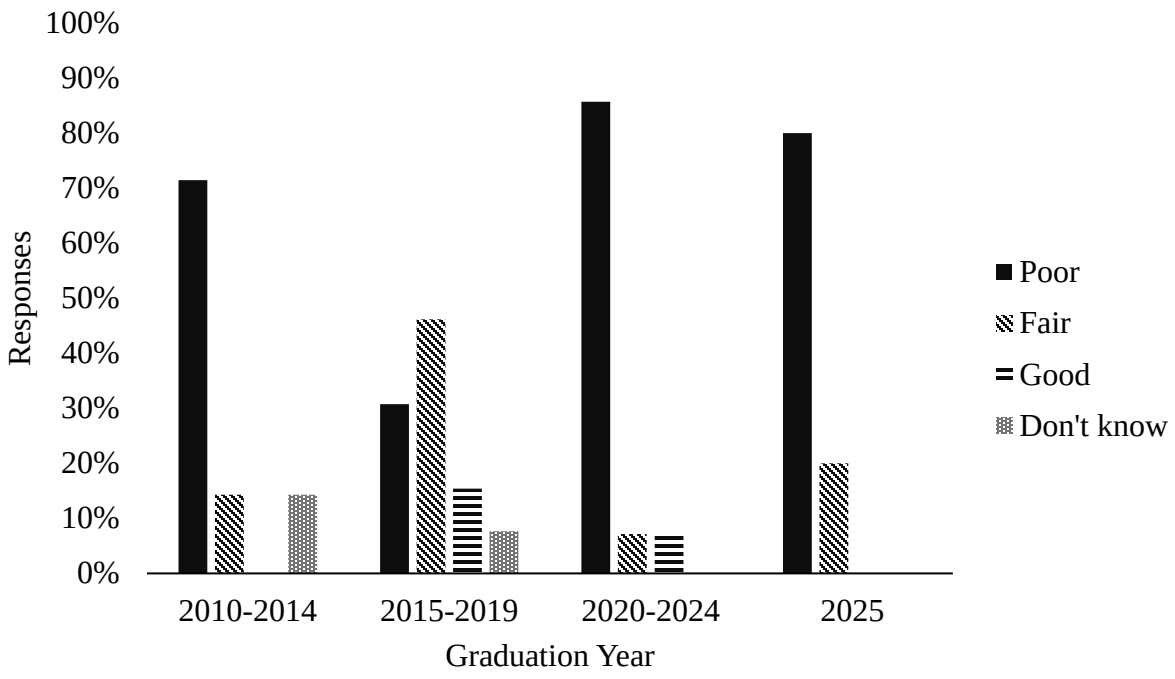

Figure 3: Respondents overall opinions on the coverage of TGD didactic content related to graduation year

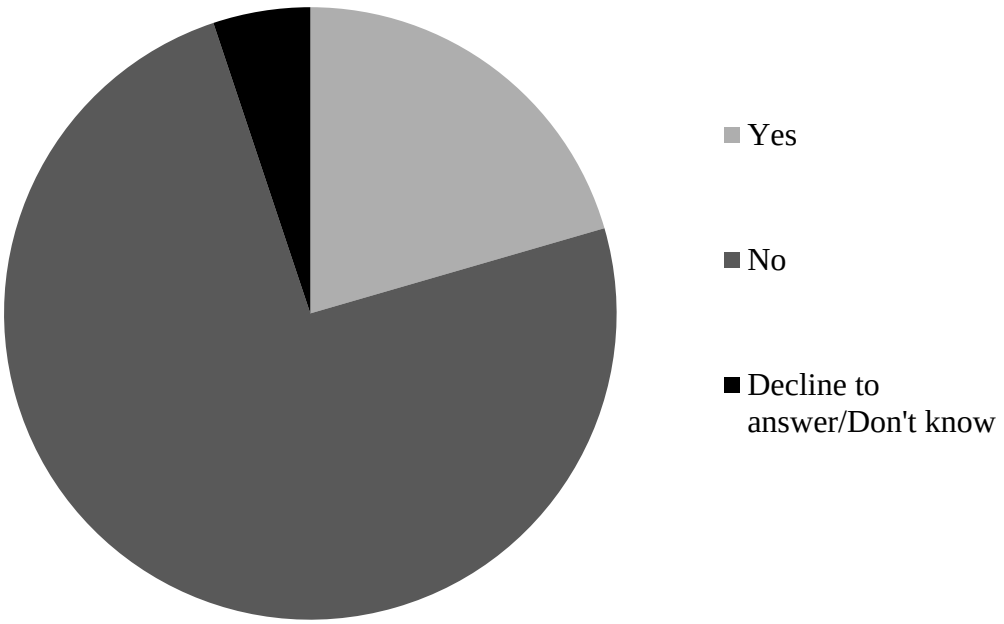

Figure 4: Respondents overall opinions on the adequacy of their TGD didactic education related to their current practice

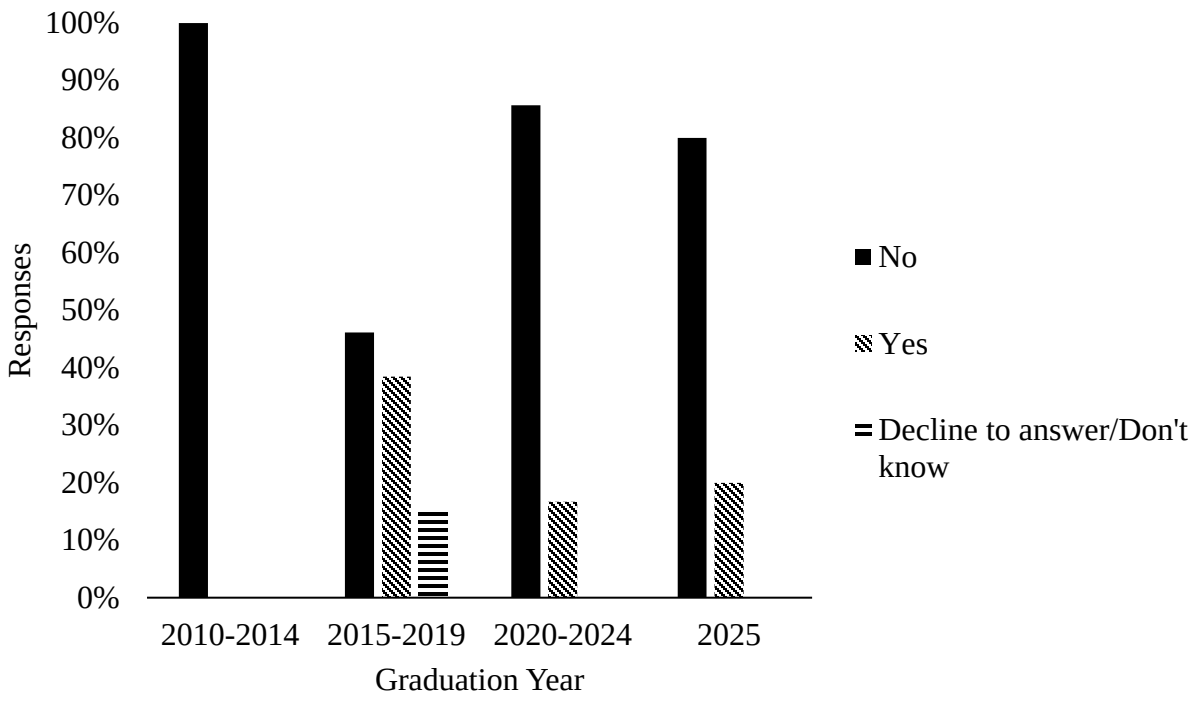

Figure 8: Overall opinions on the adequacy of TGD didactic education related to current practice by graduation year