



Pharmacists' role in transgender healthcare: A scoping review

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ABSTRACT

Background: Transgender patients have unique healthcare needs, providing pharmacists with the opportunity to play an important role in transgender care through addressing the healthcare disparities observed in this patient group.

Objective: This scoping review aimed to explore the role of pharmacists in transgender healthcare.

Methods: Six databases were searched from inception: Emcare, Informit, MEDLINE (Ovid), PubMed, Scopus, and Web of Science. The first author performed screening and data extraction in consensus with co-authors. Preferred Reporting Items for Systematic reviews and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR) was utilised to report this review. Themes related to the role of pharmacists in transgender healthcare were identified.

Results: A total of 356 studies were identified; however, only 15 studies, all from the USA met the selection criteria and were included in this review. Study types included empirical research, practice reports and opinion pieces such as commentaries, editorials, and reports. Pharmacists were found to practise in two different care settings: community and interdisciplinary clinics, performing various roles in transgender healthcare, including patient education and counselling, management of cross-sex hormonal therapy, patient advocacy and provision of preventative care. They were also responsible for the provision of culturally sensitive care in an inclusive and welcoming environment. Although pharmacists considered their role important, they lacked confidence in their knowledge to provide appropriate care to this patient group.

Conclusion: This review has highlighted that there is a need for education in transgender care for both pharmacists and pharmacy students, so that they are both confident and comfortable to play a meaningful role in transgender care. Pharmacists' involvement in addressing the health disparities experienced will contribute to improving the overall health outcomes for this group.

Introduction

The term transgender (TG) is an umbrella term that encompasses individuals whose gender identity differs from their biological sex.¹ In this review, the term TG refers to persons that identify as trans, transmen, transwomen, genderqueer, agender, gender fluid, non-binary, sistergirl or brotherboy. Although the exact numbers of the TG population are not available, it is estimated that approximately 0.1–2% of the population worldwide identifies as TG.² With increasing social acceptance, many TG patients are accessing care for gender affirmation and other health issues.³

TG patients have diverse healthcare needs.⁴ The prevalence of mental health issues such as depression, anxiety and suicidal ideation is significantly higher compared to the general population.^{5–8} A recent survey reported that approximately 56% of TG patients were diagnosed with depression, and 40% with anxiety.⁵ These patients are also more

likely to engage in high-risk behaviours such as tobacco, alcohol and substance abuse, unprotected sex and needle sharing.^{6,9} The risk of developing HIV infection in TG women is 49 times higher than the general population.¹⁰ Approximately 78% of TG people desire hormonal treatment for gender affirmation; however, only 50% of them receive this therapy.⁶ It has been reported that between 23 and 71% of TG women procure hormones from a non-medical source and may use higher than the recommended dosage.^{11–14} Although TG patients have these unique healthcare needs, some may be hesitant to access required care based on their previous experiences of discrimination and marginalisation emanating from the healthcare system.^{4,8,15} Many TG patients have reported that healthcare providers lack knowledge about TG care and in many instances, find themselves teaching these providers about TG care.^{7,16} A recent Australian survey of TG patients highlighted the need for improved access to healthcare and better training for healthcare professionals.⁴

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Pharmacists, being highly accessible and trusted health professionals, may improve health outcomes for TG patients through their expert knowledge of healthcare issues and in collaboration with other healthcare professionals.^{6,17,18} This aligns with the Pharmaceutical Society of Australia (PSA) Competency Standards for Pharmacists that states pharmacists should collaborate and deliver culturally responsive, patient-centred care and promote the judicious use of medications for all patients.¹⁹ In addition, the Accreditation Standards for Pharmacy Programs in Australia and New Zealand require all pharmacy education programs to promote inclusive and responsive patient-centred care that respects cultural diversity and assures the safety of every patient.²⁰ The increasing demand for TG care⁶ informed the aim of this review; to identify the pharmacists' role, any barriers to care provision and training requirements for providing this care.

Method

This scoping review was conducted in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR).²¹

Search strategy

A comprehensive search of the literature from inception to June 15, 2020, was performed using the following electronic databases: Emcare, Informit, MEDLINE (Ovid), PubMed, Scopus, and Web of Science. The searches were conducted using terms such as transsexual* OR transgender*, two spirit persons, two-spirit person, two-spirit persons, bigender people, trans persons, gender identity disorder, gender dysphoria, pharmacist, pharm*, education, and health care. The details of the search strategy used for MEDLINE (Ovid) database are included in [Appendix 1](#). Additional articles were located through hand searching of the reference lists of the retrieved articles.

Inclusion and exclusion criteria

Articles were included if they described an interaction between pharmacists and TG patients or identified the need for pharmacist training in TG health care or described hormonal or other gender affirmation treatment regime for the TG patient. Original research, practice reports, and opinion pieces such as commentaries, editorials and reports in full text and English were included. Review articles or the articles not related to the pharmacist or pharmacy involvement in transgender healthcare or evaluating transgender health care training provided to student pharmacists were excluded.

Extraction and analysis

[Fig. 1](#) illustrates the process of study selection for this review. The selected articles were imported in the EndNote software, and duplicates were removed. First, the titles, abstracts and full texts of the studies were screened by the first author. Then, the co-authors independently assessed the study selection. Any disagreements regarding study selection were resolved through consensus among the authors.

The data from the included studies were charted into a table format recording the author, year of publication, place of publication, study design, participants (if applicable), setting, aims, and key findings. The first author charted the data, and the co-authors independently reviewed the results. The data charting form was updated regularly with the information as a result of this iterative process.

A descriptive analysis was applied to identify the extent, nature and distribution of the included records.²² Additionally, thematic synthesis was conducted by all authors to identify the themes related to the role of a pharmacist in TG healthcare. A quality assessment of the included studies was not performed as this scoping review aimed to identify all relevant literature regarding the role of pharmacists in TG health care.

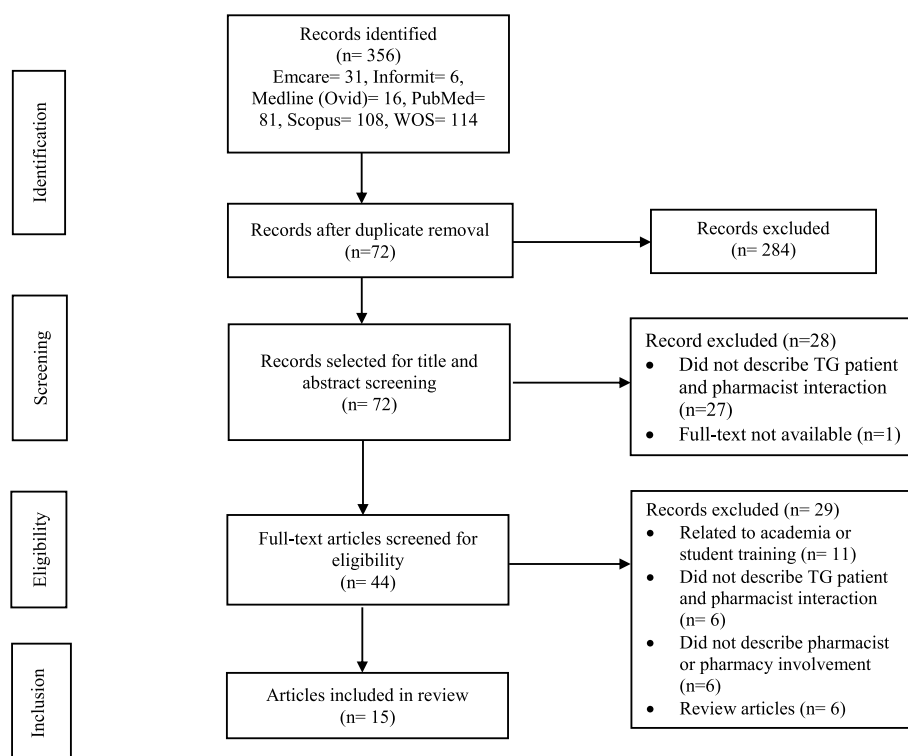


Fig. 1. Flowchart for study selection for the scoping review.

Results

A total of 15 studies describing interactions of pharmacists with TG patients were included in this scoping review. A variety of study types were found including empirical research^{23–28} (n = 6, 40%), practice reports^{29–31} (n = 3, 20%), commentaries^{32–34} (n = 3, 20%), editorials^{35,36} (n = 2, 13%), and reports with opinions³⁷ (n = 1, 7%). All studies (n = 15, 100%) originated in the United States of America (USA), with no studies from any other country, including Australia, identified. The publication dates ranged between the years 2016 and 2019, with most of the studies published in the years 2017^{29,30,33–35} (n = 5, 30%) and 2019^{23,24,26–28,31,37} (n = 8, 53%).

Three studies^{23,25,27} investigated attitudes, perceptions and knowledge of community pharmacists in the provision of TG care. Three studies^{29–31} described the role of a pharmacist in an interdisciplinary healthcare model, while only two studies^{26,27} out of the six empirical studies, evaluated perceptions of TG patients towards receiving care from pharmacists. Another study identified perceptions of LGBTQIA patients towards influenza vaccine uptake from various settings, including pharmacy.²⁸ Additionally, one study²⁴ reported the views of TG patients along with other patients receiving pre-exposure prophylaxis (PrEP) in a pharmacist-led PrEP program.

Eight themes were identified relating to the role of pharmacists in TG healthcare (see Table 1). The most common themes were the need for additional education for pharmacists in TG healthcare^{23,25–27,33–37} (n = 9, 60%), the role of pharmacists in TG patient education and counselling^{24,26,27,29,31,32,34,35} (n = 8, 53%) and management of cross-sex hormone therapy (CSHT)^{27,29,30,32–35} (n = 7, 47%).

Patient education and counselling

Patient education and counselling was one of the most highlighted roles of the pharmacist in the provision of TG health care.^{24,26,27,29,31,32,34,35} Pharmacists were reported to counsel patients on their hormonal medications^{26,27,29,32,34,35} and PrEP medications^{24,31} in over 50% of the studies.

Management of CSHT

Seven studies^{27,29,30,32–35} reported the role of pharmacists in the management of CSHT with six including education and counselling.^{26,27,29,32,34,35} In this role, pharmacists conducted medication reviews,^{27,29,30,33} obtained patient consent for CSHT treatment,^{29,30} advised TG patients regarding the changes in fertility due to CSHT and encouraged them to consider family planning options before initiation of CSHT.^{30,34} Additionally, pharmacists performed other roles such as individualising treatment plans,^{32,33,35} calculating creatinine clearance,³³ designing the dosing regimen for TG patients, suggesting appropriate formulations based on patient factors,³⁰ as well as collaborating with other health professionals to improve the outcomes of the CSHT.^{30,32,33,35}

Patient advocacy

Six studies^{24,26,30,33–35} identified pharmacists as advocates for TG patients as they assisted in getting pre-approvals for medications through government and company patient assistance programs.^{24,26,33} Other examples of advocacy included pharmacists acquiring medications^{24,26,33} and assisting TG patients in submitting their insurance claims.^{30,33,34} Pharmacists also provided referrals to other medical and psychosocial services.^{24,30,35}

Preventative healthcare

Many studies reported the role of pharmacists in the provision of preventative healthcare for TG patients.^{24,31–35} Pharmacists performed screenings for STIs and HIV,^{24,31,34,35} mental health,^{29,34} and cardiovascular health.^{32,33} In one study, pharmacists conducted medication reviews, provided PrEP to eligible patients, and provided education on

PrEP.²⁴ Moreover, three studies^{28,33,34} recorded pharmacists immunizing for vaccine-preventable diseases. Pharmacists also assisted in smoking cessation^{27,29,32} and prevention and management of alcohol or substance abuse.²⁹ Two studies^{30,32} identified the role of pharmacists in the provision of lifestyle advice such as diet, exercise, and weight management for TG patients.

Provision of culturally sensitive care and inclusive environments

Five studies specified that pharmacists have a responsibility to provide culturally sensitive care to their TG patients.^{26,27,33,34,37} Pharmacists and pharmacy staff should ask for preferred name, gender identity and preferred pronouns to avoid misgendering TG patients.³⁷ Also, the provision of an inclusive environment for LGBT/TG patients was recognised as the responsibility of the pharmacist.^{26,33–35,37} It was suggested that pharmacists should update their healthcare policies, train staff, display materials and signs for TG/LGBT patient inclusivity, and where possible, incorporate gender-neutral restrooms to create a welcoming environment for this patient group.^{26,27,33,34,37}

Barriers to TG care

Six studies^{23,25–27,33,37} identified various barriers to the provision of TG care, from both a pharmacist and patient perspective as listed in Table 2.

The need for additional education

Nine studies^{23,25–27,33–37} reported the need for additional training for pharmacists in TG healthcare to provide appropriate care for this population. Additional training may be integrated into pharmacy curriculum^{23,27,33–37} and/or delivered as a part of continuing education (CE).^{23,27,35,37}

Undertake research

Two studies^{33,35} suggested that pharmacists should contribute to transgender care research. The research could be undertaken to establish safety and efficacy of the existing and new treatment protocols for gender affirmation treatment. Optimising the implementation of pharmacy based preventative care services to improve TG health outcomes also needs to be investigated.

Discussion

This review was undertaken to map the role of pharmacists in TG healthcare. The 15 articles identified have relied only on US data, underlining a lack of studies from other countries, including Australia.

Pharmacists have been reported to play a significant role in TG healthcare and the role included patient education and counselling,^{24,26,27,29,31,32,34,35} management of CSHT,^{27,29,30,32–35} and provision of preventative care services.^{24,31–35} Pharmacists have provided culturally sensitive care in an inclusive environment for TG/LGBT patients,^{26,27,33,34,37} also in some instances advocating for their TG patients for affordable healthcare services.^{24,26,30,33–35} Pharmacists are therefore well positioned to undertake research to establish safety and efficacy of available treatment protocols.^{33,35} Barriers have been put forward to the provision of TG care in pharmacy settings such as stigma, discrimination, and verbal or physical abuse.^{23,25–27,33,37} Although most of the pharmacists^{23,25,27} and TG patients^{26,27} believed that pharmacists play an important role in TG healthcare, both groups reported a significant gap in pharmacists' knowledge of TG healthcare. Importantly over the half of articles^{23,25–27,33–37} indicated the need for TG healthcare education for pharmacists and pharmacy students.

Pharmacists are reported to educate and counsel TG patients across various areas of healthcare.^{6,9,17,18} However, the practicality of the provision of advice in the community pharmacy settings needs to be explored. Many pharmacies lack the availability of private spaces for all patient consultation and often use the pharmacy counter for

Table 1
Emerging themes related to the role of pharmacists in TG healthcare.

Author, Publication year and Country	Study design, Participants and Setting	Aim	Main findings	Themes
Empirical studies				
Aragon et al., ²³ 2019, USA	Quantitative: Survey; Pharmacists (n = 342); Community Pharmacy	To determine whether community pharmacists in North Carolina have personal confidence, comfort level, and resources needed to provide TG care	Received TG care education at university: 3%; Received continuing education (CE): 12%; Unaware of current practice guidelines: 89%; Pharmacists' role is important in TG care: 71%; Comfortable in welcoming TG patients to their pharmacy: 66%; Barriers to the provision of TG care: Negative views of the pharmacists towards TG patients; Low comfort in the provision of TG care	Need for additional education in TG healthcare Barriers to the provision of TG care
Haven et al., ^{a,24} 2019, USA	Quantitative: Survey; Pharmacists (n = 7) and PrEP patients (including TG patients) (n = 60); University-based HIV clinic, community pharmacy, and community-based units	To investigate the acceptability and feasibility of a pharmacist-led HIV screening and PrEP (P-PrEP) for individuals at risk for HIV acquisition	Role of the pharmacist: Taking medical history patient, HIV risk assessment; PrEP counselling; Baseline laboratory testing; HIV and STI screening; Authorising emtricitabine/tenofovir disoproxil fumarate (F/TDF) prescriptions to eligible patients; Assessing adherence to F/TDF Patient response to pharmacist service: ease of PrEP care, quick service, and friendly and honest pharmacist Pharmacists' response: comfortable in point-of-care testing, rarely uncomfortable (2%) conducting sexual histories or experienced disruption of the workflow (0.7%)	Patient education and counselling Preventative care
Leach et al., ²⁵ 2016, USA	Quantitative: Online survey, cross-sectional; Pharmacists (n = 63); Community pharmacy	To measure the general perceptions and attitudes of community pharmacy residents towards TG patients and health; to identify gaps in didactic education regarding TG healthcare among residents, and to evaluate residents' level of support for pharmacists receiving education in transgender health	Did not receive TG care education at university: 71%; TG health should be integrated into pharmacy curricula: 68%; TG health should be integrated into CE programs: 78%; Pharmacists' role is important in TG care: 83%; Confident in treating TG patients: 36%; Need for more education in TG health: 73%; Barriers to the provision of TG care: Discrimination; Lack of provider knowledge	Need for additional education in TG healthcare Barriers to the provision of TG care Provision of an inclusive environment for TG/LGBT patients Provision of culturally sensitive care
Lewis et al., ²⁶ 2019, USA	Quantitative: Survey; Transgender and gender-nonconforming patients (TGNC) (n = 316); Community	To evaluate TGNC adults' worries and coping actions related to discrimination by healthcare professionals	Accessed pharmacy services: 86%; Worrying about the discrimination, while accessing pharmacy services: 41.6%; Pharmacists have very little or no competency in the provision of TG care: 52%; Avoided care due to past embarrassment at pharmacies: 13%; Avoided care due to medication cost: 38% Coping actions: choosing providers known to be gender-affirming, delay medical care, not disclosing their authentic gender identity, use of natural products to avoid obtaining a prescription, ask friends or family members to fill their prescriptions, and obtain products from online pharmacies not requiring a prescription Pharmacists survey: Knowledge scores in the low and moderate ranges: 90%; Pharmacists' role is important in TG care: 96%; Comfortable in suggesting treatment options to TG patients: 22%; Barriers to the provision of TG care: stigma (84%), verbal rejection (17%), violence (5%) TG patient survey: Pharmacists' role is important in TG care: 87%; Comfortable with the pharmacist while receiving services: 66%; Barriers to the provision of TG care: stigma (60%), discrimination (63%), verbal rejection (50%), lack of knowledge by health care providers (70%); Pharmacist's role in TG care: Medication review (71%), hormonal treatment counselling (65%), medical conditions and	Need for additional education in TG healthcare Barriers to the provision of TG care Provision of an inclusive environment for TG/LGBT patients Provision of culturally sensitive care
Melin et al., ²⁷ 2019, USA	Quantitative: Survey; Descriptive, cross-sectional; Pharmacists (n = 96) and TG patients (n = 31); Community	To assess pharmacist readiness to provide transgender care through measuring both pharmacists' knowledge and attitudes towards transgender patients; to assess transgender patients' perception of pharmacist readiness to provide them pharmaceutical care	Pharmacists survey: Knowledge scores in the low and moderate ranges: 90%; Pharmacists' role is important in TG care: 96%; Comfortable in suggesting treatment options to TG patients: 22%; Barriers to the provision of TG care: stigma (84%), verbal rejection (17%), violence (5%) TG patient survey: Pharmacists' role is important in TG care: 87%; Comfortable with the pharmacist while receiving services: 66%; Barriers to the provision of TG care: stigma (60%), discrimination (63%), verbal rejection (50%), lack of knowledge by health care providers (70%); Pharmacist's role in TG care: Medication review (71%), hormonal treatment counselling (65%), medical conditions and	Need for additional education in TG care Barriers to the provision of TG care Management of CSHT Patient education and counselling

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Table 1 (continued)

Author, Publication year and Country	Study design, Participants and Setting	Aim	Main findings	Themes
Padilla et al. ^{a,28} 2019, USA	Quantitative: A prospective survey; The members of the Hispanic LGBTQIA community (n = 126); Community	To identify factors that influence behaviours, attitudes, and perceptions toward the uptake of the influenza vaccine within the Hispanic LGBTQIA community	nonhormonal treatment counselling (52%), and education on adverse effects and their management (68%) 27% of the participants reported that their pharmacists recommended the influenza vaccine.	Preventative care
Practice reports Kaigle et al. ²⁹ 2017, USA	Practice report; Veteran TG patients, interdisciplinary team consists of endocrinologist, primary care provider, clinical pharmacist, psychologist, and social worker; TG healthcare clinic	To report the development and implementation of the Transgender Healthcare Clinic model with interprofessional collaboration	Role of the pharmacist: Patient education and obtain patient consent to treatment with CSHT; Identify potential drug interactions; Before initiation of the CSHT identify and address contraindications, precautions, and medical risk factors. Psychiatric pharmacist: address issues such as substance abuse, tobacco abuse, multiple mental health diagnoses, and suicidal tendencies in TG veteran population	Management of CSHT Patient education and counselling Preventative care
Newsome et al. ³⁰ 2017, USA	Practice report; Pharmacist in an interprofessional team; TG healthcare clinic	To describe the role of a pharmacist in the provision of care to TGNC patients in a medical home model of care	Role of the pharmacist: Patient education and obtain patient consent to treatment with cross-sex hormone therapy; Discuss different formulations for CSHT and select the most suitable formulation for an individual patient; Provide advice on smoking cessation, weight management and a healthy lifestyle; Contact insurance companies for coverage of CSHT costs; Referrals to medical and psychosocial services	Management of CSHT Patient education and counselling Preventative healthcare Advocacy
Ryan et al. ^{a,31} 2019, USA	Practice report; Pharmacist Clinician (PhC) and Patients living with HIV or high-risk patients including TG patients; Interprofessional and PhC-run clinics	To describe how the pharmacist clinicians were integrated into an innovative pharmacy practice model that provided care to patients living with or at risk of acquiring HIV and/or hepatitis C virus (HCV) infection.	Role of the pharmacist: Improve patient adherence to antiretroviral therapy (ART); patient education; order necessary laboratory tests, initiate ART; evaluate ART regimens for appropriateness; select appropriate dosage form; check drug-drug interactions; communicate possible adverse effects and their management; check for need of additional antibiotic prophylaxis; medication review; and therapeutic drug monitoring	Patient education and counselling Preventative care
Opinion pieces Bass et al. ³² 2018, USA	Commentary	Description of CSHT for nonbinary patients', and the role of the pharmacist in providing care to this group	Role of the pharmacist: Individualise dosing regimen of CSHT and provide alternatives to attain patient's goal of the therapy; Patient education on CSHT; recommend appropriate dosage form considering pharmacodynamic and pharmacokinetic properties of the medication; Management of potential cardiac and thromboembolic risk factors; monitor glucose, lipid, and haematocrit levels and provide counselling on diet, exercise and smoking cessation	Management of CSHT Patient education and counselling Preventative care
Cocohoba, 2017, ³³ USA	Commentary	Description of the role of the pharmacist in TG healthcare	Foundation elements to provide TG care: Pharmacist education to improve knowledge of available gender-affirmation therapies; Cultural competency training for pharmacists to improve TG patient interactions Role of the pharmacist: Individualise treatment regimens of CSHT and monitor medication safety; Monitor parameters such as blood pressure, weight, pulse and provide information on prevention of deep vein thrombosis prevention strategies; Calculation of creatinine clearance considering muscle mass and hormone therapy of TG patient; Provide a welcoming environment to TG patients and use correct pronouns; Immunisations; Improve medication access; Contribute to TG healthcare research	Need for additional education in TG healthcare Provision of an inclusive environment for TG/LGBT patients Provision of culturally sensitive care Management of CSHT Preventative care Advocacy Undertake research
	Commentary			

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Table 1 (continued)

Author, Publication year and Country	Study design, Participants and Setting	Aim	Main findings	Themes
Maxwell et al., ³⁴ 2017		To identify the role of a pharmacist in LGBT health, recognise specific concerns with mental and sexual health, describe gender-transitioning pharmacotherapy, and discuss the current stance of LGBT health in pharmacy education	Need for the addition of LGBT health into the curricula Role of the pharmacist: Mental health screening; Sexual health: Encourage routine vaccinations including hep B and hep C vaccines; Provide STIs and HIV screening; Recognise and refer for appropriate cancer screening; Provide birth control advice; Patient education on CSHT; Collaborate with other health professionals to attain treatment goals; Individualise dosing regimens; Assist with insurance claims; Provide culturally sensitive care; Provide an inclusive environment for the LGBT population	Need for additional education in TG healthcare Management of CSHT Patient education and counselling Preventative care Advocacy Provision of culturally sensitive care Provision of an inclusive environment for TG/LGBT patients
Briggs, ³⁶ 2019, USA	Editorial	Community-based pharmacy residency: At the forefront of improving health care	Pharmacists have an important role in the provision of TG care. Integration of TG healthcare training into pharmacy curriculum may be required.	Need for additional education in TG healthcare
Radix, ³⁵ 2017, USA	Editorial	Pharmacists' role in the provision of TG healthcare	Community pharmacists require training in TG health, and there is a need for the addition of TGNC health in pharmacy curricula. Role of the pharmacist: Provide TG-inclusive and welcoming environments; Interprofessional collaboration in medical care models; CSHT: Patient education and individualise treatment plan; Provide preventative services such as immunisations, HIV screening; refer TG patients to medical and psychosocial services, if needed; Contribute to research in TG healthcare	Need for additional education in TG healthcare Provision of an inclusive environment for TG/LGBT patients Management of CSHT Patient education and counselling Advocacy Undertake research
Vos MacDonald J, ³⁷ 2019, USA	Report	Providing healthcare to TG patients	Barriers to the provision of TG care: TG patient barriers: Financial challenges; Unemployment; Fear of discrimination; High prevalence of healthcare issues such as mental health issues, suicide rates Pharmacy barriers: Inappropriate or incomplete electronic medical and pharmacy records for gender identity, legal sex and birth sex; Discrimination; Denial of care due to personal or religious beliefs of the pharmacist; Minimal or no education on TG health Pharmacies should provide inclusive and welcoming environments for TG patients. Pharmacy staff should use appropriate terminology to provide culturally sensitive care.	Need for additional education in TG healthcare Barriers to the provision of TG care Provision of an inclusive environment for TG/LGBT patients Provision of culturally sensitive care
Total studies	n = 15			

^a Study participants included cisgender and TG patients. The study outcomes were described together for all patient groups and were not specifically reported for the TG patient population. CSHT = Cross-sex hormone therapy, TG = transgender, TGNC = transgender and gender-nonconforming, LGBTQIA = Lesbian, gay, bisexual and transgender, queer, intersex and asexual.

counselling.³⁸ Moreover, some pharmacists have been hesitant in providing private spaces due to the time constraints, lack of floor space and the costs of employing another pharmacist to oversee dispensing and other pharmacy operations.³⁸ Even though generally TG patients feel safer in discussing their healthcare issues with pharmacists than physicians,⁶ lack of privacy may lead to non-disclosure of their authentic gender identity.³³ This could impact the pharmacist's recommendations regarding medications and other preventative care services. Furthermore, the inclusion of pharmacists in interprofessional teams at TG clinics for providing comprehensive clinical counselling on gender affirmation therapies and other preventative measures, should be considered to ameliorate the pressures of time on the community pharmacists.

Although pharmacists' role has expanded beyond the dispensary, the remuneration for their time, expertise and skills for offering professional services need to be considered. Inadequate or no remuneration for these services may limit their delivery through pharmacies.³⁹ The fee-for-service model may be introduced to improve the pharmacists' willingness for offering professional services.³⁹ In Australia, this could be addressed by pharmacists being granted access to allied health Medicare Benefits Schedule (MBS) items for claiming the professional services offered to their patients.⁴⁰ Adequate remuneration may facilitate the provision of healthcare services through community pharmacies that may improve the overall health outcomes of TG patients.

Even though pharmacists are providing healthcare to TG patients across a range of areas, few studies have evaluated their attitudes,

Table 2
Pharmacists and patient barriers to the provision of TG healthcare.

Pharmacist barriers	Patient barriers
Negative attitudes towards TG patients ²³	High unemployment rates ^{33,37}
Low comfort in the provision of such care ²³	Financial challenges ^{33,37}
Lack of knowledge of TG healthcare ^{25,27,33,37}	Fear of discrimination ^{27,33}
Stigma ²⁷	Past experiences of accessing healthcare from the pharmacy ²⁶
Discrimination ²⁵	Fear of pharmacy staff causing physical harm or questioning the legitimacy of the prescription or denying medication supply or accusing of fraud due to legal documents not reflecting their physical appearance ^{26,33}
Verbal rejection ²⁷	
Violence including physical harm ^{27,33}	
Inappropriate or incomplete electronic medical and pharmacy records for gender identity, legal sex and birth sex ³⁷	
Denial of care due to pharmacist's personal or religious beliefs ^{33,37}	

knowledge and skills in the provision of such care.^{23,25,27} It has been reported that TG patients have experienced denial of healthcare services due to pharmacists' negative attitudes and lack of knowledge of TG healthcare issues.¹⁵ However, only two studies explored perceptions of TG patients about towards the provision of care by pharmacists.^{26,27} Such studies may be important not only to provide insights about the expectations TG patients have of their pharmacists, but also to design appropriate education in TG healthcare for pharmacists. Some educational interventions have improved attitudes of pharmacy students towards TG patients and therapeutic knowledge of TG healthcare.^{11,41,42} Knowledge of current guidelines and other practice resources in TG care that assist when providing gender affirming care and appropriate preventative care for these patients, could be improved. These findings suggest a need to develop and deliver TG healthcare continuing education for pharmacists to improve their therapeutic knowledge for adequate provision of care for their TG patients. Additionally, integration of such training into the pharmacy curricula to improve knowledge, cultural competence and confidence of future pharmacists in addressing TG healthcare needs, would be beneficial.

Many TG patients consider healthcare provider knowledge of TG issues along with their cultural awareness as important factors while accessing care.^{15,26} Misgendering or inappropriate use of pronouns in the pharmacy setting have deterred some TG patients from accessing care.²⁶ Australia as with many other countries is a multicultural society and as such pharmacists have to deal with the requirements of different ethnic, religious and social groups.⁴³ Increased workload and lack of knowledge of certain cultures may inadvertently result in culturally inappropriate delivery of pharmacist services. However, with an awareness of cultural diversity, pharmacists unsure about approaching TG patient may be advised to use gender-neutral language.⁵ Additionally, it is recommended that pharmacists acknowledge that the provision of an inclusive and welcoming environment is paramount for the delivery of culturally sensitive care to TG patients.⁶ Therefore, cultural competency training for pharmacists and pharmacy staff providing TG care is necessary to address cultural barriers and may assist in developing trusted relationships with these patients.

Appendix 1. Search strategy for MEDLINE (Ovid)

1. Transgender persons/
2. Pharmacists/
- 3.1 and 2.
4. Exp Education/
- 5.3 and 4.
6. Exp "Delivery of Health Care"/
- 7.3 and 6.
8. Pharmacies/

Many TG patients have financial difficulties and do not have private insurance.^{6,15} Medication cost is one of the barriers to accessing care.⁶ In Australia, not all medications for the gender affirmation treatment are subsidised through the Pharmaceutical Benefits Scheme.² Thus, being an advocate for TG patients and assisting them in navigating the healthcare system for affordable care is crucial for improving their healthcare outcomes.^{6,33}

The current practice guidelines for gender affirmation care are based on the clinical experience and not randomised clinical trials.^{2,33,35,44,45} Pharmacists need to undertake research to establish the optimal dosing regimens of CSHT, pharmacodynamic and pharmacokinetic factors affecting the individual response to the therapy, drug-drug interactions, drug interactions with food and complementary medicines.^{33,35} Also, research is required to establish how the preventative healthcare services offered through community pharmacies may improve the overall well-being of TG patients.³³

Future research

This review has identified that pharmacists require additional training in TG healthcare to bridge the gap in their pharmacotherapeutic knowledge and gain cultural competency. Future studies are necessary to address the impact of such training on the attitudes, knowledge and practice of pharmacists in the provision of TG healthcare. In addition, more studies are required to evaluate the perceptions of TG patients about pharmacists' role in their healthcare.

Limitations

This review may have some limitations. Although a comprehensive search strategy was applied to locate relevant literature, some articles may have been excluded if they were not published in the English language or if they were not listed in the searched databases.

Conclusion

This review indicates that the role pharmacists may play in TG healthcare is both complex and varied. Highlighted is the need for additional TG healthcare education in therapeutics as well as cultural sensitivity for pharmacists and pharmacy students. Such training would assist in delivering culturally responsive and patient-centred care as is envisaged by the Pharmaceutical Society of Australia's competency standards.¹⁹ TG healthcare education and training can be integrated into pharmacy curricula and continuing education programs to improve confidence and comfort levels of pharmacists and pharmacy students in the provision of such care, with a view to improving health outcomes for this patient group.

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- 9.1 and 4 and 8.
- 10.1 and 6 and 8.
- 11. Gender Dysphoria/
- 12.3 and 11.
- 13. Transsexualism/
- 14.3 and 13.
- 15. Gender identity disorder.mp.
- 16.3 and 17.

Appendix 2. Terminology

Term	Definition
Trans or transgender	A person whose gender identity differs from their biological sex
Transman	A person with a male gender identity and female-assigned birth sex
Transwoman	A person with a female gender identity and a male assigned birth sex
Genderqueer or gender nonconforming	A person who identifies as not exclusively masculine or feminine
Agender	A person who identifies as genderless or gender neutral
Gender fluid	A person whose gender identity fluctuates
Non-binary	A person who does identifies as neither a male nor a female
Brotherboy	Aboriginal and Torres Strait Islander people may use this term for a person with a male spirit and female sex assigned at birth
Sistergirl	Aboriginal and Torres Strait Islander people may use this term for a person with a female spirit and male sex assigned at birth

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