

Barriers to Gender-affirming Surgery Consultations in a Sample of Transmasculine Patients in Boston, Mass.

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Background: Gender diverse people are increasingly pursuing gender-affirming surgery, but little is known about their experiences on accessing care. As part of the baseline assessment for an ongoing longitudinal study, we examined the types of barriers and self-reported out-of-pocket costs associated with gender-affirming surgery most commonly endorsed by transmasculine chest (top) and genital (bottom) surgery patients at their initial surgical consultation.

Methods: A brief survey was administered to a clinical sample of transmasculine patients (n = 160; age ≥15 years) seeking a gender-affirming surgery at the Center for Gender Surgery in Boston, Mass. from April 2018 to February 2020.

Results: The barriers most commonly endorsed by top surgery patients were insurance coverage and age. For bottom surgery patients, the most commonly endorsed barriers were getting mental health letters and readiness for surgery. Bottom surgery patients were also more likely to report barriers of readiness for surgery and cost of/access to hair removal, than top surgery patients (P s < 0.05). Bottom surgery patients were more likely to report out-of-pocket costs related to hair removal, surgical consultation, and surgery (P s < 0.05), whereas top surgery patients were more likely to report hormone treatment costs (P = 0.01). Average out-of-pocket costs were high (mean = 2148.31) and significantly higher for bottom surgery patients (b = 4140.30; β = 0.64; 95% confidence interval, 3064.6–5216.0).

Conclusions: Transmasculine patients experience a variety of barriers when seeking gender-affirming surgery. Presurgical requirements, insurance access, and high out-of-pocket costs may hinder access to care for many transmasculine people seeking bottom surgery. (*Plast Reconstr Surg Glob Open* 2020;8:e3008; doi: [10.1097/GOX.0000000000003008](https://doi.org/10.1097/GOX.0000000000003008); Published online 19 August 2020.)

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INTRODUCTION

It is estimated that over 150,000 youth (13–17 years old) and over 1.4 million adults (18 years old or older) are identified as transgender in the United States.¹ Many of these individuals are interested in gender-affirming treatment,² including surgery, as demonstrated by exponential growth in referrals for gender-related specialist care in the United States from 2013 to 2016 (which may in part reflect the expansion of the Affordable Care Act's ban on gender-based discrimination in healthcare coverage to include transition-related care).³ As described by the World Professional Association for Transgender Health's (WPATH) Standards of Care (SOC), medically necessary surgical interventions for transgender individuals include procedures to address chest and genital dysphoria.⁴ Gender-affirming surgery for transmasculine

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patients typically takes 1 of the 2 forms: “top” surgery, which involves bilateral mastectomy and/or breast reduction, and “bottom” surgery in the form of metoidioplasty, phalloplasty, or both.⁴ Top surgery is usually the first surgery accessed by people seeking gender affirmation.⁵ It is important to note that such surgical interventions are not desired or pursued by all gender diverse patients. For those who do pursue gender-affirming surgery, these procedures are also part of a larger constellation of care, which includes mental health services.⁴

To date, most research on the surgical experiences of gender diverse patients involved exclusively adult^{6–11} and/or transfeminine^{7,8,10,11} samples. Preliminary research with transmasculine patients has demonstrated that gender-affirming surgery is associated with better quality of life,^{12,13} including decreased chest-related dysphoria after top surgery^{13,14} and better perceived gender congruence after bottom surgery.¹⁵ This is not to say surgical intervention is a “cure” for gender dysphoria, but an important component of care for gender diverse patients experiencing dysphoria related to primary and secondary sex characteristics.

Gender diverse people face a number of barriers to regular healthcare utilization, including fears or experiences of medical discrimination,^{16–19} lack of health insurance coverage,^{17,20} and prohibitive costs.^{20,21} Additional barriers related to accessing gender-affirming care include discrimination and perceived negative bias of providers,^{22,23} insurance coverage denials,^{23,24} financial costs,^{25,26} and “gatekeeping” of gender-affirming services through WPATH SOC recommendations for procedure referral letters from multiple mental and physical health professionals.²³ This recommendation for mental health referral letters is intended to occur during the recommended therapeutic process for gender diverse patients. However, varying requirements from insurers and medical professionals can include formal diagnosis of gender dysphoria,²⁷ ambiguity in determining “psychological health” of a patient,²⁸ and letters from different mental health professionals.²⁹ These can act as barriers to care depending on the approach, cost, and accessibility of mental health professionals as well as the individual requirements of insurers and medical professionals.

To date, little is known about the path to obtaining surgical consultations for gender-affirming procedures and what barriers surgery patients might face outside the widely debated notion of behavioral health gatekeeping.^{23,27} Whether patients perceive these barriers and others (eg, age, process of acquiring mental health paperwork, or specific surgical concerns/experiences like hair removal³⁰ or fear of surgery³¹) as impacting their ability to obtain a surgical consultation has not been investigated. Emerging research with transmasculine samples point to financial barriers and accessing a qualified surgeon as important barriers to both bottom²⁵ and top²⁶ surgeries. Although all care at our center is insurance based, historically, gender-affirming surgeries have been out-of-pocket costs,³² which has limited access to those who can pay. Cost may still be a barrier to care, even in an environment with improved coverage for gender surgery, as procedures may

only be partially covered or have ancillary costs.³³ Given differences in medical gender affirmation stages and SOC relevant to people who seek top and bottom surgery, identifying differences in the lifetime costs and barriers experienced by top and bottom surgery patients can serve as proxies for investigating how medical gender affirmation costs and barriers accumulate over time. For instance, top surgery patients may be at earlier stages of accessing gender-affirming care³⁴ and may be less experienced with the referral letter requirements from insurers and surgeons when compared with bottom surgery patients, who have generally obtained letters in the past for top surgery. Alternatively, surgical requirements also differ, and bottom surgery patients require more letters than top surgery patients, which may prove a larger obstacle. Additionally, before surgical consult, bottom surgery patients may need to complete requirements like hysterectomy and/or hair removal on any tissue donor site (eg, radial forearm free flap for phalloplasty).⁴

As part of an ongoing longitudinal study of transmasculine patients seeking surgical gender affirmation at the Center for Gender Surgery at Boston Children’s Hospital, we sought to address these research gaps by identifying what barriers top and bottom surgery patients experienced before their initial consults and quantifying the out-of-pocket costs spent on gender-affirming care. To do this, we piloted a self-developed measure intended to assess the degrees to which certain preoperative surgical requirements (eg, hair removal) and experiences (eg, surgical readiness) delayed or inconvenienced patients in our center.

METHODS

Participants

The present study uses data collected from 160 patients enrolled in the Transmasculine Surgical Expectations Study, which consisted of transmasculine patients seeking gender-affirming surgery at the Center for Gender Surgery at Boston Children’s Hospital in Boston, Mass. All data for these analyses were collected from April 2018 to February 2020 as part of an ongoing scale development study. Eligible patients were approached during a presurgical clinical encounter, and written informed consent was obtained from all adult participants; minors (15–17 years old) provided written assent alongside parental consent. Patients were eligible if they were designated female at birth, reported a gender identity other than “woman,” and were 15 years old or older at the time of the initial surgical consultation. Patients were excluded if they were non-English speaking, did not pursue gender-affirming surgery at our center, or had memory impairment or psychosis (which would affect their ability to take the survey). Due to limited resources for nonclinical recruitment and follow-up, we were unable to include patients who did not pursue treatment at our center. A total of 191 transmasculine patients met inclusion criteria and were provided information about the study; 31 declined and 160 were enrolled (consent rate: 83.8%; $n_{\text{top surgery}} = 119$; $n_{\text{bottom surgery}} = 41$). Data were inspected for completeness; 4 participants were

missing over 90% of data on the outcome measures and were excluded from the analytical sample; the final analytical sample had 156 participants. Complete participant demographics are provided in Table 1.

Procedure

During their enrollment visit, participants were asked to complete a series of baseline questionnaires. All data were recorded directly by participants into an iPad to reduce participants’ discomfort with disclosing sensitive information about previous discrimination.^{35,36} Study data were collected and managed using Research Electronic Data Capture, which is a secure and Health Insurance Portability and Accountability Act (HIPAA)-compliant web-based application designed to support data capture for research studies.^{37,38} No incentive was provided for study participation. This study was approved by Boston Children’s Hospital Institutional Review Board.

Measures

Barriers to scheduling a surgical consultation were assessed through a 16-item measure designed for this study (Table 2). Questions were developed using a review of the literature; the scale has not yet been validated. Participants were asked about whether they experienced specific factors that affected their ability to schedule a consultation for gender-affirming surgery. Responses could range from 1 (“experienced, did not affect surgery consultation”) to 4 (“caused extreme delay, cost, or inconvenience”), with a “not applicable” option for any specified barrier. Due

to limited endorsement of the “minor,” “major,” and “extreme” delay, cost, or inconvenience options (<2 cases across many barriers), categories were dichotomized into “experienced, did not affect surgery” and “experienced and affected surgery” for patients reporting a barrier.

In addition, participants were asked which transition-related services they had ever paid out-of-pocket for (mental health assessment, hormone treatment, hair removal, surgical consult, surgery), and an additional Likert-type item (ranging from “nothing” to “>\$10,000”) asked how much participants had paid out-of-pocket over the course of their transition. For the total out-of-pocket cost item, scale midpoints were used to compare totals across participants and calculate means and SDs.

Statistical Analyses

The data were analyzed using SPSS version 24. The significance level was set at $\alpha = 0.05$ for all statistical tests. First, descriptive statistics were provided by type of surgery for total lifetime out-of-pocket costs for medical gender affirmation (Table 1), the total number of barriers to scheduling surgery (Table 1), each of its items (Table 2), and type of out-of-pocket cost (Table 2). When appropriate, differences by type of surgery were assessed using Pearson χ^2 analyses (to compare proportions; Table 2) and independent samples *t* tests (to compare means; Table 1). Pearson product-moment and point-biserial correlations were also used to examine associations among age at first consult, total and type of out-of-pocket cost, and number of unique barriers (Table 3). Because age at

Table 1. Demographics of Patients from a Pediatric Gender Surgery Clinic in Boston, Mass. (April 2018–February 2020)

| | Type of Surgery | | P |
|--|---------------------------|-----------------------------|-------------------|
| | Top Surgery (n = 116)* | Bottom Surgery (n = 40)* | |
| Total | | | |
| Sociodemographics | | | |
| Age at first consult, y, mean (SD) | 19.3 (3.7) | 25.5 (4.7) | <0.0001 |
| Gender, n (%) | | | NA |
| Male | 47 (40.5) | 25 (62.5) | |
| Transgender male | 52 (44.8) | 14 (35.0) | |
| Nonbinary | 13 (11.2) | 1 (2.5) | |
| Genderqueer | 3 (2.6) | 0 (0.0) | |
| Other | 1 (0.9) | 0 (0.0) | |
| Sexual orientation, n (%) | | | — |
| Heterosexual | 21 (19.1) | 22 (56.4) | |
| Homosexual | 21 (19.1) | 4 (10.3) | |
| Bisexual | 24 (21.8) | 4 (10.3) | |
| Pansexual | 21 (19.1) | 5 (12.8) | |
| Queer | 11 (10.0) | 3 (7.7) | |
| Asexual | 4 (3.6) | 0 (0.0) | |
| Demisexual | 6 (5.5) | 1 (2.6) | |
| Other | 2 (1.8) | 0 (0.0) | |
| Race/ethnicity, n (%) | | | NA |
| Non-Hispanic White | 88 (75.9) | 29 (72.5) | |
| Non-Hispanic Black/African American | 6 (5.2) | 5 (12.5) | |
| Asian | 2 (1.7) | 0 (0.0) | |
| Non-Hispanic multiracial/multiethnic | 9 (7.8) | 3 (7.5) | |
| Hispanic or Latino/a/x Multiracial/Multiethnic | 9 (7.8) | 3 (7.5) | |
| Chose not to answer | 2 (1.7) | 0 (0.0) | |
| Barriers to gender-affirming surgical care | | | |
| Total lifetime out-of-pocket costs for gender-affirming care, mean (SD), n = 118 | 844.5 (1091.2) | 5118.1 (3721.3) | <0.0001 |
| Total unique barriers to scheduling surgical consult, mean (SD), n = 140 | 3.08 (3.0) | 3.9 (3.1) | .16 |

P-values were calculated using Pearson χ^2 test for categorical variables and independent samples *t* tests for continuous variables. NA represents variables for which χ^2 values could not be calculated due to prohibitively small cell counts. Boldface values indicate significance at $P < 0.05$.

*Unless otherwise specified.

NA, not applicable.

Table 2. Frequency and χ^2 Analyses for Barriers to Accessing Gender-affirming Surgery and Out-of-pocket Costs by Type of Surgery (April 2018–February 2020)

| | Type of Surgery | | | <i>P</i> ² |
|---|-----------------|--------------------|-----------------------|-----------------------|
| | Overall, n | Top Surgery, n (%) | Bottom Surgery, n (%) | |
| Experienced delays, costs, or inconveniences accessing gender-affirming surgery | | | | |
| Accessing qualified medical care | 83 | 62 | 21 | 0.34 |
| Yes | | 25 (40.3) | 6 (28.6) | |
| No | | 37 (59.7) | 15 (71.4) | |
| Accessing qualified mental health care | 83 | 60 | 23 | 0.83 |
| Yes | | 25 (41.7) | 9 (39.1) | |
| No | | 35 (58.3) | 14 (60.9) | |
| Accessing qualified surgical care | 81 | 57 | 24 | 0.34 |
| Yes | | 22 (38.6) | 12 (50.0) | |
| No | | 35 (61.4) | 12 (50.0) | |
| Employment or education issues | 74 | 50 | 24 | 0.82 |
| Yes | | 18 (36.0) | 8 (33.3) | |
| No | | 32 (64.0) | 16 (66.7) | |
| Insurance issues (no coverage/no coverage for transgender care) | 82 | 60 | 22 | 0.39 |
| Yes | | 29 (48.3) | 13 (59.1) | |
| No | | 31 (51.7) | 9 (40.9) | |
| Insurance issues (denials for gender-affirming care) | 65 | 48 | 17 | 0.55 |
| Yes | | 18 (37.5) | 5 (29.4) | |
| No | | 30 (62.5) | 12 (70.6) | |
| Readiness for surgery | 87 | 62 | 25 | 0.04 |
| Yes | | 22 (35.5) | 15 (60.0) | |
| No | | 40 (64.5) | 10 (40.0) | |
| Cost of surgery | 87 | 62 | 25 | 0.44 |
| Yes | | 29 (46.8) | 14 (56.0) | |
| No | | 33 (53.2) | 11 (44.0) | |
| Age | 94 | 73 | 21 | 0.22 |
| Yes | | 39 (53.4) | 8 (38.1) | |
| No | | 34 (46.6) | 13 (61.9) | |
| Afraid of surgery | 78 | 62 | 16 | 0.26 |
| Yes | | 18 (29.0) | 7 (43.8) | |
| No | | 44 (71.0) | 9 (56.3) | |
| Getting one or more mental health letters | 84 | 61 | 23 | 0.11 |
| Yes | | 28 (45.9) | 15 (65.2) | |
| No | | 33 (54.1) | 8 (34.8) | |
| Other issues with medical/mental health providers | 53 | 42 | 11 | 0.47 |
| Yes | | 14 (33.3) | 2 (18.2) | |
| No | | 28 (66.7) | 9 (81.8) | |
| Other issues, outside the medical system | 69 | 56 | 13 | 0.35 |
| Yes | | 22 (39.3) | 3 (23.1) | |
| No | | 34 (60.7) | 10 (76.9) | |
| Access to/cost of hair removal | 46 | 25 | 21 | 0.002 |
| Yes | | 2 (8.0) | 10 (47.6) | |
| No | | 23 (92.0) | 11 (52.4) | |
| Weight | 63 | 48 | 15 | 0.53 |
| Yes | | 15 (31.3) | 6 (40.0) | |
| No | | 33 (68.8) | 9 (60.0) | |
| Access to fertility treatment/preservation | 2 | 2 | 0 (0.0) | NA* |
| Yes | | 0 | 0 (0.0) | |
| No | | 2 | 0 (0.0) | |
| Type of out-of-pocket cost | | | | |
| Mental health assessment | 156 | 116 | 40 | 0.06 |
| Yes | | 21 (18.1) | 13 (32.5) | |
| No | | 95 (81.9) | 27 (67.5) | |
| Hormone treatment | 156 | 116 | 40 | 0.01 |
| Yes | | 33 (28.4) | 20 (50.0) | |
| No | | 83 (71.6) | 20 (50.0) | |
| Hair removal | 156 | 116 | 40 | <0.0001 |
| Yes | | 1 (0.9) | 15 (37.5) | |
| No | | 115 (99.1) | 25 (62.5) | |
| Surgical consult | 156 | 116 | 40 | 0.001 |
| Yes | | 9 (7.8) | 11 (27.5) | |
| No | | 107 (92.2) | 29 (72.5) | |
| Surgery | 156 | 116 | 40 | <0.0001 |
| Yes | | 4 (3.4) | 13 (32.5) | |
| No | | 112 (96.6) | 27 (67.5) | |

Boldface values are significant at $P < 0.05$. For the barriers scale, participants were asked “Which, if any, of the following factors affected your ability to schedule a consultation for gender-affirming surgery?” Each barrier item was coded as missing (“not applicable”), 0 (“experienced, did not affect surgery consultation”), or 1 (endorsed either “caused minor delay, cost, or inconvenience”; “caused major delay, cost, or inconvenience”; or “caused extreme delay, cost, or inconvenience”); categories were condensed due to many cells having inadequate counts for analysis among bottom surgery patients (eg, 0–1).

* χ^2 values not estimated due to inadequate sample size.

NA, not applicable.

Table 3. Matrix of Pearson Product-moment and Point-biserial Correlations of Associations among Age at First Consultation, Lifetime Out-of-pocket Gender Affirmation Costs, and Total Experienced Barriers to Scheduling Surgical Consult Variables in a Sample of Patients from a Pediatric Gender Surgery Clinic in Boston, Mass. (April 2018–April 2020)

| Variable | Age at First Consult | Total OOP Costs | Barriers | OOP Mental Health Assessment | OOP Hormone Treatment | OOP Hair Removal | OOP Surgical Consult | OOP Surgery |
|--|----------------------|-----------------|----------|------------------------------|-----------------------|------------------|----------------------|-------------|
| Age at first consult | — | — | — | — | — | — | — | — |
| Total OOP costs | 0.40* | — | — | — | — | — | — | — |
| Total unique barriers to scheduling surgical consult | 0.25* | NS | — | — | — | — | — | — |
| OOP mental health assessment | NS | 0.29* | NS | — | — | — | — | — |
| OOP hormone treatment | 0.22* | 0.23† | NS | 0.21* | — | — | — | — |
| OOP hair removal | 0.25* | 0.59* | NS | NS | NS | — | — | — |
| OOP surgical consult | 0.23* | 0.37* | 0.21† | 0.31* | 0.25* | 0.19† | — | — |
| OOP surgery | 0.21* | 0.55* | NS | 0.26* | 0.27* | 0.29* | 0.67* | — |

NS indicates $P > 0.05$. Total unique barriers to scheduling surgical consult were calculated by summing the number of individual barrier items participants reported as causing a minor/major/extreme delay/cost/inconvenience (range, 0–15) among those who reported experiencing a barrier. Associations between continuous variables and type of OOP cost were estimated using Pearson point-biserial correlations; all other associations were assessed with Pearson product-moment correlations.

*Correlation is significant at the 0.01 level.

†Correlation is significant at the 0.05 level.

NS, not significant; OOP, out-of-pocket.

first consult was significantly associated with all variables of interest (Table 3) and type of surgery (Table 1), previous significant bivariate associations were then entered into age-adjusted multivariable linear and logistic regression models; only significant models were reported.

RESULTS

Participant Demographics

The sample was mostly Non-Hispanic White (75%), with Non-Hispanic Multiracial/Multiethnic (7.6%) and Hispanic or Latino/a/x (7.6%) comprising the largest categories of racial/ethnic minority patients (Table 1). Most of the sample identified as “male”/“transgender male” (88.5%) and as sexual minority (67.9%). On average, top patients (mean = 19.3; SD = 3.7) were significantly younger than bottom patients (mean = 25.5; SD = 4.7) ($P < 0.0001$).

Barriers to Scheduling a Gender-affirming Surgical Consult

The total number of barriers reported did not significantly differ by type of surgery ($P = 0.16$), with an average of 3–4 total barriers among all participants (Table 1). The barriers most commonly reported as affecting surgery access were insurance coverage, cost of surgery, and getting one or more mental health letters (Table 2). Bottom surgery patients were significantly more likely than top surgery patients to report surgical readiness ($P = 0.04$) and hair removal ($P = 0.002$) as affecting access, though these associations fell to nonsignificance in age-adjusted models ($P > 0.05$; data not shown).

When examining the associations between total number of barriers and types of out-of-pocket cost (Table 3), having more barriers was positively associated with reporting an out-of-pocket cost for surgical consultation ($r = 0.21$; $P < 0.05$). This remained significant after adjusting for older age [odds ratio = 1.08; 95% confidence interval (CI), 0.97–1.2]. Participants with more barriers had significantly higher odds of reporting an out-of-pocket surgical consultation cost (odds ratio = 1.17; 95% CI, 1.00–1.36).

Differences in Out-of-pocket Costs by Type of Surgery

Average out-of-pocket costs were high in the overall sample (mean = 2148.31; SD = 2978.6) and significantly higher for bottom surgery patients (mean = 5118.1; SD = 3721.3) than top surgery patients (mean = 844.5; SD = 1091.2; Table 1). Even when adjusting for age ($b = 4140.30$; $\beta = 0.64$; 95% CI, 3064.6–5216.0), this association between bottom surgery and greater total lifetime out-of-pocket costs persisted ($b = 4140.30$; $\beta = 0.64$; 95% CI, 3064.6–5216.0; model $R^2 = 0.43$).

DISCUSSION

Patients commonly reported barriers related to insurance coverage, healthcare costs, and the process of obtaining mental health letters related to seeking gender-affirming top or bottom surgery. Overall, we found bottom surgery patients tended to endorse greater out-of-pocket costs directly related to surgical requirements (eg, surgical readiness, preparatory procedures), and that endorsing more barriers was associated with greater odds of having out-of-pocket costs. As this is the first study to compare barriers specific to accessing gender-affirming surgery for transmasculine patients seeking top or bottom surgery, these findings are novel in their ability to shed light on how access to gender-affirming surgeries can be hindered by not only insurance^{25,26} but also by other cost-related barriers tied to WPATH SOC requirements and surgical readiness. This is not surprising, as gender diverse people are known to face many socioeconomic barriers related to healthcare utilization^{20,21} and insurance access.^{17,20} Cost is a frequently described barrier for transmasculine people seeking top surgery or hormone treatment,^{26,39} although our study is the first to quantify the amount and types of out-of-pocket costs. Our study adds understanding of these disparities because our sample consists of gender diverse people who faced gender affirmation barriers despite being able to access a surgical consultation covered by insurance. Our findings also suggest a need for improved coverage of potential preparatory procedures

like hair removal⁴⁰ and for accompanying uncovered procedures like nipple grafting.^{33,41}

The finding that many participants reported barriers related to obtaining behavioral health letters may indicate that patients need clearer guidance and support in navigating this process. Past research has noted this process can be stigmatizing to gender diverse patients, including those with ongoing, positive, and effective relationships with psychotherapists.²⁷ This may be due to stringent requirements from insurers for gender dysphoria diagnosis,²⁷ or a perception that the requirement for these letters pathologizes gender diversity by associating it with mental illness,⁴² although financial or logistical issues with obtaining letters from multiple mental health professionals (instead of a single therapist a patient has a relationship with) can also complicate this process.²⁹ To remove barriers within this process, mental health professionals can include the letter writing process and potential concerns during sessions,²⁷ and both surgeons and mental health practitioners should engage in bidirectional communication with explicit avenues for follow-up during and after surgery.⁴³ Surgical requirements that require multiple letters from different practitioners should be critically examined and alternative frameworks considered.²⁹

Issues with surgery cost and lack of coverage for gender-affirming care have been reported by other studies with adult samples of both transfeminine and transmasculine adults seeking any type of gender-affirming care,³⁴ and these barriers point to persisting structural issues with US health insurers. For instance, although a 2014 mandate⁴⁴ required both public and private insurance providers in the state of Massachusetts to cover medically necessary gender-affirming care, insurers have flexibility in deciding what procedures are medically necessary,^{23,45} and self-insured plans are exempt from this mandate.⁴⁴ In addition, accessing qualified surgical care is likely to be a major barrier to many transmasculine people at rates higher than those of our sample (who did ultimately access qualified care); another community sample of transmasculine adults found that difficulty accessing a qualified provider was a frequently reported reason for not pursuing a gender-affirming surgery.³⁹ This barrier is likely exacerbated by limited geographic availability of surgeons in the United States with the necessary expertise, as transgender people have described needing to travel out-of-state or out of the country to get the surgery done.³⁴ Finally, age was a common barrier in our sample, which supports research that older adults are more likely to receive gender-affirming surgery.⁶ This is likely tied to both parental permission³⁴ and age of majority requirements⁴ for gender-affirming surgical procedures. Although WPATH SOC is intended to provide clear guidance to providers about when gender-affirming surgeries are medically appropriate, they may contribute to these barriers by failing to adequately address complexities like “age of majority” varying across regions or proposing metrics that can be difficult for providers or insurers to quantify (like living “full time” as one’s gender for 12 months).

Finally, average out-of-pocket costs for gender affirmation treatment were high among our patients, and bottom surgery patients reported spending more on average than top surgery patients. Bottom surgery patients were also more

likely to report out-of-pocket costs related to hair removal, surgical consult, and surgery. These differences in out-of-pocket costs are not unexpected, as neither hair removal nor preparatory surgeries are required to optimize top surgery. In addition, some bottom surgery patients may be reporting out-of-pocket costs for previous surgeries not directly related to their current surgery, such as top surgery. Out-of-pocket costs for gender diverse patients seeking top or bottom surgery can serve as a significant deterrent for accessing needed care, which may in turn contribute to incredibly risky self-performed (“do-it-yourself”) surgeries.⁴⁶ As insurance coverage for medically necessary gender affirmation services has great cost-effectiveness in reducing societal healthcare costs,⁴⁷ the increased out-of-pocket costs of bottom surgery patients represent a significant and preventable public health risk to transmasculine patients. Further, because these associations fell to nonsignificance in age-adjusted models, it is likely that surgery type is acting as an indicator for longitudinal gender-affirming care access (although this could not be tested in the current study design). The nearly 5-fold increase in total out-of-pocket costs between top and bottom surgery patients in our sample also indicates a potential cumulative burden across the life-course for gender-affirming surgical procedures, which may lead to future disruptions in care for current top surgery patients seeking consultation. Notably, our sample consists of patients able to schedule an initial surgical consultation; thus, these cost-related barriers are likely more salient and frequent for people who did not have access to service referrals to our clinic. Additionally, the barrier of patients struggling to identify/access qualified surgeons, even in an area with multiple hospital-based transgender health programs, points to the need to improve clinical training in working with this population; so programs that provide gender-affirming services, including surgery, are more accessible and provide better coordination of care. Enhanced communication between surgical practices and patients’ ongoing providers is also essential in promoting both access and continuity of care.⁴³

Limitations and Future Directions

Our study has multiple limitations, and results should be viewed within their context. First, this was a clinic-based convenience sample of patients able to access a surgical consultation and is thus not representative of the general transmasculine population seeking surgery; future research should seek to compare barriers across surgeons and institutions and should include people who did not pursue surgery following consultation. Further, the proportion of patients with racial/ethnic identities other than Non-Hispanic White was too small for analysis; sensitivity analyses using a dichotomized race/ethnicity variable were also unable to detect significant differences in outcomes. Second, theoretical correlates of barriers to care (eg, insurance type, provider–patient relationships, experiences within the healthcare system)⁴⁸ as well as facilitators (eg, mental healthcare access and quality) were not included within this study, and we could not directly address potential causal mechanisms within the study design. Third, the setting of the study was in Boston, Mass., and barriers for care experienced in other states

and regions are likely to be quite different from those of our sample. This is true since our clinic requires insurance coverage and because Massachusetts has relatively strong protections for gender minorities,⁴⁹ although healthcare discrimination is still frequently reported.⁵⁰ Fourth, insurance co-pays were not directly assessed in our out-of-pocket cost items; thus, different participant interpretations may affect the amounts reported and may be under- or overestimated due to self-report and recall bias; future research should also include cost assessments of out-of-pocket costs using insurance claim data. Fifth, we did not define “surgical readiness” in the survey; so participant interpretations may differ. Finally, we did not explore how specific aspects of mental health services (including letter writing), informed consent procedures, or other issues (both inside and outside the medical system) were experienced. Future research should examine both barriers and facilitators to care through qualitative inquiry, and the barriers scale presented in this study should be refined, retested, and validated by examining associations with other aspects of the care continuum, including patient diversity.

CONCLUSIONS

Transmasculine people are seeking gender-affirming surgery at increasing rates, but requirements for surgical preparation, issues with insurance coverage, and high out-of-pocket costs may still hinder access. When barriers to surgery cause unnecessary delays in accessing care, they have the potential to affect psychosocial risk in the form of increased depression, anxiety, and other symptoms associated with unresolved gender dysphoria.⁵¹ Avoidable delays may also affect the difficulty of surgery and impair surgical outcomes, for chest patients who bind frequently and for whom the risk of skin breakdown and loss of elasticity⁵² only grows with time. Reducing barriers to care thus has both psychosocial and financial implications, even beyond the scope of surgical care.

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