A Waitlist Intervention for Transgender Young People and Psychosocial Outcomes

Sarah Dahlgren Allen, BCom, BSc, MD; Michelle A. Tollit, BPsych(Hons), MEdPsych, PhD; Rosalind McDougall, BSc, BA(Hons), BPhil, PhD; Donna Eade, BHS; Monsurul Hoq, BSc(Stat.), MPH, MSc (Stat.), PhD; Ken C. Pang, MBBS(Hons), BMedSc, FRACP, PhD

abstract

BACKGROUND: Recent referrals of transgender young people to specialist gender services worldwide have risen exponentially, resulting in wait times of 1–2 years. To manage this demand, we introduced an innovative First Assessment Single-Session Triage (FASST) clinic that provides information and support to young people and their families and triages them onto a secondary waitlist for subsequent multidisciplinary care. Although FASST has been shown to substantially reduce initial wait times, its clinical impact is unknown.

METHODS: FASST was evaluated by analysis of clinical surveys and qualitative interviews. A total of 142 patients were surveyed before and after FASST, and comparison was made to a historical control group of 120 patients who did not receive FASST. In-depth interviews were also held with FASST attendees (n = 14) to explore experiences of FASST, and inductive content analysis was performed.

RESULTS: After FASST, there were improvements in depression (standardized mean difference [SMD] = −0.24; 95% confidence interval [CI]: −0.36 to −0.11; P < .001), anxiety (SMD = −0.14; 95% CI: −0.26 to −0.02; P = .025) and quality of life (SMD = .39; 95% CI: 0.23 to 0.56; P < .001). Compared with historical controls, those attending FASST showed reduced depression (SMD = −0.24; 95% CI: −0.50 to 0.01; P = .065) and anxiety (SMD = −0.31; 95% CI: −0.57 to −0.05; P = .021). FASST attendees qualitatively described an increased sense of agency, which was related to improved outlook, validation, sense of self, and confidence.

CONCLUSIONS: Given burgeoning waitlists of pediatric gender services worldwide, this study suggests FASST may prove a useful model of care elsewhere.
Transgender and gender diverse (TGD) individuals have a gender identity, or internal sense of their gender, that is incongruent with the sex assigned to them at birth. Although the exact prevalence of young people identifying as TGD is unknown, recent estimates range from 1.2% to 2.7%. Many of these children and adolescents experience gender dysphoria, which is the distress associated with having a gender identity different from one’s birth-assigned sex. They are also at high risk of depression, anxiety, self-harm and suicidality, which is likely to be driven not only by gender dysphoria, but also by increased exposure to bullying, discrimination, harassment, violence, and social isolation. Across the globe, increased awareness and understanding of gender diversity have contributed to a marked increase in the number of children and adolescents who are TGD seeking specialist care. This has placed substantial pressure on clinical resources, and wait times for assessment have substantially increased. For instance, current wait times for pediatric gender services in the United Kingdom are 18 months. This is significant because the timely delivery of care is likely important for this population, not only because of poor associated mental health outcomes, but also because individuals who are TGD have been reported to have the greatest risk of attempted suicide between when they plan to access medical care and when they are able to do so.

In response to the challenge of providing timely care amid increasing referrals, the Royal Children’s Hospital Gender Service (RCHGS) in Melbourne, Australia, introduced a First Assessment Single-Session Triage (FASST) clinic in 2016 (previously known as the Single-Session Nurse-led assessment clinic). This clinic is led by a clinical nurse consultant, is the entry point into the service for all new patients aged 8 to 17 years, and has been described previously. The clinic aims are to decrease wait time into the service, provide initial assessment and triage, and deliver information, education and support to patients who are TGD and their families. This is achieved through a 90-minute, face-to-face, single-session consultation. A Home, Education, Activities, Drugs, Sexuality and Suicide (HEADSS) youth psychosocial assessment is undertaken, and then information, education, and support are provided to the young person and their family. Topics for discussion are tailored to individual needs and may include social transition, referral to primary care, mental health services or lesbian, gay, bisexual, transgender and queer community support groups, and menstrual suppression. After FASST, the majority of patients are triaged for further clinical care at the RCHGS via a multidisciplinary clinic (MDC) involving mental health clinicians and pediatricians, whereas a small proportion (8.2%) opt for no further clinical involvement and are discharged. Thus far, FASST has been shown to reduce initial wait times by 10 months, and it represents a potential model of care for other specialist gender services to adopt. However, whether the clinic is able to positively impact patients’ mental health and wellbeing remains unknown. Using a mixed-methods approach that included use of a historical control group, in this study, we aimed to address this knowledge gap.

**Methods**

**Design**

A convergent, parallel mixed-methods study design was used. Specifically, this study involved both quantitative and qualitative arms that occurred concurrently, were given equal weighting, and converged at the interpretation stage. Methods and results for the two arms are described separately but will be discussed together.

**Setting**

The RCHGS is a statewide, publicly funded, tertiary referral service that provides gender-affirming clinical care to young people up to the age of 18 years who are TGD in Victoria, Australia. The service currently receives >300 new referrals each year, and its multidisciplinary staff are drawn from pediatrics, endocrinology, child and adolescent psychiatry, gynecology, psychology, nursing, and speech therapy.

**Quantitative Arm**

The quantitative arm of the study included two substudies: a one-group, pre- and post-FASST study and a nonequivalent study that employed a historical control group. The details of each subspecialty are provided in the Supplemental Information.

**Qualitative Arm**

Details of the sampling strategy, data collection, data processing, and inductive content analysis are provided in the Supplemental Materials.

**Ethics**

This study was approved by the Royal Children’s Hospital Human Research Ethics Committee (36323 and 37291). Consent was obtained from all subjects for the qualitative arm but was not required for the quantitative arm given that these data were collected as part of routine clinical care and analyzed under a clinical audit framework.
RESULTS

Quantitative Arm

Participant Characteristics

The one-group, pre- and post-FASST study included 142 patients (Supplemental Fig 3A, Supplemental Table 6). The median age was 15.0 years (interquartile range [IQR] 13.7 to 16.2). A total of 73.9\(\%\) (\(n=105\)) were birth-assigned female individuals, and the remainder were birth-assigned male individuals. A total of 56.3\(\%\) (\(n=80\)) identified as transgender male, 20.4\(\%\) (\(n=29\)) identified as transgender female, 11.3\(\%\) (\(n=16\)) identified as nonbinary, 11.3\(\%\) (\(n=16\)) were unsure, and the remaining individual preferred not to answer. The median time between FASST and MDC appointments was 259 days (IQR 154 to 308).

There were 120 patients in the historical control group in the nonequivalent control group study. The median age in this group was 14.9 years (IQR 12.4 to 16.7) and 50.8\(\%\) (\(n=61\)) were birth-assigned female individuals.

TABLE 1 Changes to Measures of Social Transition, Support, Health Professional Use, Medication Use, Family Functioning, and Suicidality After Attending FASST in the One-Group, Pre- and Post-FASST Study

<table>
<thead>
<tr>
<th>Pre-FASST</th>
<th>Post-FASST</th>
<th>Difference Between Pre- and Post-FASSTa</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(n)</td>
<td>(%) ((n))</td>
</tr>
<tr>
<td>Full transition</td>
<td>Overall</td>
<td>135</td>
</tr>
<tr>
<td>Full transition of the following</td>
<td>Name</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>Pronouns</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>Look</td>
<td>133</td>
</tr>
<tr>
<td>Full transition at the following</td>
<td>Home</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>School</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>Online</td>
<td>118</td>
</tr>
<tr>
<td>Concerns regarding social transition</td>
<td>Knowledge</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>Safety</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>Support</td>
<td>157</td>
</tr>
<tr>
<td>Full support from the following:</td>
<td>Familyb</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>Friends</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>124</td>
</tr>
<tr>
<td>Health professional usec</td>
<td>General practitioner</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td>Pediatrician</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>Psychiatrist</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>Psychologist</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>Otherd</td>
<td>136</td>
</tr>
<tr>
<td>Medication use</td>
<td>Antidepressants</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td>Period suppressorsf</td>
<td>104</td>
</tr>
<tr>
<td>FAD General Functioning Subscale</td>
<td>Unhealthy family functioningg</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Columbia Suicide Severity Rating Scale</td>
<td>High risk</td>
</tr>
</tbody>
</table>

n, the total number of patients varies because patients and parents may not be required to complete a questionnaire (based on age of young person) or choose not to.

a Mixed-effect logistic models were used with time of assessment, age and sex (except for period suppressors) as fixed effects and the individual as a random effect.

b Difference in proportions adjusted for age and birth-assigned sex.

c Includes support from mother, father, other parent/guardian, and siblings.

d Seen at least once in the previous 12 mo for concerns related to gender identity.

e Includes counsellors, nurses, and social workers.

f Among birth-assigned female individuals.

g Unhealthy functioning defined as an FAD score of >2, as previously published.20

Higher Rates of Social Transition After FASST

Before FASST, only one-third of patients (33.3\(\%\), \(n=45\)) had socially transitioned to living fully as their affirmed gender identity, and most (60.6\(\%\), \(n=83\)) had concerns about the support they would receive in this regard (Table 1, Fig 1A). In comparison, after FASST, more than one-half (51.9\(\%\), \(n=69\)) had made a full social transition (Δ = 18.5\%); 95\% confidence interval (CI): 9.7 to 27.3; \(P < .001\), in particular to the use...
of preferred name and pronouns within both home and school environments, and only 40.0% (n = 54) had concerns regarding support (Δ = −18.4%; 95% CI −29.2 to −7.5; P = .001).

**Increased Use of Menstrual Suppression After FASST**

During FASST, referral to primary care or mental health services is often discussed as a way of facilitating general, community-based mental health support and, for birth-assigned female individuals, menstrual suppression. Rates of health professional use and medication use were therefore compared pre- and post-FASST.
(Tables 1 and 2, Fig 1A). After FASST, there was minimal difference in health professional use apart from an increase in the number of visits to general practitioners ($\Delta = 0.33; 95\% \text{ CI: } 0.18 \text{ to } 0.48; P < .001$). Antidepressant use was also similar post-FASST, but there was significantly greater use of medications for menstrual suppression among birth-assigned female individuals ($\Delta = 35.0\%; 95\% \text{ CI: } 24.0 \text{ to } 46.9; P < .001$).

**Improved Mental Health, Quality of Life, and Family Functioning After FASST**

After FASST, multiple psychosocial outcomes improved (Tables 1 and 2, Fig 1).

Parent-rated Child Behavior Checklist (CBCL) $T$ scores decreased for both depressive and anxiety problems (standardized mean difference $\text{SMD} = -0.24; 95\% \text{ CI: } -0.36 \text{ to } -0.11; P < .001$ and $\text{SMD} = -0.14, 95\% \text{ CI: } -0.26 \text{ to } -0.02; P = .025$, respectively), and there was a corresponding decrease in the proportion of patients with borderline or clinical range scores (Supplemental Table 7). Similar results were obtained with the self-reported Youth Self-Report (YSR), whereas the proportion of patients at high suicide risk on the Columbia Suicidality Severity Rating Scale (C-SSRS) remained relatively unchanged.

Patient quality of life, as assessed by the Child Health Utility 9D (CHU9D), also improved after FASST, with an increase in mean scores from 0.41 to 0.51 (SMD = 0.39, 95% CI: 0.23 to 0.56; $P < .001$). This increase is several-fold higher than the minimum 0.03 change generally considered to be clinically important.11

Finally, family functioning also improved after FASST, with the proportion of families in the unhealthy family functioning range reducing by 11.0% (55.8% vs 44.9%; 95% CI: -21.4 to -0.6; $P = .039$).

**Patients Who Did Not Receive FASST Had Poorer Mental Health**

To further ascertain the likely impact of FASST on mental health, we compared the pre-MDC CBCL and YSR $T$ scores for both depressive and anxiety problems between patients who attended FASST and those historical controls who were not offered FASST in the past (Table 3, Supplemental Table 8). Although there was not enough evidence for a difference in self-reported YSR scores, parent-reported CBCL scores for both depressive and anxiety problems were notably lower in those who did attend FASST ($\text{SMD} = -0.24, 95\% \text{ CI: } -0.50 \text{ to } 0.01, P = .065$ and SMD = -0.31; 95% CI: -0.57 to -0.05; $P = .021$, respectively).

**Qualitative Arm**

**Participant and Interview Characteristics**

Fourteen participants aged between 13 and 17 years were interviewed...

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### TABLE 2 Changes to Measures of Depression, Anxiety, Quality of Life and Health Professional Use After Attending FASST in the Quantitative One-Group, Pre- and Post-FASST Study

<table>
<thead>
<tr>
<th></th>
<th>Pre-FASST</th>
<th>Post-FASST</th>
<th>Difference Between Pre- and Post-FASST$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD) or Median (IQR)</td>
<td>Mean (SD) or Median (IQR)</td>
<td>Mean (SD) or Median (IQR)</td>
</tr>
<tr>
<td>School-Aged CBCL ($T$ score)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive problems</td>
<td>139 68.24 (11.78)$^c$</td>
<td>133 65.89 (11.18)$^c$</td>
<td>142 129 66.90 (11.79)$^c$</td>
</tr>
<tr>
<td>Anxiety problems</td>
<td>139 65.97 (12.53)$^c$</td>
<td>133 63.77 (12.0)$^c$</td>
<td>142 129 63.03 (9.28)$^c$</td>
</tr>
<tr>
<td>YSR ($T$ score)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive problems</td>
<td>122 69.20 (11.08)$^c$</td>
<td>122 66.90 (11.79)$^c$</td>
<td>129 129 63.03 (9.28)$^c$</td>
</tr>
<tr>
<td>Anxiety problems</td>
<td>122 64.21 (8.36)$^c$</td>
<td>122 63.03 (9.28)$^c$</td>
<td>129 129 63.03 (9.28)$^c$</td>
</tr>
<tr>
<td>CHU9D (Utility score)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use</td>
<td>134 0.41 (0.25)$^c$</td>
<td>130 0.51 (0.26)$^c$</td>
<td>142 142 0.39b</td>
</tr>
</tbody>
</table>

$^a$ The total number of patients, varies because patients and/or parents may not be required to complete a questionnaire (based on age of young person) or choose not to.

$^b$ Difference in standardized mean adjusted for age and birth-assigned sex.

$^c$ Mean (SD).

$^d$ Median (IQR).

$^e$ Difference in log of number of visits to a health professional adjusted for age and birth-assigned sex.

$^f$ Includes counsellors, nurses, and social workers.
got referrals to the speech clinic...referrals, and being linked in to receiving appointments and like learning about the RCHGS, included organizational supports directly addressed in FASST. This changes occurring related to topics Participants discussed various topics directly addressed in FASST...agency. Overall, they described having more influence, control, and ownership over their lives: “I know that I’ll be medically transitioning in approximately a year or so...but in that time there’s a lot I can do...there’s the voice coaching...there’s socially transitioning and there’s [be]coming more confident with who I am and...what I identify as” (Participant 4).

This increased sense of agency was driven by the closely interconnected changes to outlook, validation, sense of self, and confidence that participants also described (Table 4).

Many participants discussed changes to their outlook after FASST. Often, the information provided about the RCHGS helped them to envision and set transition-related goals for their future. For example, Participant 3 described the appointment as “like a new beginning” and Participant 7 stated that “beforehand I just didn’t really know what was going to happen, but now I know what I want to do.”

Participants also experienced FASST as providing validation, not only for themselves, but also for their families, classmates, and wider communities. Participant 5 felt that “seeing someone [at FASST] who’s seen a lot of other trans people, it really helped to know that it’s actually something that people do” and Participant 3 described “at school especially, when people hear that I’ve actually gone [to RCHGS], they realize that this is serious.”

This validation had flow on effects, with parental understanding, support and acceptance also increasing after FASST for some participants. For example, Participant 8 stated, “My parents go to lots of groups...increased their usage of my preferred name...opened up a lot more and they’re looking into ways of helping me and ways of helping them...” and Participant 12 said that “[FASST] gave mum enough information to come to terms with it all.” For others, a perceived lack of parental commitment was a source of
Participants seemed to feel more comfortable with their identity and individuality, and that they had a better understanding of who they were. This sense of self linked closely to the increase in confidence also described by many participants. For example, Participant 9 said, “It’s definitely made me feel a lot more confident ... I think it was a confirmation that what I was doing was the right choice for me, and ever since then, I’ve been confident in my transition.” Participant 6 said that “I’ve become a bit more confident in saying I don’t want that when it comes to stuff like clothing” and Participant 12 that “[FASST] helped with me feeling more confident because I knew there were other people like me.” This confidence was important to the participants and appeared to link to improvements in wellbeing and the participants feeling “happier” (Participants 6 and 12).

### DISCUSSION

In this mixed-methods study, we examined the impact of a single-session waitlist intervention clinic for children and adolescents who are TGD. The results suggest that the rates of social transition and menstrual suppression were both increased after FASST, and mental health, quality of life, and family functioning all improved. Accompanying these differences, participants experienced an increased sense of agency, contributed to by changes to outlook, validation, sense of self, and confidence. A potential model linking the qualitative and quantitative changes is outlined in Fig 2.

The most noteworthy change after FASST was in relation to mental frustration: “She [mum] doesn’t seem very committed to trying to do that [pronouns]” (Participant 1).

### TABLE 4 Participant Quotations Evidencing Increased Agency

<table>
<thead>
<tr>
<th>Topic</th>
<th>Quotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlook</td>
<td>“I think the clinic… it finalizes everything, but it’s also like a new beginning, to start something different.” (Participant 3)</td>
</tr>
<tr>
<td></td>
<td>“With me… I had an idea of the medical process, but it sort of made it clear to me what I would have to do to get to it… So it wasn’t just a far-off dream: I could actually get to it easier in a sense.” (Participant 10)</td>
</tr>
<tr>
<td></td>
<td>“Well, I now have a goal to work toward, cos beforehand I just didn’t really know what was going to happen, but now I know what I want to do and hopefully what deadlines… I want to have it done by…” (Participant 7)</td>
</tr>
<tr>
<td></td>
<td>“It helps me sort of believe that they’ll actually happen [goals].” (Participant 14)</td>
</tr>
<tr>
<td>Validation</td>
<td>“Seeing someone who’s seen a lot of other trans people, it really helped to know that it’s actually something that people do, it’s not just something that I’m doing.” (Participant 5)</td>
</tr>
<tr>
<td></td>
<td>“I think it gives, at school especially, when people hear that I’ve actually gone… this far, through it [coming to ROHS], they realize that this is serious, and they realize that this isn’t a phase that I’m just going to drop…” (Participant 3)</td>
</tr>
<tr>
<td></td>
<td>“I think that it probably would have had some effect of my family going okay this is actually medical, it makes sense now.” (Participant 10)</td>
</tr>
<tr>
<td></td>
<td>“It was kind of the first, I guess, time when they [parents] fully understood that I was really, really serious about this.” (Participant 4)</td>
</tr>
<tr>
<td>Sense of self</td>
<td>“I’ve definitely learnt a lot more about the LGBT (lesbian, gay, bisexual and transgender) community, and I’ve just kind of realized exactly who I am, and that’s been really, really helpful.” (Participant 11)</td>
</tr>
<tr>
<td></td>
<td>“Well, after the appointment I did come to terms with what I identified as… I started feeling a lot less anxious about how I was presenting day to day and I felt happier because of it.” (Participant 12)</td>
</tr>
<tr>
<td></td>
<td>“I was slightly unsure… But now that I’ve kind of had time to look back and reflect, I can see that yes, I am transgender; but I do enjoy maybe wearing makeup or doing some feminine things.” (Participant 8)</td>
</tr>
<tr>
<td></td>
<td>“It was just more of feeling a lot more comfortable in my own skin being able to talk to someone about it.” (Participant 3)</td>
</tr>
<tr>
<td>Confidence</td>
<td>“It helped with me feeling more confident because I knew there were other people like me and I was now having appointments to make those next steps in the transition.” (Participant 12)</td>
</tr>
<tr>
<td></td>
<td>“I’ve become a bit more confident in saying I don’t want that when it comes to stuff like clothing.” (Participant 6)</td>
</tr>
<tr>
<td></td>
<td>“Since then, I’ve kind of developed a different kind of, well, presentation, where I kind of realized it doesn’t really matter what you wear so much as that you feel comfortable in it.” (Participant 8)</td>
</tr>
<tr>
<td></td>
<td>“It’s definitely made me feel a lot more confident… I think it was a confirmation that what I was doing was the right choice for me, and ever since then, I’ve been confident in my transition.” (Participant 9)</td>
</tr>
<tr>
<td></td>
<td>“I felt like I could act more in a masculine way because I was reassured that this is normal for someone like me… It made me feel like I could be the truest version of myself that I can be.” (Participant 3)</td>
</tr>
</tbody>
</table>

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**FIGURE 2**

Integrative model of FASST clinic’s impact. In the quantitative component of the study, there were significant changes to social transition, mental health, family functioning, and quality of life. It is proposed that the FASST clinic starts patients on a journey moving from social transition through improved mental health and family functioning to an overall increase in quality of life. The change in agency noted in the interviews is thought to be crucial for driving these changes.
health, which is often poor in young people who are TGD.\textsuperscript{1,3,5} Similar to a previous report that one-half of all patients presenting for care at a specialist pediatric gender clinic have a significant psychiatric history,\textsuperscript{3} 48.4\% to 69.7\% of our participants had anxiety and/or depressive problems in the borderline or clinical range before FASST. There were, however, improvements in these outcomes after FASST. Although it could be argued that such changes would have occurred spontaneously over time in the absence of FASST, this is unlikely for 2 reasons. First, it has previously been found that the time spent waiting for gender-affirming medical care is particularly high in terms of suicidality,\textsuperscript{8} suggesting that time spent on a waitlist is by itself unlikely to improve mental health. Second, our historical control group of individuals who never attended FASST showed higher levels of depression and anxiety compared with those who attended FASST and, notwithstanding the inherent limitations in using historical controls (as discussed below), this suggested that the clinic itself contributed to these improvements.

The improvements in mental health after FASST may have occurred for many reasons. Firstly, FASST appears to act as a means for exploring and promoting social transition, which others have previously shown to be associated with lower rates of anxiety and depression.\textsuperscript{12} Secondly, there was a significant increase in the number of patients using medications to suppress their periods after FASST (and an attendant increase in GP visits via which such medications could be accessed), and this was likely to alleviate the distress that many TGD individuals experience because of menstruation. Notably, however, adjusting for social transition status or menstrual suppression did not change our findings in any meaningful way (Supplemental Tables 9 and 12). Thirdly, interviewees reported increased parental understanding, support and acceptance after FASST, and strong parental support is known to be associated with better mental health in TGD individuals.\textsuperscript{8} Fourthly, interviewees described improved agency, outlook, validation, sense of self, and confidence, each of which is likely to be important in promoting better mental health. Finally, FASST incorporates concepts that have been shown to be effective in other clinical areas, namely, single-session models,\textsuperscript{14} nurse-led care,\textsuperscript{15} and Home, Education, Activities, Drugs, Sexuality and Suicide adolescent psychosocial assessments,\textsuperscript{16} although the combination of these 3 approaches is, to our knowledge, novel.

Another notable change after FASST was a significant improvement in family functioning. Having a child identify as TGD is a momentous change and often highly stressful for families. Consistent with this, we observed that family functioning before FASST was at an unhealthy level among our participants’ families compared with a general Australian community sample (Supplemental Table 7, mean McMaster Family Assessment Device [FAD] score of 2.17, compared to the community average of 1.91).\textsuperscript{17} After FASST, participants’ mean FAD score was significantly reduced (to 2.06), bringing scores closer to the community average. The reasons for this improvement in family functioning are again likely to be manifold. For instance, interviewees described how parental understanding, acceptance, and support improved, all of which would likely contribute to better family functioning. At the same time, as noted already, we observed improved mental health among our participants, and, if a young person who is TGD has better mental health, they may well find it easier to interact with their family members. However, conversely, if relationships are less tumultuous, mental health may also improve; thus, like previous studies that have shown that better family functioning is associated with improved mental health outcomes in youth who are TGD,\textsuperscript{16} our data cannot establish causality here.

Despite the various positive changes observed after FASST, there is still room for improvement. For example, approximately one-half of all participants remained in the borderline or clinical range for depressive and anxiety difficulties after FASST. Similarly, in terms of quality of life, the mean post-FASST utility score of 0.51 was still less than the 0.82 observed in a general community-based sample of Australian children and adolescents.\textsuperscript{19} Thus, even with FASST, there is still much to be done once patients are seen again by gender service clinicians, but what FASST does offer is a toolbox of resources and strategies that can be used to better cope in the interim.

There are several limitations to this study. For the quantitative analysis, only limited outcome measures (CBCL and YSR) were available from the historical control group. Additionally, our use of historical controls may have introduced confounders that contributed to the observed differences in mental health between those who did and did not attend FASST. For example, societal attitudes and stigma toward individuals who are TGD have changed substantially in recent years. It is therefore possible that greater community awareness and understanding of gender diversity may have contributed to improved mental health in FASST attendees who were all seen after the controls,
CONCLUSIONS

The results of this study are nonetheless encouraging and suggest that FASST may help to improve the lives of children and adolescents who are TGD awaiting care. For the many gender services worldwide whose waitlists continue to grow in the face of ongoing increases in patient referrals, FASST may therefore represent a useful model of care.

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ABBREVIATIONS

CBCL: Child Behavior Checklist
CHU9D: Child Health Utility 9D
CI: confidence interval
C-SSRS: Columbia Suicidality Severity Rating Scale
FAD: McMaster Family Assessment Device
FASST: First Assessment Single-Session Triage
IQR: interquartile range
MDC: multidisciplinary clinic
RCHGS: Royal Children’s Hospital Gender Service
SMD: standardized mean difference
TGD: transgender and gender diverse
YSR: Youth Self-Report

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although it should be noted that baseline depression and anxiety scores for those who attended FASST were actually similar to the historical controls (compare Tables 2 and 3). Another important limitation is that we ran a large number of statistical analyses in this study, so it is possible that some of the observed differences may have arisen because of type 1 errors. In addition, FASST was developed and implemented at just a single hospital and, as noted already, it is possible that the observed changes were due to influences unrelated to the clinic. Future randomized controlled trials to assess its applicability elsewhere and more comprehensively test the effects of FASST would therefore be worthwhile. For the qualitative analysis, various factors may have influenced the types of responses. For example, individuals who had a positive experience of FASST or better mental health may have been more likely to participate as interviewees. Similarly, all but one interviewee was assigned female at birth. Looking ahead, it would be helpful for future studies to consider the influence of FASST on parents. Moreover, determining the health economic impact of FASST would also be important, especially given the potential financial benefits previously reported to be associated with nurse-led and single-session models of care.15,20
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