



Together-Equitable-Accessible-Meaningful (TEAM) Training to Improve Cancer Care for Sexual and Gender Minorities (SGM): Outcomes from a Pilot Study

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Abstract

To alleviate health disparities experienced by sexual and gender minority (SGM) patients, cancer care professionals need further education on the needs of SGM cancer patients and their loved ones and caregivers. The Together-Equitable-Accessible-Meaningful (TEAM) Training to Improve Cancer Care for SGM Patients (TEAM SGM) was developed and piloted to address this need. This study reports healthcare professional learner outcomes from the TEAM SGM pilot intervention. The TEAM SGM Training pilot consisted of 2.5 h of content from the original online self-paced TEAM Training plus 12 1-h Zoom sessions on specialized topics in addition to readings and activities. Participants ($n=28$), representing seven cancer service organizations from six states in the USA, were recruited through newsletter listservs and social media. All participants ($n=28$) completed the pre-test and twenty-two participants completed the post-test. Using five factors confirmed in a separate Confirmatory Factor Analysis, paired t -tests of TEAM SGM participant pre- and post-test data were conducted. Statistically significant improvements were found in four of five factors: Environmental Cues ($t(21)=2.56, p=.018$), Knowledge ($t(21)=2.15, p=.043$), Clinical Preparedness ($t(7)=3.89, p=.006$), Clinical Behaviors ($t(21)=2.48, p=.022$). The Attitudes factor was not significantly improved from pre-intervention to post-intervention likely due to strong affirming attitudes toward SGM patients at baseline. TEAM SGM is a feasible, effective training to build capacity in SGM-affirming care for cancer care providers.

Keywords LGBTQI · Healthcare professional education · Cultural competency training

Introduction

In 2017, the American Society of Clinical Oncology (ASCO) issued a call to action for improved patient and provider education, policy solutions, and inclusive research to advance

the health and healthcare of lesbian, gay, bisexual, transgender, queer, and intersex (LGBTQI) populations—otherwise referred to by the National Institutes of Health as sexual and gender minorities (SGM) [1]. While cancer care professionals strive to provide high-quality care to SGM patients, little

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education has historically been available to train healthcare professionals on the unique cancer risk reduction, screening, treatment, and supportive care needs of SGM patients [2]. This absence of training material has impacted cancer care professionals in meeting their goals of quality care for SGM patients.

In 2017, the Together-Equitable-Accessible-Meaningful (TEAM) Training was created to provide training on implicit bias, intersectionality, and health equity strategies among diverse healthcare professionals. Results from that training indicated statistically significant improvements to cultural competency behaviors and attitudes toward SGM persons [3]. Participants from the original TEAM Training, however, reported a need for additional SGM-specific content to address the depth and breadth of the unique needs of SGM people at risk for and diagnosed with cancer experience. To address this need, the TEAM Training to Improve Cancer Care for SGM Patients (TEAM SGM) was developed with significantly greater depth of content specific to SGM patients and piloted among a multidisciplinary group of cancer care professionals. To examine the impact of TEAM SGM, validated factors were evaluated to assess changes in self-reported SGM-affirming care practices from pre- to post-intervention. This study reports healthcare professional learner outcomes from the TEAM SGM pilot intervention.

Methods

Intervention Development

Conceptual Model

The exigence for TEAM SGM training is grounded in the Fundamental Cause Theory [4], and the study design adapts the Robert Wood Johnson Foundation's (RWJF) Advancing Health Equity: Leading Care, Payment, and Systems Transformation Roadmap [5]. The Fundamental Cause Theory suggests that multiple mechanisms work together and evolve to perpetuate health inequities; however, in this model, stigma is the fundamental cause. Discrimination and bias are reinforced through intrapersonal, interpersonal, and systemic messages that result in ongoing experiences of stigma. Factors such as race/ethnicity, sexual orientation, gender identity, and HIV status are stigmatizing characteristics, leading to complex and interlocking social and health disparities that persist over time. The Fundamental Cause Theory draws from minority stress and identity threat models. TEAM SGM is thus designed to address the multiple and overlapping structures that perpetuate stigma among SGM persons, including internalized, interpersonal, and structurally supported stigma.

The RWJF Advancing Health Equity Roadmap was created to reduce racial and ethnic disparities. However, the systems change process core to the Roadmap can be adapted to address SGM disparities. The Roadmap describes six steps toward systems change, with a core tenet of the Roadmap linking quality and equity in order to truly affect culture change. The Roadmap also requires use of data (diagnose the disparity), action planning (design the intervention), stakeholder assessment and team building (secure buy-in), and ongoing quality improvement (implement and sustain change). TEAM SGM adapted the RWJF Roadmap by including needs assessment, action planning, stakeholder engagement planning, and implementation technical assistance.

Intervention

The TEAM SGM intervention consisted of 2.5 on-demand, self-paced hours of content from the original TEAM Training [3] plus twelve 1-h Zoom sessions on specialized topics in addition to readings and activities. Required sessions from the original TEAM Training included determinants of inequity, intersectionality, inequities among SGM people, normalizing implicit bias, strategies for healthcare professionals to promote equitable care, and strategies for institutions to create equitable care. Optional online modules included patient engagement in research, patient engagement in clinical care, inequities among Black and African American individuals, inequities among Latino individuals, aids in communication, and patient self-advocacy. Virtual sessions were guided by literature review and subject matter expert (SME) contributions. Sessions included reinforcement of the online sessions about determinants of health inequity and intersectionality. In addition, Zoom sessions included information on creating affirming environments; reflecting on bias, ethics, and organization change; conducting a needs assessment and practicing affirming care, organ-driven cancer screening and trauma-informed care, sex and gender considerations in oncology management, policy considerations, supportive and palliative care s, and action plan development to implement organizational change (see Table 1).

Participant Recruitment

Participants were recruited through announcements disseminated through two newsletters issued monthly by the lead author's training and technical assistance (TA) team as well as professional listservs and social media. The social media marketing strategy focused on two platforms—Twitter and LinkedIn—which provided the widest potential reach for the intended audience. Informational graphics with past participant quotes were created to recruit potential applicants. Announcements directed

Table 1 TEAM SGM required online training modules, optional online training modules, and virtual sessions

Required online training modules

1. Determinants of inequity
 - Identify factors and barriers that lead to health inequities
2. Intersectionality
 - Describe how intersectionality influences the patient-provider relationship across the cancer care continuum
 - Identify interventions to improve shared decision-making that account for intersectionality
3. Inequities among sexual and gender minorities
 - Identify barriers to care for sexual and gender minorities (SGM), also referred to as Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex (LGBTQI) individuals
 - Describe unique cancer risks and challenges for LGBTQI individuals, as well as resources and areas of resiliency
4. Normalizing implicit bias
 - Describe how implicit bias and assumptions adversely influence patient-provider communication and care
 - Identify strategies to assess and mitigate provider implicit bias in interactions with patients
5. Strategies for healthcare professionals to promote equitable care
 - Describe the influence of various cultural norms, preferences, needs, and experiences on patients' interactions with the healthcare system
 - Discuss strategies for culturally competent and respectful exchanges with patients
6. Strategies for institutions to create equitable care
 - Identify a framework organizations can use to design initiatives to promote health equity
 - Recognize strategies to enact culture change to support the provision of culturally competent care in line with this framework

Optional online training modules

1. Patient engagement in research
 - Identify strategies to engage patients in cancer research
 - Identify strategies to increase minority patient representation across the cancer research spectrum
2. Patient engagement in clinical care
 - Recognize how patient engagement in cancer care influences patient knowledge, confidence, and health behaviors
 - Identify strategies for engaging patients and their loved ones in shared decision-making across the cancer care continuum
3. Inequities among Black and African American individuals
 - Identify barriers to care for Black and African American individuals
 - Describe unique cancer risks and challenges for Black and African American individuals, as well as resources and areas of resiliency
4. Inequities among Latino individuals
 - Identify barriers to care for Latino individuals
 - Describe unique cancer risks and challenges for Latino individuals, as well as resources and areas of resiliency
5. Aids in communication
 - Identify strategies to more effectively communicate with patients with low health literacy and limited English proficiency
6. Patient self-advocacy
 - Define patient self-advocacy
 - Identify strategies to counsel and educate patients and their loved ones to engage in self-advocacy across the cancer care continuum

Virtual sessions

1. Orientation and kickoff for TEAM SGM
2. Determinants of health inequity and intersectionality
 - Describe determinants of health inequity
 - Define the importance of using an intersectional lens in patient care
 - Describe LGBTQ inequities
3. Creating an affirming environment for SGM patients
 - Explain how unconscious (implicit) bias works
 - Identify administrative policies and procedures for affirming SGM care
 - Identify resources to create a welcoming environment for SGM patients
4. Conducting your needs assessment and practicing affirming care approaches
 - Describe CLAS standards
 - Describe HEI standards
 - Use HEI and CLAS standards to conduct an organizational assessment
 - Practice affirming care approaches
5. Reflecting on bias, ethics, and organizational change
 - Identify strategies to counter implicit bias
 - Identify strategies to communicate with empathy
 - Describe an ethical framework to guide equitable cancer care for SGM patients
 - Describe approaches to insensitive comments about SGM patients by colleagues
 - Describe a framework for organizational change

Table 1 (continued)

Required online training modules

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6. Anatomy-driven screening and trauma-informed care
 - Summarize consensus-based guidelines for transgender cancer screening
 - List questions to ask to screen for trauma
 - Describe how to use a trauma-informed approach to care
 - Identify common missteps providers may make with SGM patients
 7. Sex- and gender-based consideration in oncology management
 - Describe genomic and molecular factors important in choosing oncology biomarkers relevant for therapy
 - Identify risk management strategies for hormone-mediated tumors
 - Describe how hormone therapy may impact medical management for transgender patients with cancer
 - Describe sex- and gender-based medical management approaches in oncology and why it matters
 - Identify implications of sex and gender for clinical trials
 8. Policy considerations for SGM cancer patients
 - Describe policy and advocacy issues that uniquely arise for SGM patients, including barriers to care
 - Describe insurance considerations relevant to transgender cancer patients
 - Describe strategies to avoid and appeal claim denials for SGM patient care needs
 9. Supportive and palliative care for SGM cancer patients
 - Identify psychosocial support strategies and resources for SGM patients
 - Identify strategies to support SGM patients with serious illness
 - Describe unique palliative care needs for SGM cancer patients
 10. Prioritizing goals and taking action workshop
 - Prioritize system-level change(s) needed using needs assessment data
 - Create an action plan with SMART objectives
 - Conduct a SWOT analysis for your systems change goal
 - Identify critical key stakeholders to optimize action plan success
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interested healthcare professionals to a dedicated TEAM SGM webpage. The webpage hosted all information relating to the course, including the physical application, syllabus, and frequently asked questions. Data from exit interviews of the pilot TEAM SGM program revealed that most teams learned about the application through our direct mailing listserv.

A competitive application process was developed for the no-cost TEAM SGM pilot training program. Applications required a multidisciplinary cancer care team to apply together with a letter of commitment indicating organizational leadership support for organizational change goals and protected time of all trainees to participate in the program. The application was posted to the TEAM SGM webpage as a fillable PDF that could be emailed back to submit.

Applications were reviewed for eligibility; applications who are found to be ineligible were invited to join an email list for further opportunities. Four reviewers from the Project Team scored each application on a 4-point scale ranging from 1 for strong to 4 for weak in each of three domains (Table 2). Applications received peer review to assess organizational factors essential for successful change. These factors include vision from institutional leaders and clinical champions, incentives for change, and resources to enact change. Reviewers entered scores and comments on each of the criteria. Applications were ranked by strength to determine who was best fit for the program. Teams that appeared to be an optimal fit were interviewed to ensure program fit.

Seven teams ($n = 28$ healthcare professionals) from five cancer centers, one state-wide cancer screening program, and one community-based organization ($n = 1$) located in six states across the USA were invited to participate in the TEAM SGM pilot. All participants ($n = 28$) completed the pre-test and 22 participants completed the post-test. Attrition was due to job change ($n = 1$) and failure to complete the post-test within 2 weeks following the last training session ($n = 5$). See Table 3 for participant characteristics.

*Participants could select all that apply.

Data Collection

Learner pre-test and post-test data were captured through an investigator-created survey entitled Queering Individual and Relational Skills and Knowledge Scales (QUIRKS)-Provider, the development of which is described elsewhere. Items were based on metrics identified in the extant literature and by the Human Rights Campaign Healthcare Equality Index [6]. Each item had 5-point response options based on a Likert scale from 0 = strongly agree to 4 = strongly disagree. Seven items were reverse-scored, so that all items with lower scores indicated more SGM-affirming care.

Surveys were distributed via a direct link to REDCap sent to TEAM SGM participants. Participants were asked to complete the pre-test survey on or before the kickoff session for TEAM SGM. Participants were asked to complete the post-test on or after the last virtual session of

Table 2 Selection criteria and guiding questions

Selection criteria	Questions
Organization review	
Organization review	<ul style="list-style-type: none"> •Organization provides at least one type of cancer-related clinical service or community-/population-level intervention •Letter of support from administrator
Narrative review	
Patient demographics	<ul style="list-style-type: none"> •Describes patient population served •Describes current status of SOGI data collection
Area(s) for improvement	<ul style="list-style-type: none"> •Describes specific area(s) for improvement to support equitable, patient-centered, and culturally affirming cancer care at the systems level for SGM patients •Indicates how the area of improvement was identified
Expected benefit(s) from training	<ul style="list-style-type: none"> •Identifies specific features of training from which organization will benefit •Articulates expected manner in which team will respond to the training
Organizational characteristics and quality improvement	<ul style="list-style-type: none"> •Identifies how organizational characteristics (alignment of organizational values; vision; top management support; leadership; incentives; time; skills; organizational resources; access to organizational information) relate to their quality improvement project
Organization team review	
Team composition and individual personal statements	<ul style="list-style-type: none"> •Multidisciplinary team of four (at least one administrator with budgetary authority and decision-making power) •Personal statements from team members describing skills/expertise/perspectives and how they will contribute to implementation of change goal

TEAM SGM. Appropriate items were recoded to ensure the same directionality of Likert scales (lower scores are more SGM-affirming).

Data Cleaning

Each participant created a unique identifier that would maintain their anonymity while allowing the research team to match pre- and post-webinar surveys. Pre- and post-intervention surveys were examined for duplicate responses. In all but one case, one of the duplicate surveys was incomplete; therefore, the incomplete survey was removed and the completed survey retained. In one case, a pre-test was completed twice. In this case, the second survey was kept for analysis. Complete data for the pre-tests ($n = 28$) and 22 post-tests were matched based on the participant ID.

Data Analysis

Based on a separately published Confirmatory Factor Analysis of the QUIRKS-provider scale, five factors from pre-intervention to post-intervention were compared at an individual level with paired t -tests: Environmental Cues, Clinical Preparedness, Clinical Behaviors, Knowledge, and Attitudes.

Results

TEAM SGM was shown to be feasible with nearly all participants ($n = 27$) completing all training content. TEAM SGM was also shown to be highly efficacious with four of five constructs measured showing statistically significant improvements from pre-intervention to post-intervention. Table 4 presents the mean and SD for each construct for the pre-test and post-test, separately. Statistically significant improvements were found in Environmental Cues ($t(21) = 2.56$, $p = 0.018$), Knowledge ($t(21) = 2.15$, $p = 0.043$), Clinical Preparedness ($t(7) = 3.89$, $p = 0.006$), and Clinical Behaviors ($t(21) = 2.48$, $p = 0.022$). No other statistically significant findings were found, e.g., on attitudes about SGM care.

Discussion

In this study, we found that the pilot intervention significantly improved four out of five factors based on QUIRKS-provider scale, including environment cues, knowledge, clinical preparedness, and clinical behaviors.

Although we know that knowledge alone is insufficient to change behavior, it is an essential starting point. Our intervention has shown the benefit of intervention to the

Table 3 Participant characteristics ($n=22$)

Characteristic	Statistic
Professional role	<i>N</i> (%)
Community health worker	2 (9.1)
Nurse	2 (9.1)
NP	1 (4.5)
Patient navigator	2 (9.1)
Physician	1 (4.5)
Social worker	3 (13.6)
Other clinical role	3 (13.6)
Other non-clinical role	8 (36.4)
Specialty	<i>N</i> (%)
Oncology	14 (63.6)
Not clinical	8 (36.4)
Age (years)	<i>M</i> (<i>SD</i>) 40.82 (11.471)
Race*	<i>N</i> (%)
Black or African American	4 (18.2)
Hispanic, Latino, or Spanish	3 (13.6)
White	16 (72.7)
Sex assigned at birth	<i>N</i> (%)
Female	20 (90.9)
Male	2 (9.1)
Gender identity*	<i>N</i> (%)
Cisgender man	2 (9.1)
Cisgender woman	18
Genderqueer	1 (4.5)
Non-binary	1 (4.5)
Questioning	1 (4.5)
Sexual orientation*	<i>N</i> (%)
Bisexual	3 (13.6)
Gay	1 (4.5)
Lesbian	1 (4.5)
Pansexual	2 (9.1)
Queer	1 (4.5)
Straight/heterosexual	16 (72.7)
Hours of training on LGBTQ-specific health, <i>M</i> (<i>SD</i>)	8.73 (13.2)

providers. It includes improvements to Knowledge and self-reported Clinical Preparedness regarding affirming care for SGM patients as well as improvements to behaviors—including in-clinic cues (i.e., Environmental Cues) that show that SGM patients are welcome and interpersonal behaviors (i.e., Clinical Behaviors) with patients from baseline to 15 weeks post-baseline.

Table 4 Pair *t*-tests for the QUIRKS-provider scale ($n=22$)

Factor	Pre-test mean (<i>SD</i>)	Post-test mean (<i>SD</i>)	<i>p</i> -value
Environmental cues (range: 0–12)	2.55 (2.02)	1.32 (1.84)	0.018
Knowledge (range: 0–36)	6.86 (3.44)	5.86 (3.03)	0.043
Clinical Preparedness (range: 0–20)	9.25 (3.99)	3.13 (2.42)	0.006
Clinical Behaviors (range: 0–24)	4.23 (3.02)	2.68 (3.14)	0.022
Attitudes about SGM Care (range: 0–32)	2.64 (2.09)	2.27 (2.57)	0.502

We also observed Attitudes improved from pre-intervention to post-intervention. However, change was not statistically significant. One reason is that the sample size is too small to detect a significant intervention effect in the pilot intervention. However, it also shows that the intervention effect for attitudes about SGM care is not as strong as other constructs. This might be explained by strong affirming attitudes toward SGM patients, among our participants of providers, at baseline. A ceiling effect might exist for attitudes toward SGM patients.

Limitations of this study need to be mentioned before further discussion. Participants for this study were likely to have a degree of selection bias given that they applied to participate in the learning intervention study. Specifically, the participants might have more affirming attitudes toward SGM patients at baseline compared to less motivated peers. However, it is important and pragmatic to recruit these clinical champions given the important role of champions in implementing cultural change at the organizational level. In addition, the pilot study was intended to assess the feasibility and acceptability of the intervention. We used a one-sample pre- and post-test design in the pilot study, which might be biased to testing effect or time trend. In the next steps, we will assess patient-reported experience changes resulting from this pilot training and longer-term organizational change at 6 months post-test. In future studies, we will compare facilitated completion of TEAM SGM by multidisciplinary teams accessing technical assistance to self-paced TEAM SGM content completion by individual trainees without technical assistance to examine the ideal balance of depth versus reach. This comparison will allow for appropriate scaling of the intervention without losing effectiveness. Lessons learned will also refine the training sessions to optimize goal refinement and peer-to-peer learning.

Conclusion

Comprehensive training is needed to address health disparities experienced by SGM cancer patients, and healthcare professionals desire to receive such training. TEAM SGM is an accessible, feasible, and effective learning model to build capacity in SGM-affirming care for cancer care teams.

More studies are needed to further understand the impact of this training among a larger group of trainees, particularly among oncology professionals who may have less affirming attitudes at baseline.

Availability of Data

Data requests can be made to the corresponding author.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s13187-022-02134-2>.

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Code Availability Not applicable.

Declarations

Conflict of Interest The authors declare no competing interests.

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