BMJ Open

Enhancing Primary Care Services for Diverse Sexual and Gender Minority Populations: A Developmental Study Protocol

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2019-032787
Article Type:	Protocol
Date Submitted by the Author:	05-Jul-2019
Complete List of Authors:	Willging, Cathleen ; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest Kano, Miria; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest; University of New Mexico, Department of Internal Medicine Green , Amy; Trevor Project Inc Sturm, Robert; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest Sklar, Marisa; University of California San Diego, Department of Psychiatry Williams, Sonnie; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest Eckstrand, Kristen; University of Pittsburgh Medical Center, Department of Psychiatry
Keywords:	Cultural competency, Health status disparities, Implementation Science, Minority health, Primary health care, Sexual and gender minorities

I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

Enhancing Primary Care Services for Diverse Sexual and Gender Minority Populations: A Developmental Study Protocol

Cathleen Willging, PhD[1*]

Miria Kano, PhD[1,2]

Amy Green, PhD[3]

Robert Sturm, MA[1]

Marisa Sklar, PhD[4,5]

Sonnie Williams, MPH[1]

Kristen Eckstrand, MD, PhD[6]

[1] Behavioral Health Research Center of the Southwest, Pacific Institute for Research and Evaluation, 851 University Boulevard, SE, Suite 101, Albuquerque, NM 87106, USA. cwillging@pire.org; mkano@pire.org; rsturm@pire.org; swilliams@pire.org

[2] Department of Internal Medicine, University of New Mexico, 2325 Camino de Salud, NE, MSC07 4025, 1 University of New Mexico, Albuquerque, NM 87131, USA. mkano@salud.unm.edu

[3] The Trevor Project, P.O. Box 69232, West Hollywood, CA 90069, USA. amyegreen@gmail.com

[4] Department of Psychiatry, University of California, San Diego, 9500 Gilman Drive (8012), La Jolla, CA 92093-0812, USA. msklar@ucsd.edu

[5] Child and Adolescent Services Research Center, University of California, San Diego, 3665 Kearny Villa Rd., San Diego, CA 92123, USA. msklar@ucsd.edu

[6] Department of Psychiatry, University of Pittsburgh Medical Center, 3811 O'Hara Street, Pittsburgh, PA 15213-2593, USA. eckstrandkl@upmc.edu

*Corresponding Author

Keywords Cultural competency; Health status disparities; Implementation Science; Minority health; Primary health care; Sexual and gender minorities

Acknowledgments We thank Patricia S. Hokanson, MPH, for assistance with formatting the references.

Author contributions CW, MK, AG, and RS initiated and conceived of the study. CW, MK, and AG drafted the research protocol and overall study design. MS developed the systematic review

protocol. RS, SW, and KE reviewed and critically revised the protocol. All authors approved the final version of this protocol.

Funding This work was supported by a grant from the U.S. National Institute of Minority Health and Health Disparities (R21MD011648).

Competing interests None declared.

Patient consent for publication Not required.

Data statement Data will be available upon reasonable request. Email the corresponding author for the paper to request the relevant data.

Word count 4000

ABSTRACT

Introduction Compared to heterosexual, cisgender populations, sexual and gender minority (SGM) people are more likely to suffer from serious health conditions and insufficient access to health services. Primary care is at the frontlines of healthcare delivery; yet, few clinics have resources or mechanisms in place to meet SGM patient needs. This developmental study protocol focuses on reducing health disparities among SGM patients by identifying, adapting, and developing SGM practice guidelines/recommendations and implementation strategies for primary care clinics in urban and rural New Mexico. Using input from patients, healthcare advocates and providers, and researchers, the study will pilot a practice parameter and implementation toolkit to promote SGM-specific cultural competence at multiple service-delivery levels.

Methods and Analysis We will recruit providers/staff from four Federally Qualified Health Centers (FQHCs) serving ethnically- and geographically-diverse communities. Incorporating the Implementation of Change Model and an intersectionality perspective, data collection includes a systematic review of SGM-specific practice guidelines/recommendations, focus groups and semi-structured interviews, quantitative surveys, and the Nominal Group Technique (NGT) with providers/staff. We will categorize guidelines/recommendations identified through the review by shared elements, use iterative processes of open and focused coding to analyze qualitative data from focus groups, interviews, and the NGT, and apply descriptive statistics to assess survey data. Findings will provide the foundation for the toolkit. Focus groups with SGM patients will yield supplemental information for toolkit refinement. To investigate changes in primary care contexts following the toolkit's pilot, we will undertake systematic walkthroughs and document review at the FQHCs, analyzing these data qualitatively to examine SGM inclusiveness. The structured data-

informed Plan-Do-Study-Act method will enable further revision of the toolkit. Finally, focus groups, interviews, and quantitative surveys with providers/staff will highlight changes made in the FQHCs to address SGM patient needs, barriers to sustainment of changes, satisfaction, acceptability, usability, and feasibility of the toolkit.

Ethics and Dissemination The study has been reviewed and approved by the Pacific Institute for Research and Evaluation Institutional Review Board. Informed consent will be obtained from all participants before their involvement in research activities begins. Study results will be actively disseminated through peer-reviewed journals, conference presentations, social media and the Internet, and community/stakeholder engagement activities.

ARTICLE SUMMARY

Strengths and Limitations of this study

- This developmental study addresses alarming and persistent healthcare disparities among SGM populations and is guided by a Scientific Advisory Board of SGM patients, healthcare advocates and providers, and researchers.
- The study facilitates an examination and prioritization of organizational and clinical practice guidelines resulting in a triangulated and analyzed set of guidelines approved by a diverse group of stakeholders representing SGM communities and healthcare advocates and providers.
- The prioritized guidelines and practical implementation strategies will be integrated into a comprehensive user-friendly toolkit to enhance services for SGM patients, reduce experiences of minority stress, and increase engagement of SGM people with primary care in FQHCs and other healthcare settings.
- The study will test implementation strategies to introduce the toolkit into primary care practices, resulting in pragmatic recommendations for improving services for SGM people from the perspectives of FQHC providers, staff, and patients in varied delivery settings.
- The study is limited to four FQHCs in a single state, which may limit generalizability of findings and the toolkit; the small sample sizes also preclude implementation of a randomized controlled trial design to assess organizational and practice changes resulting from the toolkit.

INTRODUCTION

Reducing health disparities for sexual and gender minority (SGM) populations, including persons who are lesbian, gay, bisexual, transgender, and/or queer (LGBTQ) is a public health priority in the United States (U.S.).[1-3] Compared to heterosexual, cisgender people, SGM individuals are more likely to suffer from poorer mental health, substance misuse, inadequate diet and exercise, and sexually transmitted infections that are often first identified in primary care.[4-7] They are also less likely to access preventive services, cancer screening, and treatment for cardiovascular disease, diabetes, hypertension, and other serious conditions.[1 5 6 8 9] Many experience "minority stress" from chronic exposure to stigma and discrimination.[10 11] Intersecting minority identities may compound these effects, disproportionately impacting gender-diverse persons,[12] ethnic/racial minorities,[13] individuals of low income or educational attainment,[14 15] and rural residents.[16 17]

Health disparities for SGM people are deepened by ongoing provision of sub-optimal services in healthcare systems with histories of promoting stigma around sexuality and gender atypicality (e.g., denying services to persons with HIV/AIDS or who are transgender, conversion therapies).[1 6 18-22] Stigma denigrating sexual/gender difference enables discriminatory attitudes and behavior among healthcare providers/staff that contribute to minority stress.[23] Persons suffering from minority stress may internalize anti-SGM sentiment, accept discrimination and microaggressions, and anticipate recurrence of negative experiences.[10 11 24] Minority stress may lead to perceptions of provider bias or incompetence, inhibiting patients from revealing SGM status and health risk behaviors.[25]

Primary care, particularly in Federally Qualified Health Centers (FQHCs), is an ideal target for SGM healthcare intervention due to its person-centered approach, the access it offers to patients of varied social backgrounds,[26] and the prevention, screening, and treatment services it affords to

patients across their lifespan.[27-29] Yet primary care often lacks sufficient resources or mechanisms to ensure practice settings and service delivery are attentive to SGM patients.[30 31] Environmental/structural elements (e.g., décor, forms, mission statements) contribute to SGM invisibility, and staff attitudes, language, and behaviors may exacerbate feelings of marginalization.[30-34] Insufficient SGM-specific competence among providers inhibits disclosure of SGM status in clinical encounters, undermining patient satisfaction.[35] This invisibility can underpin provider beliefs that SGM status is unimportant to patients. Failure among providers to ask relevant questions in attempts to present neutral attitudes toward SGM patients[36 37] may also factor into misdiagnoses of health concerns, ineffective treatment, and subpar care.[38 39] Adequate medical education/training on SGM care is also wanting.[40 41]

Implementing practice guidelines for SGM competent care that draw from national policies, recommendations for SGM-inclusive medical education curricula,[42-45] and organizational contexts is imperative to rectify these gaps at provider/staff, practice, and service-system levels.[8 31 33 46] Although current guidelines/recommendations (henceforth "guidelines") contain critical information about SGM patient-centered clinical environments and interactions, they are fragmented, not based in primary care research, and neglect population-based intersectional attributes (e.g., race/ethnicity, culture, rurality) and input from both service providers and SGM patients.[31] While a 2010 systematic review identified six philosophically and practically consistent guidelines for SGM patient care (Table 1), they lack sufficient evidence and mechanisms for implementation in primary care.[31] Such findings for patient care were reproduced in a 2018 review,[47] and a 2017 review found no articles evaluating organizational change for care of SGM people.[42] This study responds to these gaps, as its goals include: (1) developing and triangulating clinical and organizational SGM health guidelines that can be feasibility implemented in primary

care, (2) curating a practice parameter and implementation toolkit by collaborating with providers/staff and SGM patients; and (3) creating measurable implementation strategies and resources to integrate guideline- and tool-specific innovations to enable organizational and practice change in primary care for SGM individuals.[48]

-Insert Table 1-

Study aims

Participatory methods are critical to evaluating guidelines and implementation strategies to improve primary care for SGM people.[49] This developmental study will reduce SGM disparities by partnering with FQHCs in the majority-minority state of New Mexico (NM). Collaborating with the FQHCs, we will employ the Nominal Group Technique (NGT), an efficient participatory priority-setting process,[50 51] to ground SGM practice guidelines in primary care, and advance theory-based implementation strategies to promote guideline adherence. Providers/staff from four FQHCs will deploy the Plan-Do-Study-Act (PDSA) approach to pilot the toolkit.[52-55] The Implementation of Change Model (IoCM)[56] and an intersectionality lens[1 57-59] will assist in developing implementation strategies that are optimally relevant to local communities.[60] Both perspectives thus comprise the conceptual basis for data collection, guideline adoption, and implementation strategy development and testing. This study has three specific aims:

1. Prioritize SGM practice guidelines and adapt and develop implementation strategies for primary care settings with attention to the intersections of race/ethnicity, rurality, and socioeconomic conditions.
2. Develop/refine a comprehensive toolkit of SGM practice guidelines and implementation strategies to provide FQHCs with resources to promote and evaluate SGM-specific competence at multiple service delivery levels.

3. Evaluate toolkit implementation at (a) individual provider/staff, (b) social/practice setting, and (c) organizational context levels in supporting SGM-specific primary care in FQHCs.

This study responds to national calls to address SGM health disparities by spearheading an approach to implement critical and feasible primary care practice guidelines to promote the wellbeing of SGM patients with intersecting minority identitities.[1-3] It also responds to U.S. research priorities to enhance SGM health in under-resourced, under-staffed primary care clinics that are stretched to form a crucial safety net.[2 61-63] Finally, the study is an essential start for continued research using a type 2 hybrid effectiveness-implementation design for dual testing of the effectiveness of SGM guidelines and implementation strategies specific to primary care.[64 65]

METHODS

Study design and overview

This study features a systematic review of guidelines for SGM-inclusive culturally competent primary care, focus groups and semi-structured interviews, quantitative surveys, and the NGT to facilitate uptake of SGM practice guidelines in primary care. Our 10-person Scientific Advisory Board (SAB), a panel of SGM patients, healthcare advocates and providers, and researchers, will play critical roles in interpreting data from these sources and creating the toolkit. Our study has two phases. Phase 1 engages the SAB and providers/staff from the participating FQHCs in prioritizing/assessing guidelines and implementation strategies (Aim 1) for the toolkit (Aim 2). Phase 2 (Aim 3) pilots the toolkit in FQHCs to obtain feasibility, acceptability, usability, fidelity, and satisfaction data. The iterative nature of study findings allows for ongoing feedback from participants and accuracy checks to increase internal validity and credibility, reducing possibilities of biasing results.[66] Participatory methods will enhance the toolkit's relevance to a diverse clientele. Finally, implementation experts emphasize selecting or tailoring implementation

strategies based on theory, barrier assessments, or other rationale.[87] This study will generate insights into implementation strategies to overcome barriers to toolkit adoption for different settings and stakeholders.[67 68]

Conceptual framework

Implementing innovations, including guidelines and toolkits, in primary care is complex. We will draw from the IoCM[56] and use an intersectionality lens[1 57-59] to prioritize/assess guidelines and incorporate targeted implementation strategies to aid their translation into everyday clinical work. The IoCM (Figure 1) is a systematic approach to plan, organize, and implement change, and considers a range of factors impacting implementation.[56] For example, an FQHC's climate and organizational capacity can affect the willingness of providers/staff to engage in new practices,[69] as do their individual characteristics (e.g., job tenure, professional development level).[70] Leadership is also key.[71] Persons leading implementation must be effective change agents; their ability to motivate and interact with employees shapes provider/staff attitudes toward new practices.[72] Addressing readiness to change, provider/staff attitudes (e.g., SGM-negativity) and misinformation,[73] and engaging FQHC workers as agents of change via the IoCM will allow them to emerge as leaders in deepening capacity to improve primary care for SGM patients.

Given our focus on intersectionality, we recognize that gender and sexuality are only two of several factors affecting the social identities, circumstances, and health/healthcare outcomes of SGMs.[1 58 59] Data collection, analysis, and toolkit planning must thus consider the racial/ethnic, socioeconomic, and geographical diversity found in places like NM, where structures of oppression and privilege beget unequal healthcare opportunities for specific populations.[58 74] By integrating the IoCM and intersectionality theory, this study is among the first to move beyond assessing SGM healthcare needs and barriers to developing and testing strategies based on

understanding the particular experiences of provider/staff and patients of multiple minority statuses, and both organizational and worker capacity to implement innovations in primary care.[75]

-Insert Figure 1-

In addition to the IoCM and an intersectionality perspective, we turn to theories of change in public health (Table 2)[76] and data from the systematic review, qualitative focus groups/interviews, surveys, and the NGT to design implementation strategies targeting multiple healthcare levels: (a) individual provider/staff (e.g., knowledge, attitudes); (b) social/practice setting (e.g., teamwork, opinion leaders, leadership); and (c) organizational context (e.g., administrative, structural, and cultural factors shaping the workplace).[76 77] With the SAB and FQHC stakeholders, we will consider relevant change theories to articulate both rationale and processes by which the strategies will lead to greater SGM competence and higher quality care for SGM patients.

-Insert Table 2-

Study context

Our setting is NM, a state ranking 47th in median household income[78] with the 2nd largest percentage of residents below the poverty level (19.7%).[79] Hispanic/Latinx and Native American people are 60% of residents.[80] About 3% of adults[81] and 15.1% of high-school students identify as sexual minorities;[82] 0.75% of adults[83] and 3.4% of high-school students identify as gender minorities.[84] Access barriers and cultural competence deficits in care contribute to SGM health disparities.[35 81 85] Aims 1 and 2 involve participants from two rural and two urban FQHCs serving racial/ethnic minority communities. Because numerous health disparities populations (e.g., Hispanic/Latinx, Native American, socioeconomically disadvantaged, rural) are key FQHC consumers, our study's FQHC context supports wider applicability to intersectional SGM people.

FQHC samples and recruitment

We will use *purposive sampling* to represent the range of views/experiences of individual and organizational factors related to prioritizing/assessing and implementing guidelines.[86] We will include 6-8 providers/staff per focus group at each FQHC; 1-3 clinic administrators per FQHC will take part in interviews. We will work closely with clinic administrators to recruit FQHC employees for the on-site focus groups/interviews. Clinic administrators will advertise focus groups/interviews on FQHC listservs and in employee common areas. Our team will present the study purpose and design at staff meetings. Recruitment may attract persons already sensitive to issues in SGM care; however, these sensitivities may also heighten their ability to perceive and discuss issues in SGM care. Thus, such sensitivities will neither negate their advice for introducing and enacting the guidelines in primary care nor perceptions of implementation barriers/facilitators. Eligible providers/staff must have worked at the FQHC for one or more year(s) for an average of at least 20 hours per week to ensure familiarity with clinical procedures and context-specific healthcare needs. Eligible administrators include persons responsible for professional leadership and the overall management and operation of the FQHC. We will recruit a subset of this sample of FQHC personnel for the NGT, as described below. Following the NGT, we will work with the SAB to develop our toolkit, which will be presented to two additional focus groups (one rural, one urban) of 6-8 SGM patients recruited from the FQHC catchment areas. Inclusion criteria include being age ≥18, self-identifying as SGM, and service utilization at the FQHC in the past 5 years. The challenges of research with SGM people include lack of identification with externally imposed social categories (e.g., gay, transgender), and the problem of recruiting "hidden" populations for studies on sensitive topics.[87 88] We will deploy purposive sampling methods to overcome these challenges: (1) *snowballing* (members of the population of interest link researchers with

candidates); (2) *outcropping* (soliciting candidates at places they are known to frequent); and (3) *advertising* (newspapers, websites).[87]

Data collection

Document reviews/systematic walkthroughs

We will analyze documentation to assess for changes in organizational context related to SGM inclusiveness at baseline and upon piloting the toolkit (Aim 3). Documents of interest are derived from the Healthcare Equality Index (HEI), a national benchmarking tool used in over 1600 healthcare facilities to evaluate policies/practices related to equity and inclusion of SGM patients, visitors, and employees.[89] Documents requested of clinic administrators will be compiled into an inventory, and analyzed using HEI scoring criteria that center on (1) employment non-discrimination/staff training, (2) patient services/support, (3) employee benefits/policies; and (4) patient/community engagement.[90] Two researchers will also apply a checklist based on criteria of the Gay and Lesbian Medical Association during systematic walkthroughs of the FQHCs to observe evidence of visual clues, or décor, suggesting the site is safe for SGM patients, i.e., public display of nondiscrimination statements and SGM-oriented brochures, educational materials, and posters.[91] The walkthroughs will also address whether visual clues pertain to patients of intersecting identities in FQHC catchment areas.

Systematic review of SGM-specific guidelines

Our systematic review of the literature will lend insight into current guidelines for culturally competent primary care for SGM patients. We will collaborate with university librarians to identify appropriate terms and databases for the search, importing all results into EndNote X8 and culling the duplicates.[92] We will review the titles/abstracts, then full texts, of the publications iteratively, removing those not meeting inclusion criteria and inputting the remaining texts into an Excel

worksheet. Multiple content experts will independently review each guideline to identify major thematic areas. They will convene regularly to agree on the content of thematic areas, assigning each guideline into these areas. The full study team will review the exhaustive list of guidelines, eliminating redundancies for condensation purposes. Each included publication will be rated on the extent to which it meets criteria across multiple domains encompassing scope/purpose, stakeholder involvement, rigor of development, conflict of interest, external review, and clarity of presentation.[31 47] The shortened list will be presented to the SAB wherein we will gather member perceptions regarding the importance of, and feasibility, of implementing the items it contains.

FQHC focus groups/interviews with surveys

We will assess current practices/experiences of FQHC stakeholders related to primary care for SGM people. Participants will complete brief (20 min) surveys prior to focus groups/interviews on individual, social/practice setting, and organizational factors relevant to implementing guidelines.[93] The measures include: *Attitudes toward Lesbians and Gays Scale* (α>.80);[94] *Attitudes toward Transgender Individuals Scale* (α=.95);[95] *Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills Scale* (*a*=.86);[96] *Context* (α=.85, e.g., culture, opinion leaders) and *Facilitation* (α=.95, e.g., senior leadership, leadership implementation) modules of the *Organizational Readiness to Change Assessment*;[97] *Implementation Climate Scale* (α=.91);[98] and the *Evidence-Based Practice Attitude Scale* (α=.76).[99 100] The focus groups/interviews will pose open-ended questions to study in-depth organizational attributes of FQHCs and attitudinal factors, behaviors, and experiences at varying levels affecting SGM care.[77] Questions will center on general knowledge/experience with SGM patients, adopting guidelines in primary care, and implementation barriers/facilitators. Per IoCM Step 2, by tapping into provider/staff and administrator perspectives, we can understand how different levels (e.g., provider/staff, social and

practice setting, organization) align to ensure optimal care for SGM people, enabling us to identify targets for and potential impediments to practice innovation. The 60- to 90-min focus groups/interviews will be digitally recorded, transcribed, and reviewed for accuracy.

Qualitative/quantitative data analysis

We will import transcripts into a password-protected NVivo 12 database for iterative analysis, first using open coding to locate themes/issues, assign codes to segments of text based *a priori* on topics in the focus group/interview guides, and identify and define new codes.[101-103] We will also create codes based on key sensitizing concepts from intersectionality theory (e.g., intersecting identities, structural factors)[57-59 104] and implementation science (e.g., leadership, climate)[93 105] that help establish "a general sense of reference" for analysis.[66] Second, we will use focused coding to discern codes that recur or represent unusual issues.[102 103] We will cross-reference statements of interest (e.g., text coded with "welcoming environment" and "discrimination exemplar") to ascertain relationships in data both in and across FQHCs, and group codes with similar content into broad themes linked to retrievable text segments.[102 106] We will enter the survey data into the Statistical Package for the Social Sciences (SPSS) for descriptive analyses aggregated at the FQHC level,[107] comparing qualitative and survey data across organizations to ascertain areas of strength and weakness regarding factors likely to affect guideline implementation in primary care. Products will include a summary of key issues to consider in prioritizing/assessing guidelines and jumpstarting implementation strategy development via the NGT.

Nominal Group Technique

After developing a list of guidelines and implementation strategies from the empirical literature and focus groups/interviews, we will use the NGT to prioritize them. The NGT has been fruitfully applied in direction setting in health services research and implementation science.[50 108 109] The

NGT convenes small groups of diverse stakeholders to generate ideas, develop consensus, and set priorities for standards or guidelines, particularly in situations where the research base is inconclusive.[51 108] While the NGT occurs in groups, emphasis is less on sample size and more on involving people of different roles/social locations to ensure heterogeneity of viewpoints.[50 109] In line with IoCM Step 3, we will use the NGT to prioritize strategies to implement the guidelines, inviting a subset (*n*=8-12) of focus group/interview participants to a 2-hour NGT session held in a central location. Participants will be given the list and preprinted "Nominal Group Task Statement Forms" specifying exploratory questions resembling: (1) "What are likely the most impactful and feasible guidelines or recommendations to improve care for your SGM patients?" (2) "List the strategies or steps that would best help your organization implement and sustain guidelines and recommendations to improve care for SGM patients." Participants will have the opportunity to select, adapt, and suggest additional guidelines or implementation strategies for toolkit inclusion. They will first independently strategize in silence, then engage in a serial discussion of each idea, group ranking and vetting of priorities, and re-ranking until reaching consensus using the 70/30 consensus voting procedure that entails respectful conversation of dissenting opinions.[110]

Toolkit development and refinement

In keeping with IoCM Step 4 and our second aim, focus group/interview, survey, and NGT data will inform the integration of existing guidelines with implementation strategies into the toolkit (Table 3), with increased attention to issues of organizational context and intersectionality.[1 58 59] We will work with the SAB to refine the toolkit and develop fidelity measures by reviewing outlines for each module and arriving at agreement via the 70/30 consensus method.[110] We will draft easy-to-follow materials and procedures to promote change in health care and policies concerning SGM patients of multiple minority statuses using accessible language and drawing on

examples from the above research to illustrate potential barriers/facilitators to change at the individual, social/practice setting, and organizational levels. For each module, we will include tools to assess attitudes, practices, and competencies; select implementation strategies to match the local context; develop feasible priorities and goals; create action plans, and then evaluate progress towards goals.

-Insert Table 3-

SGM patient focus groups

Patient input is essential to interventions to improve primary care for SGMs.[111] Community perspectives and community-identified competencies, such as being comfortable with SGM patients and shared medical decision-making between providers and patients, improve care by ensuring that community member priorities are not neglected. Community input is also crucial to determining the expertise that providers/staff may require to best care for diverse SGM patients, many of whom can articulate their experiences of minority stress in health care encounters.[112] For this study, two focus groups (one rural, one urban) of 6-8 SGM patients of varying races/ethnicities from the FQHC catchment areas will provide feedback into the toolkit's validity and refinement. Participants will be given a copy of the toolkit to review prior to the focus group. During the first 20 minutes of the group, they will draft a list of toolkit gaps, acceptability, and strengths/limitations. Questions asked subsequently will center on these issues, experiences with primary care, and the extent to which the toolkit addresses issues of race/ethnicity, culture, rurality, and other intersections of SGM population attributes. We will analyze transcripts using the procedures described above, sharing results with the SAB to update the toolkit prior to piloting.

Toolkit pilot test

Per IoCM Steps 5-7 and our third aim, the FQHCs will implement the refined toolkit with ongoing

coaching and assessment over one year. An SGM-specialist coach who is well-versed in the toolkit will meet with each FQHC's leadership to develop an implementation resource team (IRT) that meets monthly to develop goals and action plans and monitor progress in carrying out the prioritized guidelines and implementation strategies using the Plan-Do-Study-Act (PDSA) method, a 4-stage cyclic, iterative learning approach to test a change implemented in a clinical milieu.[52-55] The IRTs are small stakeholder groups of 3-5 persons that will lead integration of guidelines into routine care, and may include clinic administrators, providers/staff, and patient advocates. Per the first cycle—Plan—the IRT drafts a concise statement regarding a guideline to put into practice, and then an action plan describing the goal/outcome to accomplish via this guideline and associated measures. The IRT articulates the implementation strategies or steps to promote adoption of the guideline, while establishing a relatively short-term timeline for completion. For the second cycle—Do—the IRT sets the action plan into motion, observing, collecting data, and documenting what happens when the strategies are executed. During this cycle, the IRT asks, "Did everything go as planned?" and determines whether the plan must be modified.[54] During the third cycle—Study—the IRT examines the results of its efforts, identifying lessons learned, whether the goal/outcome was attained with fidelity to the action plan, and how well the implementation strategies worked. For the fourth cycle—Act—the IRT delineates its conclusions regarding the success of the change, clarifying what worked and did not work, and what it may do differently to facilitate productive implementation, as well as potential adaptations and next steps for scale up or a new cycle.[54 55]

We do not expect FQHCs to move forward with all guidelines in the toolkit at once, but to evaluate its content and proceed to implement guidelines incrementally via the PDSA method, improving on efforts to advance SGM practice changes with each successive cycle. The IRTs will

also examine implementation needs and troubleshoot barriers using PDSA planning templates included in the toolkit. Thus, for instance, an IRT wanting to include SGM data in an FQHC's electronic health record system might focus on empowering hesitant providers/staff to ask relevant questions of patients or revise patient intake forms with non-stigmatizing elicitation terminology. The toolkit will include guidance and model examples related to these and other topics.

The IRTs will facilitate team collaboration to instantiate new practices and will benefit from the implementation strategy of coaching when applying the toolkit.[113 114] The SGM-specialist coach will strive to build confidence in IRT members during the PDSA process, emphasizing how to motivate positive behavior change among FQHC stakeholders to foster successful implementation and fidelity or adherence to guidelines included in the toolkit.[115-118] For action planning, the coach can advise on prioritizing guidelines and using theory-based implementation strategies via toolkit materials (e.g., assessments, checklists, and examples).[119]

We will evaluate guideline implementation progress by undertaking walkthroughs in each FQHC and collecting and analyzing minutes from (1) IRT meetings, (2) copies of completed action plans and fidelity measures in the toolkit, and (3) and other organizational context documentation (e.g., intake forms, brochures, policies at start and when changed). We will administer a final round of focus groups/interviews with providers/staff and administrators of each FQHC using the same sample sizes and procedures described earlier, focusing on toolkit implementation at (a) individual provider/staff, (b) social/practice setting, and (c) organizational context levels. A complementary set of small group interviews with IRT members will examine changes made to address SGM patient needs, barriers to sustainment, as well as toolkit satisfaction, acceptability, usability, and feasibility.[120] These data will inform final revisions to the toolkit to be agreed upon by the SAB.

NEXT STEPS AND DISSEMINATION

After advancing SGM practice guidelines, implementation strategies, and indicators of guideline/implementation fidelity, we are planning a future study with a hybrid type 2 effectiveness-implementation experimental design and a larger number of FQHCs.[64 65] We will assign FQHCs to: (a) guidelines without implementation support, (b) guidelines with implementation support, (c) services as usual without implementation support, and (d) services as usual with implementation support. Both studies will provide methods to transform how FQHCs care for racially/ethnically-, socioeconomically-, and geographically-diverse SGM patients with results and products disseminated via local/state/national presentations and peer-reviewed publications, in addition to social media and community/stakeholder engagement activities.

REFERENCES

1. Institute of Medicine. The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding. Washington, DC: National Academies Press 2011.

2. National Institutes of Health LGBT Research Coordinating Committee. Consideration of the Institute of Medicine (IOM) report on the health of lesbian, gay, bisexual, and transgender (LGBT) individuals. Bethesda, MD, 2013.

3. National Institutes of Health Sexual and Gender Minority Research Coordinating Committee. NIH FY 2016-2020 strategic plan to advance research on the health and well-being of sexual and gender minorities. Rockville, MD: National Institutes of Health, 2016.

4. Fredriksen-Goldsen KI, Cook-Daniels L, Kim H, et al. Physical and mental health of transgender older adults: An at-risk and underserved populations. *Gerontologist* 2013;54(3):488-500. doi: 10.1093/geront/gnt021

5. Molina Y, Lehavot K, Beadnell B, et al. Racial disparities in health behaviors and conditions among lesbian and bisexual women: The role of internalized stigma. *LGBT Health* 2014;1(2):131-39. doi: 10.1089/lgbt.2013.0007

6. Mayer KH, Bradford JB, Makadon HJ, et al. Sexual and gender minority health: What we know and what needs to be done. *Am J Public Health* 2008;98(6):989-95. doi: 10.2105/AJPH.2007.127811

7. Cochran SD, Mays VM, Sullivan JG. Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *J Consult Psychol* 2003;71(1):53-61. doi: 10.1037/0022-006X.71.1.53

8. Hutchinson MK, Thompson AC, Cederbaum JA. Multisystem factors contributing to disparities in preventive health care among lesbian women. *JOGN Nurs* 2006;35(3):393-402. doi:

10.1111/j.1552-6909.2006.00054.x

9. Law M, Mathai A, Veinot P, et al. Exploring lesbian, gay, bisexual, and queer (LGBQ) people's experiences with disclosure of sexual identity to primary care physicians: A qualitative study. *BMC Fam Pract*2015;16:175. doi: 10.1186/s12875-015-0389-4
10. Meyer IH, Schwartz S, Frost DM. Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping resources? *Soc Sci Med* 2008;67(3):368-79. doi: 10.1016/j.socscimed.2008.03.012
11. Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychol Bull* 2003;129(5):674-97. doi: 10.1037/0033-2909.129.5.674
12. Bockting WO, Miner MH, Swinburne Romine RE, et al. Stigma, mental health, and resilience in an online sample of the U.S. transgender population. *Am J Public Health* 2013;103(5):943-51. doi: 10.2105/AJPH.2013.301241
13. Meyer IH. Identity, stress, and resilience in lesbians, gay men, and bisexuals of color. *Couns Psychol* 2010;38(3):442-54. doi: 10.1177/0011000009351601
14. Ross LE, O'Gorman L, MacLeod MA, et al. Bisexuality, poverty and mental health: A mixed methods analysis. *Soc Sci Med* 2016;156:64-72. doi: 10.1016/j.socscimed.2016.03.009
15. Wilson EC, Chen YH, Arayasirikul S, et al. Differential HIV risk for racial/ethnic minority trans*female youths and socioeconomic disparities in housing, residential stability, and education. *Am J Public Health* 2015;105 Suppl 3:e41-7. doi: 10.2105/AJPH.2014.302443
16. Barefoot KN, Rickard A, Smalley KB, et al. Rural lesbians: Unique challenges and implications for mental health providers. *Rural Ment Health* 2015;39(1):22-33. doi: 10.1037/rmh0000014

17. Whitehead J, Shaver J, Stephenson R. Outness, stigma, and primary health care utilization among rural LGBT populations. *PLoS One* 2016;11(1):e0146139.

18. Bidell MP, Stepleman LM. An interdisciplinary approach to lesbian, gay, bisexual, and transgender clinical competence, professional training, and ethical care: Introduction to the special issue. *J Homosex* 2017;64(10):1305-29. doi: 10.1080/00918369.2017.1321360

19. Wright J. Only your calamity: The beginnings of activism by and for people with AIDS. *Am J Public Health* 2013;103(10):1788-98. doi: 10.2105/AJPH.2013.301381

20. Haldeman DC. The practice and ethics of sexual orientation conversion therapy. *J Consult Psychol* 1994;62(2):221-27. doi: 10.1037/0022-006X.62.2.221

21. Dreger AD. A history of intersexuality: From the age of gonads to the age of consent. *J Clin Ethics* 1998;9(4):345-55.

22. Baker K, Beagan B. Making assumptions, making space: An anthropological critique of cultural competency and its relevance to queer patients. *Med Anthropol Q* 2014;28(4):578-98. doi: 10.1111/maq.12129

23. Sabin JA, Riskind RG, Nosek BA. Health care providers' implicit and explicit attitudes toward lesbian women and gay men. *Am J Public Health* 2015;105(9):1831-41. doi: 10.2105/AJPH.2015.302631

24. Sue DW, editor. Microaggressions and Marginality: Manifestation, Dynamic, and Impact. Hoboken, NJ: John Wiley and Sons, Inc. 2010.

25. Hollenbach AD, Eckstrand KL, Dreger A, editors. Implementing Curricular and Institutional Climate Changes to Improve Health Care for Individuals Who Are LGBT, Gender Nonconforming, or Born with DSD: A Resource for Medical Educators. Washington, DC: Association for American Medical Colleges Advisory Committee on Sexual Orientation,

Gender Identity and Sex Development 2014.

26. Davy Z, Siriwardena AN. To be or not to be LGBT in primary health care: Health care for lesbian, gay, bisexual, and transgender people. *Br J Gen Pract* 2012;62(602):491-92. doi: 10.3399/bjgp12X654731

27. Donaldson MS, Yordy KD, Lohr KN, et al. Primary care: America's health in a new era. Washington, DC: National Academies Press 1996.

28. Starfield B. Primary Care: Balancing Health Needs, Services, and Technology. New York: Oxford University Press 1998.

29. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q* 2005;83(3):457-502. doi: 10.1111/j.1468-0009.2005.00409.x

30. Eliason MJ, Schope R. Does "don't ask don't tell" apply to health care? Lesbian, gay, and bisexual people's disclosure to health providers. *J Gay Lesbian Med Assoc* 2010;5(4):125-34. doi: 10.1023/A:1014257910462

31. McNair RP, Hegarty K. Guidelines for the primary care of lesbian, gay, and bisexual people: A systematic review. *Ann Fam Med* 2010;8(6):533-41. doi: 10.1370/afm.1173

32. Wilkerson JM, Rybicki S, Barber CA, et al. Creating a culturally competent clinical environment for LGBT patients. *J Gay Lesbian Soc Serv* 2011;23(3):376-94. doi: doi: 10.1080/10538720.2011.589254

33. McClain Z, Hawkins LA, Yehia BR. Creating welcoming spaces for lesbian, gay, bisexual, and transgender (LGBT) patients: An evaluation of the health care environment. *J Homosex* 2016;63(3):387-93. doi: 10.1080/00918369.2016.1124694

34. Rossi AL, Lopez EJ. Contextualizing competence: Language and LGBT-based competency in health care. *J Homosex* 2017;64(10):1330-49. doi: 10.1080/00918369.2017.1321361

35. Kano M, Silva-Bañuelos AR, Sturm R, et al. Stakeholders' recommendations to improve patient-centered "LGBTQ" primary care in rural and multicultural practices. *J Am Board Fam Med* 2016;29(1):156-60. doi: 10.3122/jabfm.2016.01.150205

36. Dahan R, Feldman R, Hermoni D. Is patients' sexual orientation a blind spot of family physicians? *J Homosex* 2008;55(3):524-32. doi: 10.1080/00918360802345321

37. Willging CE, Salvador M, Kano M. Unequal treatment: Mental health care for sexual and gender minority groups in a rural state. *Psychiatr Serv* 2006;57(6):867-70. doi: 10.1176/appi.ps.57.6.867

38. Johnson MJ, Nemeth LS. Addressing health disparities of lesbian and bisexual women: A grounded theory study. *Womens Health Issues* 2014;24(6):635-40. doi: 10.1016/j.whi.2014.08.003

39. Petroll AE, Mosack KE. Physician awareness of sexual orientation and preventive health recommendations to men who have sex with men. *Sex Transm Dis* 2011;38(1):63-67. doi: 10.1097/OLQ.0b013e3181ebd50f

40. Korpaisarn S, Safer JD. Gaps in transgender medical education among healthcare providers: A major barrier to care for transgender persons. *Rev Endocr Metab Disord* 2018;19(3):271-75. doi: 10.1007/s11154-018-9452-5

41. Streed CG, Davis JA. Improving clinical education and training on sexual and gender minority health. *Curr Sex Health Rep* 2018;10(4):273-80. doi: 10.1007/s11930-018-0185-y

42. Eckstrand KL, Lunn MR, Yehia BR. Applying organizational change to promote lesbian, gay, bisexual, and transgender inclusion and reduce health disparities. *LGBT Health* 2017;4(3):174-80. doi: 10.1089/lgbt.2015.0148

43. U.S. Department of Health and Human Services. Better health and well-being: Making

improvements for lesbian, gay, bisexual, transgender (LGBT) Americans. Washington, DC, 2012.

44. American Academy of Family Physicians, Society of Teachers of Family Medicine Group on LGBT Health. Recommended curriculum guidelines for family medicine residents: Lesbian, gay, bisexual, transgender health. Leawood, KS, 2013.

45. The Joint Commission. Advancing effective communication, cultural competence, and patient-and-family centered care for the lesbian, gay, bisexual, and transgender (LGBT) community: A field guide. Oak Brook, IL, 2011.

46. Schilder AJ, Kennedy C, Goldstone IL, et al. "Being dealt with as a whole person." Care seeking and adherence: The benefits of culturally competent care. *Soc Sci Med* 2001;52(11):1643-59. doi: 10.1016/S0277-9536(00)00274-4

47. Klein DA, Malcolm NM, Berry-Bibee EN, et al. Quality primary care and family planning services for LGBT clients: A Comprehensive review of clinical guidelines. *LGBT Health* 2018;5(3):153-70. doi: 10.1089/lgbt.2017.0213

48. Meyers DC, Durlak JA, Wandersman A. The quality implementation framework: A synthesis of critical steps in the implementation process. *Am J Community Psychol* 2012;50(3-4):462-80. doi: 10.1007/s10464-012-9522-x

49. Grol R, Ouwens M, Wollersheim H. Planning and organizing the change process. In: Grol R, Wensing M, Eccles M, et al., eds. Improving Patient Care: The Implementation of Change in Health Care (2nd ed). Hoboken, NJ: John Wiley & Sons 2013:64-76.

50. Van de Ven AH, Delbecq AL. The nominal group as a research instrument for exploratory health studies. *Am J Public Health* 1972;62(3):337-42.

51. Rankin NM, McGregor D, Butow PN, et al. Adapting the nominal group technique for priority

setting of evidence-practice gaps in implementation science. *BMC Med Res Methodol* 2016;16(1):110. doi: 10.1186/s12874-016-0210-7

52. Speroff T, O'connor GT. Study designs for PSDA quality improvement research. *Quality Management in Health Care* 2004;13(1):17-32. doi: 10.1097/00019514-200401000-00002
53. Gillam S, Siriwardena AN. Frameworks for improvement: Clinical audit, the Plan-Do-Study-Act cycle and significant event audit. *Qual Prim Care* 2013;21(2):123-30.
54. Agency for Healthcare Research and Quality. Plan-Do-Study-Act (PDSA) directions and examples. Content last reviewed February 2015 Rockville, MD [Available from: http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool2b.html.
55. Taylor MJ, McNicholas C, Nicolay C, et al. Systematic review of the application of the Plan-Do-Study-Act method to improve quality in healthcare. *BMJ Qual Saf* 2013;23(4):290-98. doi: 10.1136/bmjqs-2013-001862
56. Wandersman A, Chien VH, Katz J. Toward an evidence-based system for innovation support for implementing innovations with quality: Tools, training, technical assistance, and quality assurance/quality improvement. *Am J Community Psychol* 2012;50(3-4):445-59. doi: 10.1007/s10464-012-9509-7
57. Choo HY, Feree MM. Practicing intersectionality in sociological research: A critical analysis of inclusions, interactions, and institutions in the study of inequalities. *Sociol Theory* 2010;28(2):129-49. doi: 10.1111/j.1467-9558.2010.01370.x
58. Crenshaw K. Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *Univ Chic Leg Forum* 1989;Volume 1989:139-67.

59. Crenshaw K. Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Rev* 1991;43(6):1241-99.

60. Bauer GR. Incorporating intersectionality theory into population health research methodology: Challenges and the potential to advance health equity. *Soc Sci Med* 2014;110:10-7. doi: 10.1016/j.socscimed.2014.03.022

61. Coulter RW, Kenst KS, Bowen DJ, et al. Research funded by the National Institutes of Health on the health of lesbian, gay, bisexual, and transgender populations. *Am J Public Health* 2014;104(2):e105-e12. doi: 10.2105/AJPH.2013.301501

62. Coulter RW, Kenst KS, Bowen DJ, et al. Coulter et al. respond. *Am J Public Health* 2015;105(Suppl 3):e2-e3. doi: 10.2105/AJPH.2014.302316

63. Voyles CH, Sell RL. Continued disparities in lesbian, gay, and bisexual research funding at NIH. *Am J Public Health* 2015:e1-e2. doi: 10.2105/AJPH.2014.302265

64. Curran GM, Bauer M, Mittman B, et al. Effectiveness-implementation hybrid designs: Combining elements of clinical effectiveness and implementation research to enhance public health impact. *Med Care* 2012;50(3):217-26. doi: 10.1097/MLR.0b013e3182408812

65. Bernet AC, Willens DE, Bauer MS. Effectiveness-implementation hybrid designs: Implications for quality improvement science. *Implement Sci* 2013;8(Suppl 1) doi: 10.1186/1748-5908-8-S1-S2

66. Patton MQ. Qualitative Research and Evaluation Methods: Integrating Theory and Methods (4th ed). Thousand Oaks, CA: Sage Publications, Inc. 2015.

67. Gagliardi A, Alhabib S, Members of the Guidelines International Network Implementation Working Group. Trends in guideline implementation: A scoping systematic review.

Implement Sci 2015; 10.

68. Grol R. Implementing guidelines in general practice care. *Qual Health Care* 1992;1(3):184-91.

69. Aarons GA, Sawitzky AC. Organizational climate partially mediates the effect of culture on work attitudes and staff turnover in mental health services. *Adm Policy Ment Health* 2006;33(3):289-301. doi: 10.1007/s10488-006-0039-1

70. Aarons GA, Glisson C, Green PD, et al. The organizational social context of mental health services and clinician attitudes toward evidence-based practice: A United States national study. *Implement Sci* 2012; 7.

71. Aarons GA, Ehrhart MG, Farahnak LR, et al. Aligning leadership across systems and organizations to develop a strategic climate for evidence-based practice implementation. *Annu Rev Public Health* 2014;35:255-74. doi: 10.1146/annurev-publhealth-032013-182447

72. Aarons GA. Transformational and transactional leadership: Association with attitudes toward evidence-based practice. *Psychiatr Serv* 2006;57(8):1162-69. doi: 10.1176/appi.ps.57.8.1162

73. Thaker S, Steckler A, Sanchez V, et al. Program characteristics and organizational factors affecting the implementation of a school-based indicated prevention program. *Health Educ Res* 2008;23(2):238-48. doi: 10.1093/her/cym025

74. Hankivsky H, Cormier R. Intersectionality: Moving women's health research and policy forward. Vancouver, Canada: Women's Health Research Network, 2009.

75. Lehman WE, Greener JM, Simpson DD. Assessing organizational readiness for change. *Journal of Substance Abuse Treatment* 2002;22(4):197-209. doi: 10.1016/S0740-

5472(02)00233-7

76. Grol R, Wensing M, Bosch M, et al. Theories on implementation of change in healthcare. In: Grol R, Wensing M, Eccles M, et al., eds. Improving Patient Care: The Implementation of Change in Health Care (2nd ed). Hoboken, NJ: John Wiley & Sons 2013:18-39.

77. Grol R, Wensing M. Effective implementation of change in healthcare: A systematic approach. In: Grol R, Wensing M, Eccles M, et al., eds. Improving Patient Care: The Implementation of Change in Health Care (2nd ed). Hoboken, NJ: John Wiley & Sons 2013:40-63.

78. U.S. Census Bureau. Survey 1-Year Estimates Ranking Table: Median household income (in 2017 inflation-adjusted dollars) [online data source] 2017.

79. U.S. Census Bureau. Amercian Community Survey 1-Year Ranking Table: Percent of people below poverty level in the past 12 months (for whom poverty status is determined) [online data source] 2017 [Available from: https://www.census.gov/acs/www/data/data-tables-and-tools/ranking-tables/.]

80. U.S. Census Bureau. State and county quick facts - New Mexico [online data source] 2018 [Available from: https://www.census.gov/quickfacts/.]

81. Padilla J. Overview of New Mexico LGBT health data for the Legislative Health and Human Service Committee. Santa Fe, NM, 2014.

82. Tomedi LE, Oglesbee S, Padilla J, et al. The health and well-being of lesbian, gay, and bisexual youth in New Mexico: Data from the 2015 New Mexico Youth Risk & Resiliency Survey. Santa Fe, NM: New Mexico Department of Health, New Mexico Public Education Department, and University of New Mexico Prevention Research Center, 2017.

83. Flores A, Herman J, Gates G, et al. How many adults identify as transgender in the United States? 2016. Los Angeles, CA: The Williams Institute, 2016.

84. 2017 NM-YRRS Results: Gender Identity. *NM YRRRS Connections: Facts and Figures from the New Mexico Youth Risk and Resiliency Survey* 2018

85. Tomedi LE, Padilla JL. Health inequities by sexual orientation in New Mexico 2005-2011. Santa Fe, NM: New Mexico Department of Health, 2013.

86. Aarons GA, Palinkas LA. Implementation of evidence-based practice in child welfare: Service provider perspectives. *Adm Policy Ment Health* 2007;34(4):411-19. doi: 10.1007/s10488-007-0121-3

87. Gay and Lesbian Medical Association. Healthy people 2010: Companion document for lesbian, gay, bisexual, and transgender (LGBT) health. San Francisco, CA: Gay and Lesbian Medical Association, 2001.

88. Willging CE. "I'm not that innocent": Recruiting sexual and gender minorities for rural mental health research. *Practicing Anthropology* 2007;29(2):10-14.

89. Human Rights Campaign. Healthcare Equity Index [online data source]. Washington, DC: Human Rights Campaign Foundation 2017. [Available from: https://www.hrc.org/hei/about-the-hei.]

90. Human Rights Campaign. HEI scoring criteria [online source]. Washington, DC: Human Rights Campaign Foundation N.D. [Available from: https://www.hrc.org/hei/hei-scoring-criteria.]

91. Gay and Lesbian Medical Association. Guidelines for care of lesbian, gay, bisexual, and transgender patients. San Francisco, CA: Gay and Lesbian Medical Association, 2006.

92. Endnote X8 [program] 2018.

93. Aarons GA, Horowitz JD, Dlugosz LR, et al. The role of organizational processes in dissemination and implementation research. In: Brownson RC, Colditz GA, Proctor EK,

eds. Dissemination and Implementation Research in Health: Translating Science to Practice. New York, NY: Oxford University Press 2012:128-53.

94. Herek GM. Attitudes toward lesbians and gay men scale. In: Davis CM, Yaber WL, Bauserman RL, et al., eds. Handbook of Sexuality-Related Measures. Thousand Oaks, CA: Sage Publications, Inc. 1998:392-93.

95. Walch SE, Ngamake ST, Francisco J, et al. The attitudes toward transgendered individuals scale: Psychometric properties. *Arch Sex Behav* 2012;41(5):1283-91. doi: 10.1007/s10508-012-9995-6

96. Bidell MP. The Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills Scale (LGBT-DOCSS): Establishing a new interdisciplinary self-assessment for health providers. *J Homosex* 2017;64(10):1432-60. doi: 10.1080/00918369.2017.1321389

97. Helfrich CD, Li YF, Sharp ND, et al. Organizational readiness to change assessment (ORCA): Development of an instrument based on the Promoting Action on Research in Health Services (PARIHS) framework. *Implement Sci* 2009; 4.

98. Ehrhart MG, Aarons GA, Farahnak LR. Assessing the organizational context for EBP implementation: The development and validity testing of the Implementation Climate Scale (ICS). *Implement Sci* 2014;9 doi: 10.1186/s13012-014-0157-1

99. Aarons GA. Mental health provider attitudes toward adoption of evidence-based practice: The evidence-based practice attitude scale (EBPAS). *Ment Health Serv Res* 2004;6(2):61-74. doi: 10.1023/B:MHSR.0000024351.12294.65

100. Bass BM, Avolio BJ, editors. Improving Organizational Effectiveness through Transformational Leadership. Thousand Oaks, CA: Sage Publications, 1994.

101. QSR International. NVivo qualitative data analysis software (Version 12) 2018

102. Corbin J, Strauss A. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory (3rd ed). Thousand Oaks, CA: Sage Publications 2008.

103. Emerson RM, Fretz RI, Shaw LL. Writing Ethnographic Fieldnotes. Chicago, IL: University of Chicago Press 1995.

104. Rogers J, Kelly UA. Feminist intersectionality: Bringing social justice to health disparities research. *Nursing Ethics* 2011;18(3):397-407. doi: 10.1177/0969733011398094

105. Aarons G, Green A, Willging C, et al. Mixed-method study of a conceptual model of evidence-based intervention sustainment across multiple public-sector service settings. *Implement Sci* 2014;9:183. doi: 10.1186/s13012-014-0183-z

106. Glaser BG, Strauss AL. The Discovery of Grounded Theory: Strategies for Qualitative Research. New York, NY: Aldine de Gruyter 1967.

107. SPSS Statistics for Windows (Version 19) [program] 2010.

108. Cantrill JA, Sibbald B, Buetow S. The Delphi and nominal group techniques in health services research. *Int J Pharm Pract* 1996;4(2):67-74. doi: 10.1111/j.2042-7174.1996.tb00844.x

109. Harvey N, Holmes CA. Nominal group technique: An effective method for obtaining group consensus. *Int J Nurs Pract* 2012;18(2):188-94. doi: 10.1111/j.1440-172X.2012.02017.x

110. Butterfoss FD. Coalitions and Partnerships in Community Health. San Francisco, CA: John Wiley & Sons, Inc. 2007.

111. Kano M, Sawyer KP, Willging CE. Guiding CBPR principles: Fostering CBPR to promote equitable healthcare for LGTBQ+ people In: Wallersten N, Duran B, Oetzel J, et al., eds. CBPR for Health: Engaging for Social and Health Equity (3rd ed). San Francisco, CA: Jossey-Bass 2017:245-350.

112. Alpert AB, CichoskiKelly EM, Fox AD. What lesbian, gay, bisexual, transgender, queer, and

intersex patients say doctors should know and do: A qualitative study. *J Homosex* 2017;64(10):1368-89. doi: 10.1080/00918369.2017.1321376

113. Willging CE, Israel T, Ley D, et al. Coaching mental health peer advocates for rural LGBTQ people. *J Gay Lesbian Ment Health* 2016;20(3):214-36. doi: 10.1080/19359705.2016.1166469

114. Willging CE, Green AE, Ramos MM. Implementing school nursing strategies to reduce LGBTQ adolescent suicide: A randomized cluster trial study protocol. *Implement Sci* 2016:145. doi: 10.1186/s13012-016-0507-2

115. Duda MA, Barrett S. Coaching for competence and impact brief 1: Defining coaching. Washington, DC: OSEP Center on Positive Behavioral Interventions & Supports, 2013.

116. Edmunds JM, Kendall PC, Ringle VA, et al. An examination of behavioral rehearsal during consultation as a predictor of training outcomes. *Adm Policy Ment Health* 2013;40(6):456-66. doi: 10.1007/s10488-013-0490-8

117. Fixsen DL, Blase KA, Naoom SF, et al. Core implementation components. *Res Soc Work Pract* 2009;19(5):531-40. doi: 10.1177/1049731509335549

118. Nadeem E, Gleacher A, Beidas RS. Consultation as an implementation strategy for evidence-based practices across multiple contexts: Unpacking the black box. *Adm Policy Ment Health* 2013;40(6):439-50. doi: 10.1007/s10488-013-0502-8

119. Oxman AD, Fretheim A, Schunemann HJ, et al. Improving the use of research evidence in guideline development: Introduction. *Health Res Policy Syst* 2006;4(12) doi: 10.1186/1478-4505-4-12

120. Weiner BJ, Lewis CC, Stanick C, et al. Psychometric assessment of three newly developed implementation outcome measures. *Implement Sci* 2017;12(1):108. doi: 10.1186/s13012-

017-0635-3

Table 1. Synthesized Recommendations for Primary Care from Existing Guidelines Appraised by McNair and Hegarty[31]

1. Creating inclusive environments	Overt signs/displays; sensitive language/attitudes among staff; inclusive intake forms; optional self-identification; non-discrimination policies; procedures addressing complaints.
2. Standards for clinician-patient communication	Non-judgmental and affirming attitudes; assuring confidentiality; gender-neutral language; use of patient's language; open, inclusive questioning; complete sexual history; responding to disclosure.
3. Sensitive documentation of SGM identity/orientation	Medical notes (documenting SGM identity/orientation and informing patients of what is written), electronic medical records, referral letters, and decision-makers/next of kin/emergency contact.
4. Special knowledge for SGM awareness	Impact of discrimination on health; mental health/substance misuse; reproductive health; safer sex; higher risks for specific diseases; coming out; referrals to support groups and health professionals.
5. Staff training	Confidentiality; use of intake forms; identifying/addressing SGM-negativity; support visibility of SGM employees; inclusive hiring practices supporting SGM recruitment.
6. Addressing population health issues	Marketing services to SGM communities; engaging in SGM-targeted health promotion; performing community outreach and forging relationships with SGM agencies; advocacy.

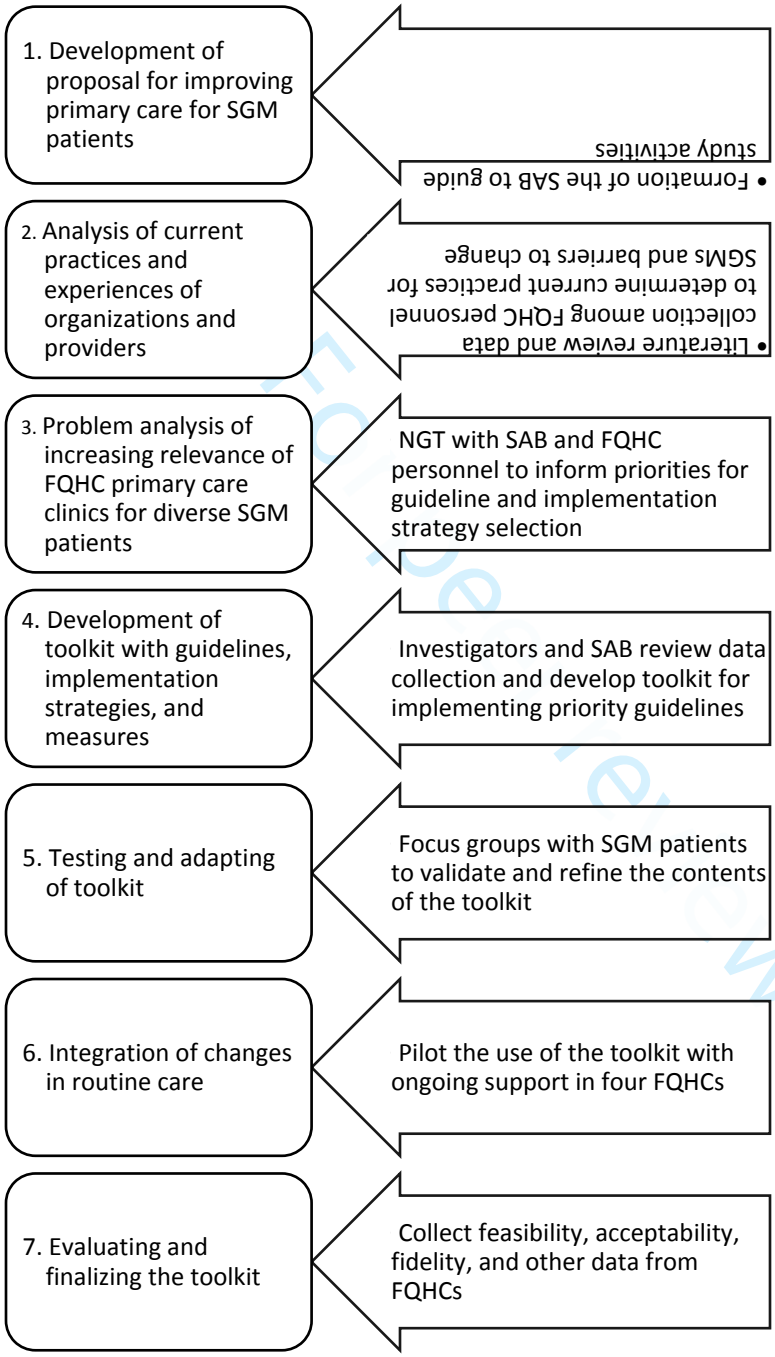
Table 2. Sample Theories of Change based on the IoCM to Inform SGM Practice Guideline Implementation Strategies[56 76]

Type and Example of Theory	Description
Sample theories pertinent to individual provider/staff	
Cognitive • Decision-Making Theory	Provision of a convincing argument as to why it is worth the time and cost to make services more appropriate for SGM patients.
Motivational • Theory of Planned Behavior • Social Learning Theory	Determine expectations of outcomes from implementing SGM practice guidelines and assess whether the expected outcomes are desirable to stakeholders. Increase perceived social norms for guideline adherence while supporting providers/staff.
Sample theories pertinent to social and practice setting	
Social Network and Influence	Opinion leaders, formal/informal leaders, and significant peers share views and model implementation of SGM practice guidelines (also see Social Learning Theory).
Theories on Teamwork	Encourage team collaboration to create a better environment for SGM populations. The team sets goals and targets and reviews process together regularly.
Theories on Professionalism	Appeal to sense of professional identity/standards (e.g., use recommendations from American Medical Association for physicians and from the American Nursing Association for nurses).
Sample theories pertinent to organizational context	
Theory of Quality Management	Assumes inadequate performance is an organizational failure requiring strong leadership and organizational changes. Organizations set improvement goals and collaborate to reach goals.
Theories of Organizational Culture	Recognize organizational cultures shape work performance and can be altered to achieve an innovation-centered culture to improve performance and stimulate improvements in patient care.

Table 3. Preliminary Outline of the Comprehensive Toolkit

Module	Description
1. SGM guideline overview	Underlying rationale of relevant guidelines and key issues to consider when implementing them.
2. Creating an IRT	How to identify and engage providers/staff in the FQHC to lead implementation of the guidelines.
3. Engaging SGM patients	How to identify, recruit, and involve SGM patients of multiple minority statuses in implementation.
4. Assessing organizational barriers and facilitators	How to perform a localized problem analysis of current care practices and policies related to SGM patients and identify factors likely to impact implementation of SGM practice guidelines.
5. Selecting practice guidelines based on organizational assessment	How to use data from an organizational self-assessment to develop statement of practices/policies requiring change, identify barriers and facilitators, and prioritize SGM practice guidelines to implement (or improve implementation of) in the FQHC social/practice setting.
6. Choosing theory-based implementation strategies	How to apply an intersectionality lens and match a theory of change at the individual, social/practice setting, and organizational levels with specific SGM practice guidelines.
7. Obtaining support from leaders/champions/staff	How to garner "buy in" from leaders of FQHCs at various levels and actively involve physicians and other key staff as opinion leaders or champions in the change process.
8. Creating action plans	How to develop action plans to guideline implementation drawing on the organizational assessment.
9. Developing evaluation plans	How to select fidelity and impact measures for guidelines and implementation strategies.
10. Using action plans	How to determine roles; review accomplishments, deadlines, and budget; and provide feedback.
11. Planning for the future	Using evaluation data to refine implementation; Recruiting new members to the FQHC implementation team; Long-term strategic planning to better care for SGM people in the FQHCs.
Appendix: Measures and tools	Example measures, policies, documentation, intake forms, brochures, mission statements, etc.

Figure 1. Adapted Implementation of Change Model[56]



BMJ Open

Enhancing Primary Care Services for Diverse Sexual and Gender Minority Populations: A Developmental Study Protocol

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2019-032787.R1
Article Type:	Protocol
Date Submitted by the Author:	13-Dec-2019
Complete List of Authors:	Willging, Cathleen ; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest Kano, Miria; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest; University of New Mexico, Department of Internal Medicine Green , Amy; Trevor Project Inc Sturm, Robert; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest Sklar, Marisa; University of California San Diego, Department of Psychiatry Davies, Sonnie; Pacific Institute for Research and Evaluation, Behavioral Health Research Center of the Southwest Eckstrand, Kristen; University of Pittsburgh Medical Center, Department of Psychiatry
Primary Subject Heading:	Health services research
Secondary Subject Heading:	General practice / Family practice, Qualitative research
Keywords:	Cultural competency, Health status disparities, Implementation Science, Minority health, Primary health care, Sexual and gender minorities

I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

Enhancing Primary Care Services for Diverse Sexual and Gender Minority Populations: A Developmental Study Protocol

Cathleen Willging, PhD[1*]

Miria Kano, PhD[1,2]

Amy Green, PhD[3]

Robert Sturm, MA[1]

Marisa Sklar, PhD[4,5]

Sonnie Davies, MPH[1]

Kristen Eckstrand, MD, PhD[6]

[1] Behavioral Health Research Center of the Southwest, Pacific Institute for Research and Evaluation, 851 University Boulevard, SE, Suite 101, Albuquerque, NM 87106, USA. cwillging@pire.org; mkano@pire.org; rsturm@pire.org; sdavies@pire.org

[2] Department of Internal Medicine, University of New Mexico, 2325 Camino de Salud, NE, MSC07 4025, 1 University of New Mexico, Albuquerque, NM 87131, USA. mkano@salud.unm.edu

[3] The Trevor Project, P.O. Box 69232, West Hollywood, CA 90069, USA. amy.green@thetrevorproject.org

[4] Department of Psychiatry, University of California, San Diego, 9500 Gilman Drive (8012), La Jolla, CA 92093-0812, USA. msklar@ucsd.edu

[5] Child and Adolescent Services Research Center, University of California, San Diego, 3665 Kearny Villa Rd., San Diego, CA 92123, USA. msklar@ucsd.edu

[6] Department of Psychiatry, University of Pittsburgh Medical Center, 3811 O'Hara Street, Pittsburgh, PA 15213-2593, USA. eckstrandkl@upmc.edu

*Corresponding Author

Keywords Cultural competency; Health status disparities; Implementation Science; Minority health; Primary health care; Sexual and gender minorities

Acknowledgments We thank members of the New Mexico LGBTQ Health Collaborative for making this research possible, namely Molly Adler, Cameron Crandall, Rebecca Dakota, Paige Duhamel, Edward Fancovic, Jamie Finkelstein, Jonathan Flores, Gregory Gomez, Beverly Gorman, Adrien Lawyer, Benjamin Moser, La Tisha Rico, Crystal Romney, Amber Royster,

Denise Ruybal, Nathaniel Sharon, and Alma Rosa Silva-Bañuelos. We also thank Patricia Hokanson for assistance with formatting the references.

Author contributions CW, MK, AG, and RS initiated and conceived of the study in partnership with the New Mexico LGBTQ Health Collaborative. CW, MK, and AG drafted the research protocol and overall study design. MS developed the systematic review protocol. RS, SD, and KE reviewed and critically revised the protocol. All authors approved the final version of this protocol.

Funding This work was supported by a grant from the U.S. National Institute of Minority Health and Health Disparities (R21MD011648), and two Pipeline to Proposal awards from the Patient-Centered Outcomes Research Institute.

Competing interests None declared.

Patient consent for publication Not required.

Data statement Data will be available upon reasonable request. Email the corresponding author for the paper to request the relevant data.

Word count 4735

ABSTRACT

Introduction Compared to heterosexual, cisgender populations, sexual and gender minority (SGM) people are more likely to suffer from serious health conditions and insufficient access to health services. Primary care is at the frontlines of healthcare delivery; yet, few clinics have resources or mechanisms in place to meet SGM patient needs. This developmental study protocol focuses on reducing health disparities among SGM patients by identifying, adapting, and developing SGM practice guidelines/recommendations and implementation strategies for primary care clinics in urban and rural New Mexico. Using input from patients, healthcare advocates and providers, and researchers, the study will pilot a practice parameter and implementation toolkit to promote SGM-specific cultural competence at multiple service-delivery levels.

Methods and Analysis We will recruit providers/staff from four Federally Qualified Health Centers (FQHCs) serving ethnically- and geographically-diverse communities. Incorporating the Implementation of Change Model and an intersectionality perspective, data collection includes a systematic review of SGM-specific practice guidelines/recommendations, focus groups and semi-structured interviews, quantitative surveys, and the Nominal Group Technique (NGT) with providers/staff. We will categorize guidelines/recommendations identified through the review by shared elements, use iterative processes of open and focused coding to analyze qualitative data from focus groups, interviews, and the NGT, and apply descriptive statistics to assess survey data. Findings will provide the foundation for the toolkit. Focus groups with SGM patients will yield supplemental information for toolkit refinement. To investigate changes in primary care contexts following the toolkit's pilot, we will undertake systematic walkthroughs and document review at the FQHCs, analyzing these data qualitatively to examine SGM inclusiveness. The structured data-

informed Plan-Do-Study-Act method will enable further revision of the toolkit. Finally, focus groups, interviews, and quantitative surveys with providers/staff will highlight changes made in the FQHCs to address SGM patient needs, barriers to sustainment of changes, satisfaction, acceptability, usability, and feasibility of the toolkit.

Ethics and Dissemination The study has been reviewed and approved by the Pacific Institute for Research and Evaluation Institutional Review Board. Informed consent will be obtained from all participants before their involvement in research activities begins. Study results will be actively disseminated through peer-reviewed journals, conference presentations, social media and the Internet, and community/stakeholder engagement activities.

ARTICLE SUMMARY

Strengths and Limitations of this study

- This developmental study addresses alarming and persistent healthcare disparities among SGM populations and is guided by a Scientific Advisory Board of SGM patients, healthcare advocates and providers, and researchers.
- The study facilitates an examination and prioritization of organizational and clinical practice guidelines resulting in a triangulated and analyzed set of guidelines approved by a diverse group of stakeholders representing SGM communities and healthcare advocates and providers.
- The prioritized guidelines and practical implementation strategies will be integrated into a comprehensive user-friendly toolkit intended to enhance services for SGM patients, reduce experiences of minority stress, and increase engagement of SGM people with primary care in FQHCs and other healthcare settings.
- The study will test implementation strategies to introduce the toolkit into primary care practices, resulting in pragmatic recommendations for improving services for SGM people from the perspectives of FQHC providers, staff, and patients in varied delivery settings.
- The study is limited to four FQHCs in a single state, which may limit generalizability of findings and the toolkit; the small sample sizes also preclude implementation of a randomized controlled trial design to assess organizational and practice changes resulting from the toolkit.

INTRODUCTION

Reducing health disparities for sexual and gender minority (SGM) populations, including persons who are lesbian, gay, bisexual, transgender, and/or queer (LGBTQ) is a public health priority in the United States (U.S.).[1-3] Compared to heterosexual, cisgender people, SGM individuals are more likely to suffer from poorer mental health, substance misuse, inadequate diet and exercise, and sexually transmitted infections that are often first identified in primary care.[4-7] They are also less likely to access preventive services, cancer screening, and treatment for cardiovascular disease, diabetes, hypertension, and other serious conditions.[1 5 6 8 9] Many experience "minority stress" from chronic exposure to stigma and discrimination.[10 11] Intersecting minority identities may compound these effects, disproportionately impacting gender-diverse persons,[12] ethnic/racial minorities,[13] individuals of low income or educational attainment,[14 15] and rural residents.[16 17]

Health disparities for SGM people are deepened by ongoing provision of sub-optimal services in healthcare systems with histories of promoting stigma around sexuality and gender atypicality (e.g., denying services to persons with HIV/AIDS or who are transgender, conversion therapies).[1 6 18-22] Stigma denigrating sexual/gender difference enables discriminatory attitudes and behavior among healthcare providers/staff that contribute to minority stress.[23] Persons suffering from minority stress may internalize anti-SGM sentiment, accept discrimination and microaggressions, and anticipate recurrence of negative experiences.[10 11 24] Minority stress may lead to perceptions of provider bias or incompetence, inhibiting patients from revealing SGM status and health risk behaviors.[25]

Primary care, particularly in Federally Qualified Health Centers (FQHCs), is an ideal target for SGM healthcare intervention due to its person-centered approach, the access it offers to patients of varied social backgrounds,[26] and the prevention, screening, and treatment services it affords to

patients across their lifespan.[27-29] Yet primary care often lacks sufficient resources or mechanisms to ensure that practice settings and service delivery are attentive to SGM patients.[30 31] Environmental/structural elements (e.g., décor, forms, mission statements) contribute to SGM invisibility, and staff attitudes, language, and behaviors may exacerbate feelings of marginalization.[30-34] Insufficient SGM-specific competence among providers inhibits disclosure of SGM status in clinical encounters, undermining patient satisfaction.[35] This invisibility can underpin provider beliefs that SGM status is unimportant to patients. Failure among providers to ask relevant questions in attempts to present neutral attitudes toward SGM patients[36 37] may also factor into misdiagnoses of health concerns, ineffective treatment, and subpar care.[38 39] Adequate medical education/training on SGM care is also wanting.[40 41]

Implementing practice guidelines for SGM competent care that draw from national policies, recommendations for SGM-inclusive medical education curricula,[42-45] and organizational contexts is imperative to rectify these gaps at provider/staff, practice, and service-system levels.[8 31 33 46] Although current guidelines/recommendations (henceforth "guidelines") contain critical information about SGM patient-centered clinical environments and interactions, they are fragmented, not based in primary care research, and neglect population-based intersectional attributes (e.g., race/ethnicity, culture, rurality) and input from both service providers and SGM patients.[31] While a 2010 systematic review identified six philosophically and practically consistent guidelines for SGM patient care (Table 1), they lack sufficient evidence and mechanisms for implementation in primary care.[31] Such findings for patient care were reproduced in a 2018 review,[47] and a 2017 review found no articles evaluating organizational change for care of SGM people.[42] This study responds to these gaps, as its goals include: (1) developing and triangulating clinical and organizational SGM health guidelines that can be feasibility implemented in primary

care, (2) curating a practice parameter and implementation toolkit by collaborating with providers/staff and SGM patients; and (3) creating measurable implementation strategies and resources to integrate guideline- and tool-specific innovations to enable organizational and practice change in primary care for SGM individuals.[48]

-Insert Table 1-

Study aims

Participatory methods are critical to evaluating guidelines and implementation strategies to improve primary care for SGM people.[49] This developmental study attempts to reduce SGM disparities by partnering with FQHCs in the majority-minority state of New Mexico (NM). We will employ the Nominal Group Technique (NGT), an efficient participatory priority-setting process,[50 51] to ground SGM practice guidelines in primary care and advance theory-based implementation strategies to promote guideline adherence. Providers/staff from four FQHCs will deploy the Plan-Do-Study-Act (PDSA) approach to pilot the toolkit.[52-55] The Implementation of Change Model (IoCM)[56] and an intersectionality lens[1 57-59] will assist in developing implementation strategies that are optimally relevant to local communities.[60] Both perspectives thus comprise the conceptual basis for data collection, guideline adoption, and implementation strategy development and testing. This study has three specific aims:

1. Prioritize SGM practice guidelines and adapt and develop implementation strategies for primary care settings with attention to the intersections of race/ethnicity, rurality, and socioeconomic conditions.
2. Develop/refine a comprehensive toolkit of SGM practice guidelines and implementation strategies to provide FQHCs with resources to promote and evaluate SGM-specific competence at multiple service delivery levels.

3. Evaluate toolkit implementation at (a) individual provider/staff, (b) social/practice setting, and (c) organizational context levels in supporting SGM-specific primary care in FQHCs.

This study responds to national calls to address SGM health disparities by spearheading an approach to implement critical and feasible primary care practice guidelines to promote the wellbeing of SGM patients with intersecting minority identities.[1-3] It also responds to U.S. research priorities to enhance SGM health in under-resourced, under-staffed primary care clinics that are stretched to form a crucial safety net.[2 61-63] Finally, the study is an essential start for continued research using a type 2 hybrid effectiveness-implementation design for dual testing of the effectiveness of SGM guidelines and implementation strategies specific to primary care.[64 65]

METHODS

Study design and overview

This study features a systematic review of guidelines for SGM-inclusive culturally competent primary care, focus groups and semi-structured interviews, quantitative surveys, and the NGT to facilitate uptake of SGM practice guidelines in primary care. Our 10-person Scientific Advisory Board (SAB), a panel of SGM patients, healthcare advocates and providers, and researchers, will play critical roles in interpreting data from these sources and creating the toolkit. Our study has two phases. Phase 1 engages the SAB and providers/staff from the participating FQHCs in prioritizing/assessing guidelines and implementation strategies (Aim 1) for the toolkit (Aim 2). Phase 2 (Aim 3) pilots the toolkit in FQHCs to obtain feasibility, acceptability, usability, fidelity, and satisfaction data. The iterative nature of study findings allows for ongoing feedback from participants and accuracy checks to increase internal validity and credibility, reducing possibilities of biasing results.[66] Participatory methods will enhance the toolkit's relevance to a diverse clientele. Finally, implementation experts emphasize selecting or tailoring implementation

strategies based on theory, barrier assessments, or other rationale.[67] This study will generate insights into implementation strategies to overcome barriers to toolkit adoption for different settings and stakeholders.[67 68] A timeline of study activities appears in Table 2.

-Insert Table 2 here-

Patient and Public Involvement

This study protocol emerged through a lengthy SGM patient and participant engagement process initiated in 2014 with funding from the Patient-Centered Outcomes Research Institute. With this funding, we conducted a series of town hall meetings with SGM people in ethnically- and geographically-diverse regions of NM regarding their health and healthcare needs. We then developed a statewide SGM health collaborative of SGM patients, healthcare advocates and providers, and researchers to analyze findings from these meetings. This collaborative next created a research agenda for improving SGM health care and organized a series of now annual SGM health summits that allow for broader patient and public input into this agenda.

Findings from the town halls and the collaborative's deliberations led to the identification of primary care as a key site for research-based intervention,[35] particularly in rural and otherwise medically-underserved communities, and to development of participatory procedures for conducting health-related research with SGM populations.[69] The collaborative also identified two major barriers limiting the capacity of primary care clinics to improve services for SGM patients: (1) lack of comprehensive sets of guidelines based in primary care research; and (2) insufficient implementation supports (e.g., access to education, training, data on SGM patients) that might assist providers/staff in bustling yet under-resourced clinics in taking part in organizational change efforts to advance quality care for SGM patients. Of note, patients in the SGM health collaborative and/or attending the summit have also provided critical feedback into the design of this study

protocol, sharing their ideas for recruitment and the overall conduct of this research. Convening the SAB represents Step 1 of our conceptual model; patients on the SAB will continue to offer feedback into study instrumentation, interpretation of findings, and dissemination strategies. We will share research results with patients and study participants through online briefs, the annual summit, and on-site presentations in communities where the participating FQHCs are located.

Conceptual framework

Implementing innovations, including guidelines and toolkits, in primary care is complex. We will draw from the IoCM[56] and use an intersectionality lens[1 57-59] to prioritize/assess guidelines and incorporate targeted implementation strategies to aid their translation into everyday clinical work. The IoCM (Figure 1) is a systematic approach to plan, organize, and implement change, and considers a range of factors impacting implementation.[56] For example, an FQHC's climate and organizational capacity can affect the willingness of providers/staff to engage in new practices,[70] as do their individual characteristics (e.g., job tenure, professional development level).[71] Leadership is also key.[72] Persons leading implementation must be effective change agents; their ability to motivate and interact with employees shapes provider/staff attitudes toward new practices.[73] Addressing readiness to change, provider/staff attitudes (e.g., SGM-negativity) and misinformation,[74] and engaging FQHC workers as agents of change via the IoCM will allow them to emerge as champions in deepening capacity to improve primary care for SGM patients.

Given our focus on intersectionality, we recognize that gender and sexuality are only two of several factors affecting the social identities, circumstances, and health/healthcare outcomes of SGMs.[1 58 59] Data collection, analysis, and toolkit planning must thus consider the racial/ethnic, socioeconomic, and geographical diversity found in places like NM, where structures of oppression and privilege beget unequal healthcare opportunities for specific populations.[58 75] By

integrating the IoCM and intersectionality theory, this study is among the first to move beyond assessing SGM healthcare needs and barriers to developing and testing strategies based on understanding the particular experiences of provider/staff and patients of multiple minority statuses, and both organizational and worker capacity to implement innovations in primary care.[76]

-Insert Figure 1-

In addition to the IoCM and an intersectionality perspective, we turn to theories of change in public health (Table 3)[77] and data from the systematic review, qualitative focus groups/interviews, surveys, and the NGT to design implementation strategies targeting multiple healthcare levels: (a) individual provider/staff (e.g., knowledge, attitudes); (b) social/practice setting (e.g., teamwork, opinion leaders, leadership); and (c) organizational context (e.g., administrative, structural, and cultural factors shaping the workplace).[77 78] With the SAB and FQHC stakeholders, we will consider relevant change theories to articulate both rationale and processes by which the strategies will lead to greater SGM competence and higher quality care for SGM patients.

-Insert Table 3-

Study context

Our setting is NM, a state ranking 47th in median household income[79] with the second largest percentage of residents below the poverty level (19.7%).[80] Hispanic/Latinx and Native American people are 60% of residents.[81] About 3% of adults[82] and 15.1% of high-school students identify as sexual minorities;[83] 0.75% of adults[84] and 3.4% of high-school students identify as gender minorities.[85] Access barriers and cultural competence deficits in care contribute to SGM health disparities.[35 82 86] Aims 1 and 2 involve participants from two rural and two urban FQHCs serving racial/ethnic minority communities. Because numerous health disparities populations (e.g., Hispanic/Latinx, Native American, socioeconomically disadvantaged, rural) are key FQHC

consumers, our study's FQHC context supports wider applicability to intersectional SGM people.

FQHC samples and recruitment

We will use *purposive sampling* to represent the range of views/experiences of individual and organizational factors related to prioritizing/assessing and implementing guidelines.[87] We will include 6-8 providers/staff per focus group at each FQHC; 1-3 clinic administrators per FQHC will take part in interviews. We will work closely with clinic administrators to recruit FQHC employees for the on-site focus groups/interviews. Clinic administrators will advertise focus groups/interviews on FQHC listservs and in employee common areas. Our team will present the study purpose and design at staff meetings. Recruitment may attract persons already sensitive to issues in SGM care; however, these sensitivities may also heighten their ability to perceive and discuss issues in SGM care. Thus, such sensitivities will neither negate their advice for introducing and enacting the guidelines in primary care nor perceptions of implementation barriers/facilitators. Eligible providers/staff must have worked at the FQHC for one or more year(s) for an average of at least 20 hours per week to ensure familiarity with clinical procedures and context-specific healthcare needs. Eligible administrators include persons responsible for professional leadership and the overall management and operation of the FQHC. We will recruit a subset of this sample of FQHC personnel for the NGT, as described below. Following the NGT, we will work with the SAB to develop our toolkit, which will be presented to two additional focus groups (one rural, one urban) of 6-8 SGM patients recruited from the FQHC catchment areas. Inclusion criteria include being age ≥18, self-identifying as SGM, and service utilization at the FQHC in the past 5 years. The challenges of research with SGM people include lack of identification with externally imposed social categories (e.g., gay, transgender), and the problem of recruiting "hidden" populations for studies on sensitive topics.[88 89] We will deploy purposive sampling methods to overcome these

challenges: (1) *snowballing* (members of the population of interest link researchers with candidates); (2) *outcropping* (soliciting candidates at places they are known to frequent); and (3) *advertising* (newspapers, websites).[88]

Data collection

Document reviews/systematic walkthroughs (Phase 1; Aim 1; IoCM Step 2)

We will analyze documentation to assess for changes in organizational context related to SGM inclusiveness at baseline and upon piloting the toolkit (Aim 3). Documents of interest are derived from the Healthcare Equality Index (HEI), a national benchmarking tool used in over 1600 healthcare facilities to evaluate policies/practices related to equity and inclusion of SGM patients, visitors, and employees.[90] Documents requested of clinic administrators will be compiled into an inventory, and analyzed using HEI scoring criteria that center on (1) employment non-discrimination/staff training, (2) patient services/support, (3) employee benefits/policies; and (4) patient/community engagement.[91] Two researchers will also apply a checklist based on criteria of the Gay and Lesbian Medical Association during systematic walkthroughs of the FQHCs to observe evidence of visual clues, or décor, suggesting the site is safe for SGM patients, i.e., public display of nondiscrimination statements and SGM-oriented brochures, educational materials, and posters.[92] The walkthroughs will also address whether visual clues pertain to patients of intersecting identities in FQHC catchment areas.

Systematic review of SGM-specific guidelines (Phase 1; Aim1; IoCM Step 2)

Our systematic review of the literature will lend insight into current guidelines for culturally competent primary care for SGM patients. We will consult with academic librarians and the SAB to identify appropriate terms and databases for the review. The databases will likely include: CINAHL, PsycARTICLES/PsycINFO, Mental Measurements, SPORTDiscus, SocINDEX,

PubMed/MEDLINE, Web of Science, and Cochrane Collaboration. We will employ two searches, each consisting of three sections of keywords (see supplementary file for detailed list of possible search terms). For the first search, the sections will comprise keywords identifying SGM populations, keywords pertaining to primary care medical services, and keywords concerning guidelines and recommendations. We will limit the keyword search to only abstracts and keywords, exclusively English-language results, and without restriction of publication date. After this first search, we will conduct a second search, expanding to all healthcare settings, rather than narrowly focus on primary care, as helpful practice guidelines for culturally competent care for SGM patients may present in other service milieus. We will undertake this second search using the same three sections of keywords and criteria used in the first search. We will perform the first search over a two-month period; the second search will occur over one month. Upon completing the searches in each database, we will import all results into EndNote X8 and cull duplicates.[93]

We will review the titles/abstracts, then full texts, of the publications iteratively, removing those not meeting inclusion criteria and inputting the remaining texts into an Excel worksheet. Multiple content experts will independently review each guideline to identify major thematic areas. They will convene regularly to agree on the content of thematic areas, assigning each guideline into these areas. The full study team will review the exhaustive list of guidelines, eliminating redundancies for condensation purposes. Each included publication will be rated on the extent to which it meets criteria across multiple domains encompassing scope/purpose, stakeholder involvement, rigor of development, conflict of interest, external review, and clarity of presentation.[31 47] The shortened list will be presented to the SAB wherein we will gather member perceptions regarding the importance of, and feasibility, of implementing the items it contains.

FQHC focus groups/interviews with surveys (Phase 1; Aim 1; IoCM Step 2)

We will assess current practices/experiences of FQHC stakeholders related to primary care for SGM people. Participants will complete brief (20 min) surveys prior to focus groups/interviews on individual, social/practice setting, and organizational factors relevant to implementing guidelines.[94] The measures include: *Attitudes toward Lesbians and Gays Scale* (α>.80);[95] *Bisexualities: Indiana Attitudes Scale* (α=.91);[96] *Attitudes toward Transgender Individuals Scale* (α=.95);[97] *Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills Scale* (*a*=.86);[98] *Context* (α=.85, e.g., culture, opinion leaders) and *Facilitation* (α=.95, e.g., senior leadership, leadership implementation) modules of the *Organizational Readiness to Change Assessment*;[99] *Implementation Climate Scale* (α=.91);[100] and the *Evidence-Based Practice Attitude Scale* (α=.76).[101 102] The focus groups/interviews will pose open-ended questions to study in-depth organizational attributes of FQHCs and attitudinal factors, behaviors, and experiences at varying levels affecting SGM care.[78] Questions will center on general knowledge/experience with SGM patients, adopting guidelines in primary care, and implementation barriers/facilitators. By tapping into provider/staff and administrator perspectives, we can understand how different levels (e.g., provider/staff, social and practice setting, organization) align to ensure optimal care for SGM people, enabling us to identify targets for and potential impediments to practice innovation. The 60- to 90-min focus groups/interviews will be digitally recorded, transcribed, and reviewed for accuracy.

Qualitative/quantitative data analysis (Phase 1; Aim 1; IoCM Step 2)

We will import transcripts into a password-protected NVivo 12 database for iterative analysis, first using open coding to locate themes/issues, assign codes to segments of text based *a priori* on topics in the focus group/interview guides, and identify and define new codes.[103-105] We will also create codes based on key sensitizing concepts from intersectionality theory (e.g., intersecting identities,

structural factors)[57-59 106] and implementation science (e.g., leadership, climate)[94 107] that help establish "a general sense of reference" for analysis.[66] Second, we will use focused coding to discern codes that recur or represent unusual issues.[104 105] We will cross-reference statements of interest (e.g., text coded with "welcoming environment" and "discrimination exemplar") to ascertain relationships in data both in and across FQHCs, and group codes with similar content into broad themes linked to retrievable text segments.[104 108] We will enter the survey data into the Statistical Package for the Social Sciences (SPSS) for descriptive analyses aggregated at the FQHC level,[109] comparing qualitative and survey data across organizations to ascertain areas of strength and weakness regarding factors likely to affect guideline implementation in primary care. Products will include a summary of key issues to consider in prioritizing/assessing guidelines and jumpstarting implementation strategy development via the NGT.

Nominal Group Technique (Phase 1; Aim 1; IoCM Step 3)

After developing a list of guidelines and implementation strategies from the empirical literature and focus groups/interviews, we will use the NGT to prioritize them. The NGT has been fruitfully applied in direction setting in health services research and implementation science.[50 110 111] The NGT convenes small groups of diverse stakeholders to generate ideas, develop consensus, and set priorities for standards or guidelines, particularly in situations where the research base is inconclusive.[51 110] While the NGT occurs in groups, emphasis is less on sample size and more on involving people of different roles/social locations to ensure heterogeneity of viewpoints.[50 111] We will use the NGT to prioritize strategies to implement the guidelines, inviting a subset (*n*=8-12) of focus group/interview participants to a 2-hour NGT session held in a central location. Participants will be given the list and preprinted "Nominal Group Task Statement Forms" specifying exploratory questions resembling: (1) "What are likely the most impactful and feasible guidelines

or recommendations to improve care for your SGM patients?" (2) "List the strategies or steps that would best help your organization implement and sustain guidelines and recommendations to improve care for SGM patients." Participants will have the opportunity to select, adapt, and suggest additional guidelines or implementation strategies for toolkit inclusion. They will first independently strategize in silence, then engage in a serial discussion of each idea, group ranking and vetting of priorities, and re-ranking until reaching consensus using the 70/30 consensus voting procedure that entails respectful conversation of dissenting opinions.[112]

Toolkit development and refinement (Phase 1; Aim 2; IoCM Step 4)

Focus group/interview, survey, and NGT data will inform the integration of existing guidelines with implementation strategies into the toolkit (Table 4), with increased attention to issues of organizational context and intersectionality.[1 58 59] We will work with the SAB to refine the toolkit and develop fidelity measures by reviewing outlines for each module and arriving at agreement via the 70/30 consensus method.[112] We will draft easy-to-follow materials and procedures to promote change in health care and policies concerning SGM patients of multiple minority statuses using accessible language and drawing on examples from the above research to illustrate potential barriers/facilitators to change at the individual, social/practice setting, and organizational levels. For each module, we will include tools to assess attitudes, practices, and competencies; select implementation strategies to match the local context; develop feasible priorities and goals; create action plans, and then evaluate progress towards goals.

-Insert Table 4-

SGM patient focus groups (Phase 1; Aim 2; IoCM Step 5)

Patient input is essential to interventions to improve primary care for SGMs.[69] Community perspectives and community-identified competencies, such as being comfortable with SGM

patients and shared medical decision-making between providers and patients, improve care by ensuring that community member priorities are not neglected. Community input is also crucial to determining the expertise that providers/staff may require to best care for diverse SGM patients, many of whom can articulate their experiences of minority stress in health care encounters.[113] For this study, two focus groups (one rural, one urban) of 6-8 SGM patients of varying races/ethnicities from the FQHC catchment areas will provide feedback into the toolkit's validity and refinement. Participants will be given a copy of the toolkit to review prior to the focus group. During the first 20 minutes of the group, they will draft a list of toolkit gaps, acceptability, and strengths/limitations. Questions asked subsequently will center on these issues, experiences with primary care, and the extent to which the toolkit addresses issues of race/ethnicity, culture, rurality, and other intersections of SGM population attributes. We will analyze transcripts using the procedures described above, sharing results with the SAB to update the toolkit prior to piloting. Finally, we will share the toolkit with FQHC participants for final input before testing begins.

Toolkit pilot test (Phase 2; Aim 3; IoCM Steps 5-7)

The FQHCs will implement the refined toolkit with ongoing coaching and assessment over one year. An SGM-specialist coach who is well-versed in the toolkit will meet with each FQHC's leadership to develop an implementation resource team (IRT) that meets monthly to develop goals and action plans and monitor progress in carrying out the prioritized guidelines and implementation strategies using the Plan-Do-Study-Act (PDSA) method, a four-stage cyclic, iterative learning approach to test a change implemented in a clinical milieu.[52-55] The IRTs are small stakeholder groups of 3-5 persons that will lead integration of guidelines into routine care, and may include clinic administrators, providers/staff, and patient advocates. Per the first cycle—Plan—the IRT drafts a concise statement regarding a guideline to put into practice, and then an

action plan describing the goal/outcome to accomplish via this guideline and associated measures. The IRT articulates the implementation strategies or steps to promote adoption of the guideline, while establishing a relatively short-term timeline for completion. For the second cycle—Do—the IRT sets the action plan into motion, observing, collecting data, and documenting what happens when the strategies are executed. During this cycle, the IRT asks, "Did everything go as planned?" and determines whether the plan must be modified.[54] During the third cycle—Study—the IRT examines the results of its efforts, identifying lessons learned, whether the goal/outcome was attained with fidelity to the action plan, and how well the implementation strategies worked. For the fourth cycle—Act—the IRT delineates its conclusions regarding the success of the change, clarifying what worked and did not work, and what it may do differently to facilitate productive implementation, as well as potential adaptations and next steps for scale up or a new cycle.[54 55]

We do not expect FQHCs to move forward with all guidelines in the toolkit at once, but to evaluate its content and proceed to implement guidelines incrementally via the PDSA method, improving on efforts to advance SGM practice changes with each successive cycle. The IRTs will also examine implementation needs and troubleshoot barriers using PDSA planning templates included in the toolkit. Thus, for instance, an IRT wanting to include SGM data in an FQHC's electronic health record system might focus on empowering hesitant providers/staff to ask relevant questions of patients or revise patient intake forms with non-stigmatizing elicitation terminology. The toolkit will include guidance and model examples related to these and other topics.

The IRTs will facilitate team collaboration to instantiate new practices and will benefit from the implementation strategy of coaching when applying the toolkit.[114 115] The SGM-specialist coach will strive to build confidence in IRT members during the PDSA process, emphasizing how to motivate positive behavior change among FQHC stakeholders to foster successful

implementation and fidelity or adherence to guidelines included in the toolkit.[116-119] For action planning, the coach can advise on prioritizing guidelines and using theory-based implementation strategies via toolkit materials (e.g., assessments, checklists, and examples).[120]

We will evaluate guideline implementation progress by undertaking walkthroughs in each FQHC and collecting and analyzing minutes from (1) IRT meetings, (2) copies of completed action plans and fidelity measures in the toolkit, and (3) and other organizational context documentation (e.g., intake forms, brochures, policies at start and when changed). We will administer a final round of focus groups/interviews with providers/staff and administrators of each FQHC using the same sample sizes and procedures described earlier, focusing on toolkit implementation at (a) individual provider/staff, (b) social/practice setting, and (c) organizational context levels. A complementary set of small group interviews with IRT members will examine changes made to address SGM patient needs, barriers to sustainment, as well as toolkit satisfaction, acceptability, usability, and feasibility.[121] More specifically, questions asked in focus group/interview formats will center on how use of the toolkit influences care for SGM patients, its contributions to patient and provider/staff satisfaction, difficulties involved in applying the toolkit in real-world practice, constraints experienced by the organization and providers/staff during implementation, overall utility and ease of employing featured implementation strategies, and the range of positive and negative factors ultimately affecting the toolkit's uptake and perceived impacts. These data will inform final revisions to the toolkit to be agreed upon by the SAB.

Limitations

The study is limited to four FQHCs in a single state, which may limit generalizability of findings and the toolkit. The purposeful sampling strategy may lead to an overrepresentation of clinic personnel concerned about care for SGM patients, or with vested interests in portraying themselves

and the FQHCs positively. The small sample sizes also preclude implementation of a randomized controlled trial design to assess organizational and practice changes resulting from the toolkit.

NEXT STEPS AND DISSEMINATION

After advancing SGM practice guidelines, implementation strategies, and indicators of guideline/implementation fidelity, we are planning a future study with a hybrid type 2 effectiveness-implementation experimental design and a larger number of FQHCs.[64 65] We will assign FQHCs to: (a) guidelines without implementation support, (b) guidelines with implementation support, (c) services as usual without implementation support, and (d) services as usual with implementation support. Both studies will provide methods to transform how FQHCs care for racially/ethnically-, socioeconomically-, and geographically-diverse SGM patients with results and products disseminated via local/state/national presentations and peer-reviewed publications, in addition to social media and community/stakeholder engagement activities.

REFERENCES

1. Institute of Medicine. The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding. Washington, DC: National Academies Press, 2011.

2. National Institutes of Health LGBT Research Coordinating Committee. Consideration of the Institute of Medicine (IOM) report on the health of lesbian, gay, bisexual, and transgender (LGBT) individuals. Bethesda, MD: National Institutes of Health, 2013.

3. National Institutes of Health Sexual and Gender Minority Research Coordinating Committee. NIH FY 2016-2020 strategic plan to advance research on the health and well-being of sexual and gender minorities. Rockville, MD: National Institutes of Health, 2016.

4. Fredriksen-Goldsen KI, Cook-Daniels L, Kim H, et al. Physical and mental health of transgender older adults: An at-risk and underserved populations. *Gerontologist* 2013;54(3):488-500. doi: 10.1093/geront/gnt021

5. Molina Y, Lehavot K, Beadnell B, et al. Racial disparities in health behaviors and conditions among lesbian and bisexual women: The role of internalized stigma. *LGBT Health* 2014;1(2):131-39. doi: 10.1089/lgbt.2013.0007

6. Mayer KH, Bradford JB, Makadon HJ, et al. Sexual and gender minority health: What we know and what needs to be done. *Am J Public Health* 2008;98(6):989-95. doi: 10.2105/AJPH.2007.127811

7. Cochran SD, Mays VM, Sullivan JG. Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *J Consult Clin Psychol* 2003;71(1):53-61. doi: 10.1037/0022-006X.71.1.53

8. Hutchinson MK, Thompson AC, Cederbaum JA. Multisystem factors contributing to disparities in preventive health care among lesbian women. *J Obstet Gynecol Neonatal Nurs* 2006;35(3):393-402. doi: 10.1111/j.1552-6909.2006.00054.x

9. Law M, Mathai A, Veinot P, et al. Exploring lesbian, gay, bisexual, and queer (LGBQ) people's experiences with disclosure of sexual identity to primary care physicians: A qualitative study. *BMC Fam Pract* 2015;16:175. doi: 10.1186/s12875-015-0389-4

10. Meyer IH, Schwartz S, Frost DM. Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping resources? *Soc Sci Med* 2008;67(3):368-79. doi: 10.1016/j.socscimed.2008.03.012

11. Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychol Bull* 2003;129(5):674-97. doi: 10.1037/0033-2909.129.5.674

12. Bockting WO, Miner MH, Swinburne Romine RE, et al. Stigma, mental health, and resilience in an online sample of the U.S. transgender population. *Am J Public Health* 2013;103(5):943-51. doi: 10.2105/AJPH.2013.301241

13. Meyer IH. Identity, stress, and resilience in lesbians, gay men, and bisexuals of color. *Couns Psychol* 2010;38(3):442-54. doi: 10.1177/0011000009351601

14. Ross LE, O'Gorman L, MacLeod MA, et al. Bisexuality, poverty and mental health: A mixed methods analysis. *Soc Sci Med* 2016;156:64-72. doi: 10.1016/j.socscimed.2016.03.009

15. Wilson EC, Chen YH, Arayasirikul S, et al. Differential HIV risk for racial/ethnic minority trans*female youths and socioeconomic disparities in housing, residential stability, and education. *Am J Public Health* 2015;105 Suppl 3:e41-7. doi: 10.2105/AJPH.2014.302443

16. Barefoot KN, Rickard A, Smalley KB, et al. Rural lesbians: Unique challenges and implications for mental health providers. *Rural Ment Health* 2015;39(1):22-33. doi: 10.1037/rmh0000014

17. Whitehead J, Shaver J, Stephenson R. Outness, stigma, and primary health care utilization among rural LGBT populations. *PLoS One* 2016;11(1):e0146139. doi: 10.1371/journal.pone.0146139

18. Bidell MP, Stepleman LM. An interdisciplinary approach to lesbian, gay, bisexual, and transgender clinical competence, professional training, and ethical care: Introduction to the special issue. *J Homosex* 2017;64(10):1305-29. doi: 10.1080/00918369.2017.1321360

19. Wright J. Only your calamity: The beginnings of activism by and for people with AIDS. *Am J Public Health* 2013;103(10):1788-98. doi: 10.2105/AJPH.2013.301381

20. Haldeman DC. The practice and ethics of sexual orientation conversion therapy. *J Consult Clin Psychol* 1994;62(2):221-27. doi: 10.1037/0022-006X.62.2.221

21. Dreger AD. A history of intersexuality: From the age of gonads to the age of consent. *J Clin Ethics* 1998;9(4):345-55.

22. Baker K, Beagan B. Making assumptions, making space: An anthropological critique of cultural competency and its relevance to queer patients. *Med Anthropol Q* 2014;28(4):578-98. doi: 10.1111/maq.12129

23. Sabin JA, Riskind RG, Nosek BA. Health care providers' implicit and explicit attitudes toward lesbian women and gay men. *Am J Public Health* 2015;105(9):1831-41. doi: 10.2105/AJPH.2015.302631

24. Sue DW, ed. *Microaggressions and marginality: Manifestation, dynamic, and impact*. Hoboken, NJ: John Wiley and Sons, Inc., 2010.

25. Hollenbach AD, Eckstrand KL, Dreger A, eds. *Implementing curricular and institutional climate changes to improve health care for individuals who are LGBT, gender nonconforming, or born with DSD: A resource for medical educators*. Washington, DC: Association for American Medical Colleges Advisory Committee on Sexual Orientation, Gender Identity and Sex Development, 2014.

26. Davy Z, Siriwardena AN. To be or not to be LGBT in primary health care: Health care for lesbian, gay, bisexual, and transgender people. *Br J Gen Pract* 2012;62(602):491-92. doi: 10.3399/bjgp12X654731

27. Donaldson MS, Yordy KD, Lohr KN, et al. Primary care: America's health in a new era. Washington, DC: National Academies Press, 1996.

28. Starfield B. Primary care: Balancing health needs, services, and technology. New York, NY: Oxford University Press, 1998.

29. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q* 2005;83(3):457-502. doi: 10.1111/j.1468-0009.2005.00409.x

30. Eliason MJ, Schope R. Does "don't ask don't tell" apply to health care? Lesbian, gay, and bisexual people's disclosure to health providers. *J Gay Lesbian Med Assoc* 2010;5(4):125-34. doi: 10.1023/A:1014257910462

31. McNair RP, Hegarty K. Guidelines for the primary care of lesbian, gay, and bisexual people: A systematic review. *Ann Fam Med* 2010;8(6):533-41. doi: 10.1370/afm.1173

32. Wilkerson JM, Rybicki S, Barber CA, et al. Creating a culturally competent clinical environment for LGBT patients. *J Gay Lesbian Soc Serv* 2011;23(3):376-94. doi: 10.1080/10538720.2011.589254

33. McClain Z, Hawkins LA, Yehia BR. Creating welcoming spaces for lesbian, gay, bisexual, and transgender (LGBT) patients: An evaluation of the health care environment. *J Homosex* 2016;63(3):387-93. doi: 10.1080/00918369.2016.1124694

34. Rossi AL, Lopez EJ. Contextualizing competence: Language and LGBT-based competency in health care. *J Homosex* 2017;64(10):1330-49. doi: 10.1080/00918369.2017.1321361

35. Kano M, Silva-Bañuelos AR, Sturm R, et al. Stakeholders' recommendations to improve patient-centered "LGBTQ" primary care in rural and multicultural practices. *J Am Board Fam Med* 2016;29(1):156-60. doi: 10.3122/jabfm.2016.01.150205

36. Dahan R, Feldman R, Hermoni D. Is patients' sexual orientation a blind spot of family physicians? *J Homosex* 2008;55(3):524-32. doi: 10.1080/00918360802345321

37. Willging CE, Salvador M, Kano M. Unequal treatment: Mental health care for sexual and gender minority groups in a rural state. *Psychiatr Serv* 2006;57(6):867-70. doi: 10.1176/appi.ps.57.6.867

38. Johnson MJ, Nemeth LS. Addressing health disparities of lesbian and bisexual women: A grounded theory study. *Womens Health Issues* 2014;24(6):635-40. doi: 10.1016/j.whi.2014.08.003

39. Petroll AE, Mosack KE. Physician awareness of sexual orientation and preventive health recommendations to men who have sex with men. *Sex Transm Dis* 2011;38(1):63-67. doi: 10.1097/OLQ.0b013e3181ebd50f

40. Korpaisarn S, Safer JD. Gaps in transgender medical education among healthcare providers: A major barrier to care for transgender persons. *Rev Endocr Metab Disord* 2018;19(3):271-75. doi: 10.1007/s11154-018-9452-5

41. Streed CG, Davis JA. Improving clinical education and training on sexual and gender minority health. *Curr Sex Health Rep* 2018;10(4):273-80. doi: 10.1007/s11930-018-0185-y

42. Eckstrand KL, Lunn MR, Yehia BR. Applying organizational change to promote lesbian, gay, bisexual, and transgender inclusion and reduce health disparities. *LGBT Health* 2017;4(3):174-80. doi: 10.1089/lgbt.2015.0148

43. U.S. Department of Health and Human Services. Better health and well-being: Making improvements for lesbian, gay, bisexual, transgender (LGBT) Americans. Washington, DC: U.S. Department of Health and Human Services, 2012.

44. Society of Teachers of Family Medicine Group on LGBT Health. Recommended curriculum guidelines for family medicine residents: Lesbian, gay, bisexual, transgender health. Leawood, KS: American Academy of Family Physicians, 2013.

45. The Joint Commission. Advancing effective communication, cultural competence, and patient-and-family centered care for the lesbian, gay, bisexual, and transgender (LGBT) community: A field guide. Oak Brook, IL: The Joint Commission, 2011.

46. Schilder AJ, Kennedy C, Goldstone IL, et al. "Being dealt with as a whole person." Care seeking and adherence: The benefits of culturally competent care. *Soc Sci Med* 2001;52(11):1643-59. doi: 10.1016/S0277-9536(00)00274-4

47. Klein DA, Malcolm NM, Berry-Bibee EN, et al. Quality primary care and family planning services for LGBT clients: A comprehensive review of clinical guidelines. *LGBT Health* 2018;5(3):153-70. doi: 10.1089/lgbt.2017.0213

48. Meyers DC, Durlak JA, Wandersman A. The quality implementation framework: A synthesis of critical steps in the implementation process. *Am J Community Psychol* 2012;50(3-4):462-80. doi: 10.1007/s10464-012-9522-x

49. Grol R, Ouwens M, Wollersheim H. Planning and organizing the change process. In: Grol R, Wensing M, Eccles M, et al., eds. Improving patient care: The implementation of change in health care (2nd ed). Hoboken, NJ: John Wiley & Sons, 2013;64-76.

50. Van de Ven AH, Delbecq AL. The nominal group as a research instrument for exploratory health studies. *Am J Public Health* 1972;62(3):337-42.

51. Rankin NM, McGregor D, Butow PN, et al. Adapting the Nominal Group Technique for priority setting of evidence-practice gaps in implementation science. *BMC Med Res Methodol* 2016;16(1):110. doi: 10.1186/s12874-016-0210-7

52. Speroff T, O'connor GT. Study designs for PSDA quality improvement research. *Qual Manag Health Care* 2004;13(1):17-32. doi: 10.1097/00019514-200401000-00002

53. Gillam S, Siriwardena AN. Frameworks for improvement: Clinical audit, the Plan-Do-Study-Act cycle and significant event audit. *Qual Prim Care* 2013;21(2):123-30.

54. Agency for Healthcare Research and Quality. Plan-Do-Study-Act (PDSA) directions and examples. Content last reviewed February 2015 Rockville, MD. Available: http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool2b.html [Accessed November 2019].

55. Taylor MJ, McNicholas C, Nicolay C, et al. Systematic review of the application of the Plan-Do-Study-Act method to improve quality in healthcare. *BMJ Qual Saf* 2013;23(4):290-8. doi: 10.1136/bmjqs-2013-001862

56. Wandersman A, Chien VH, Katz J. Toward an evidence-based system for innovation support for implementing innovations with quality: Tools, training, technical assistance, and quality assurance/quality improvement. *Am J Community Psychol* 2012;50(3-4):445-59. doi: 10.1007/s10464-012-9509-7

57. Choo HY, Feree MM. Practicing intersectionality in sociological research: A critical analysis of inclusions, interactions, and institutions in the study of inequalities. *Sociol Theory* 2010;28(2):129-49. doi: 10.1111/j.1467-9558.2010.01370.x

58. Crenshaw K. Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *Univ Chic Leg Forum* 1989;Volume 1989:139-67.

59. Crenshaw K. Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Rev* 1991;43(6):1241-99.

60. Bauer GR. Incorporating intersectionality theory into population health research methodology: Challenges and the potential to advance health equity. *Soc Sci Med* 2014;110:10-7. doi: 10.1016/j.socscimed.2014.03.022

61. Coulter RW, Kenst KS, Bowen DJ, et al. Research funded by the National Institutes of Health on the health of lesbian, gay, bisexual, and transgender populations. *Am J Public Health* 2014;104(2):e105-e12. doi: 10.2105/AJPH.2013.301501

62. Coulter RW, Kenst KS, Bowen DJ, et al. Coulter et al. respond. *Am J Public Health* 2015;105(Suppl 3):e2-e3. doi: 10.2105/AJPH.2014.302316

63. Voyles CH, Sell RL. Continued disparities in lesbian, gay, and bisexual research funding at NIH. *Am J Public Health* 2015:e1-e2. doi: 10.2105/AJPH.2014.302265

64. Curran GM, Bauer M, Mittman B, et al. Effectiveness-implementation hybrid designs: Combining elements of clinical effectiveness and implementation research to enhance public health impact. *Med Care* 2012;50(3):217-26. doi: 10.1097/MLR.0b013e3182408812

65. Bernet AC, Willens DE, Bauer MS. Effectiveness-implementation hybrid designs: Implications for quality improvement science. *Implement Sci* 2013;8(Suppl 1) doi: 10.1186/1748-5908-8-S1-S2

66. Patton MQ. Qualitative research & evaluation methods: Integrating theory and methods (4th ed). Thousand Oaks, CA: Sage Publications, Inc., 2015.

67. Gagliardi A, Alhabib S, Members of the Guidelines International Network Implementation Working Group. Trends in guideline implementation: A scoping systematic review. *Implement Sci* 2015;10:54. doi: 10.1186/s13012-015-0247-8

68. Grol R. Implementing guidelines in general practice care. *Qual Health Care* 1992;1(3):184-91.

69. Kano M, Sawyer KP, Willging CE. Fostering CBPR to promote equitable healthcare for LGTBQ+ people In: Wallersten N, Duran B, Oetzel J, et al., eds. CBPR for health: Engaging for social and health equity (3rd ed). San Francisco, CA: Jossey-Bass, 2017;345-50.

70. Aarons GA, Sawitzky AC. Organizational climate partially mediates the effect of culture on work attitudes and staff turnover in mental health services. *Adm Policy Ment Health* 2006;33(3):289-301. doi: 10.1007/s10488-006-0039-1

71. Aarons GA, Glisson C, Green PD, et al. The organizational social context of mental health services and clinician attitudes toward evidence-based practice: A United States national study. *Implement Sci* 2012;7:56. doi: 10.1186/1748-5908-7-56

72. Aarons GA, Ehrhart MG, Farahnak LR, et al. Aligning leadership across systems and organizations to develop a strategic climate for evidence-based practice implementation. *Annu Rev Public Health* 2014;35:255-74. doi: 10.1146/annurev-publhealth-032013-182447

73. Aarons GA. Transformational and transactional leadership: Association with attitudes toward evidence-based practice. *Psychiatr Serv* 2006;57(8):1162-69. doi: 10.1176/appi.ps.57.8.1162

74. Thaker S, Steckler A, Sanchez V, et al. Program characteristics and organizational factors affecting the implementation of a school-based indicated prevention program. *Health Educ Res* 2008;23(2):238-48. doi: 10.1093/her/cym025

75. Hankivsky H, Cormier R. Intersectionality: Moving women's health research and policy forward. Vancouver, Canada: Women's Health Research Network, 2009.

76. Lehman WE, Greener JM, Simpson DD. Assessing organizational readiness for change. *J Subst Abuse Treat* 2002;22(4):197-209. doi: 10.1016/S0740-5472(02)00233-7

77. Grol R, Wensing M, Bosch M, et al. Theories on implementation of change in healthcare. In: Grol R, Wensing M, Eccles M, et al., eds. Improving patient care: The implementation of change in health care (2nd ed). Hoboken, NJ: John Wiley & Sons, 2013;18-39.

78. Grol R, Wensing M. Effective implementation of change in healthcare: A systematic approach. In: Grol R, Wensing M, Eccles M, et al., eds. Improving patient care: The

implementation of change in health care (2nd ed). Hoboken, NJ: John Wiley & Sons, 2013;40-63.

79. U.S. Census Bureau. Survey 1-Year Estimates Ranking Table: Median household income (in 2017 inflation-adjusted dollars) 2017 updated June 25, 2019. Available: https://www.census.gov/acs/www/data/data-tables-and-tools/ranking-tables/].

80. U.S. Census Bureau. Amercian Community Survey 1-Year Ranking Table: Percent of people below poverty level in the past 12 months (for whom poverty status is determined) 2017. Available: https://www.census.gov/acs/www/data/data-tables-and-tools/ranking-tables/ [Accessed 25 June 2019].

81. U.S. Census Bureau. State and county quick facts - New Mexico 2018. Available: https://www.census.gov/quickfacts/ [Accessed 25 June 2019].

82. Padilla J. Overview of New Mexico LGBT health data for the Legislative Health and Human Service Committee. Santa Fe, NM, 2014.

83. Tomedi LE, Oglesbee S, Padilla J, et al. The health and well-being of lesbian, gay, and bisexual youth in New Mexico: Data from the 2015 New Mexico Youth Risk & Resiliency Survey. Santa Fe, NM: New Mexico Department of Health, New Mexico Public Education Department, and University of New Mexico Prevention Research Center, 2017.

84. Flores A, Herman J, Gates G, et al. How many adults identify as transgender in the United States? Los Angeles, CA: The Williams Institute, 2016.

85. NM YRRRS Connections: Facts and Figures from 2017 the New Mexico Youth Risk and Resiliency Survey: Gender Identity. Santa Fe, NM: New Mexico Department of Health,

Public Education Department, and University of New Mexico Prevention Research Center, 2018.

86. Tomedi LE, Padilla JL. Health inequities by sexual orientation in New Mexico 2005-2011. Santa Fe, NM: New Mexico Department of Health, 2013.

87. Aarons GA, Palinkas LA. Implementation of evidence-based practice in child welfare: Service provider perspectives. *Adm Policy Ment Health* 2007;34(4):411-19. doi: 10.1007/s10488-007-0121-3

88. Gay and Lesbian Medical Association. Healthy people 2010: Companion document for lesbian, gay, bisexual, and transgender (LGBT) health. San Francisco, CA: Gay and Lesbian Medical Association, 2001.

89. Willging CE. "I'm not that innocent": Recruiting sexual and gender minorities for rural mental health research. *Pract Anthropol* 2007;29(2):10-14. doi: 10.17730/praa.29.2.3t6r78t4366563q1

90. Human Rights Campaign. Healthcare Equity Index Washington, DC: Human Rights Campaign Foundation. Available: https://www.hrc.org/hei [Accessed November 2019].

91. Human Rights Campaign. HEI Scoring Criteria Washington, DC: Human Rights Campaign Foundation. Available: https://www.hrc.org/hei/hei-scoring-criteria [Accessed November 2019].

92. Gay and Lesbian Medical Association. Guidelines for care of lesbian, gay, bisexual, and transgender patients. San Francisco, CA: Gay and Lesbian Medical Association, 2006.

93. Endnote X8 [program], 2018.

94. Aarons GA, Horowitz JD, Dlugosz LR, et al. The role of organizational processes in dissemination and implementation research. In: Brownson RC, Colditz GA, Proctor EK,

eds. Dissemination and implementation research in health: Translating science to practice. New York, NY: Oxford University Press, 2012;128-53.

95. Herek GM. Attitudes Toward Lesbians and Gay Men Scale. In: Davis CM, Yaber WL, Bauserman RL, et al., eds. Handbook of sexuality-related measures. Thousand Oaks, CA: Sage Publications, Inc., 1998;392-93.

96. Dodge B, Herbenick D, Friedman MR, et al. Attitudes toward bisexual men and women among a nationally representative probability sample of adults in the United States. *PLoS One* 2016;11(10):e0164430. doi: 10.1371/journal.pone.0164430

97. Walch SE, Ngamake ST, Francisco J, et al. The attitudes toward transgendered individuals scale: Psychometric properties. *Arch Sex Behav* 2012;41(5):1283-91. doi: 10.1007/s10508-012-9995-6

98. Bidell MP. The Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills Scale (LGBT-DOCSS): Establishing a new interdisciplinary self-assessment for health providers. *J Homosex* 2017;64(10):1432-60. doi: 10.1080/00918369.2017.1321389

99. Helfrich CD, Li YF, Sharp ND, et al. Organizational readiness to change assessment (ORCA): Development of an instrument based on the Promoting Action on Research in Health Services (PARIHS) framework. *Implement Sci* 2009;4:38. doi: 10.1186/1748-5908-4-38

100. Ehrhart MG, Aarons GA, Farahnak LR. Assessing the organizational context for EBP implementation: The development and validity testing of the Implementation Climate Scale (ICS). *Implement Sci* 2014;9:157. doi: 10.1186/s13012-014-0157-1

101. Aarons GA. Mental health provider attitudes toward adoption of evidence-based practice: The evidence-based practice attitude scale (EBPAS). *Ment Health Serv Res* 2004;6(2):61-74. doi: 10.1023/B:MHSR.0000024351.12294.65

102. Bass BM, Avolio BJ, eds. *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage Publications, 1994.

103. NVivo qualitative data analysis software (Version 12) [program], 2018.

104. Corbin J, Strauss A. Basics of qualitative research: Techniques and procedures for developing grounded theory (3rd ed). Thousand Oaks, CA: Sage Publications, 2008.

105. Emerson RM, Fretz RI, Shaw LL. Writing ethnographic fieldnotes. Chicago, IL: University of Chicago Press, 1995.

106. Rogers J, Kelly UA. Feminist intersectionality: Bringing social justice to health disparities research. *Nurs Ethics* 2011;18(3):397-407. doi: 10.1177/0969733011398094

107. Aarons G, Green A, Willging C, et al. Mixed-method study of a conceptual model of evidence-based intervention sustainment across multiple public-sector service settings. *Implement Sci* 2014;9:183. doi: 10.1186/s13012-014-0183-z

108. Glaser BG, Strauss AL. The discovery of grounded theory: Strategies for qualitative research. New York, NY: Aldine de Gruyter, 1967.

109. SPSS Statistics for Windows (Version 19) [program], 2010.

110. Cantrill JA, Sibbald B, Buetow S. The Delphi and Nominal Group Techniques in health services research. *Int J Pharm Pract* 1996;4(2):67-74. doi: 10.1111/j.2042-7174.1996.tb00844.x

111. Harvey N, Holmes CA. Nominal Group Technique: An effective method for obtaining group consensus. *Int J Nurs Pract* 2012;18(2):188-94. doi: 10.1111/j.1440-172X.2012.02017.x

112. Butterfoss FD. Coalitions and partnerships in community health. San Francisco, CA: John Wiley & Sons, Inc., 2007.

113. Alpert AB, CichoskiKelly EM, Fox AD. What lesbian, gay, bisexual, transgender, queer, and intersex patients say doctors should know and do: A qualitative study. *J Homosex* 2017;64(10):1368-89. doi: 10.1080/00918369.2017.1321376

114. Willging CE, Israel T, Ley D, et al. Coaching mental health peer advocates for rural LGBTQ people. *J Gay Lesbian Ment Health* 2016;20(3):214-36. doi: 10.1080/19359705.2016.1166469

115. Willging CE, Green AE, Ramos MM. Implementing school nursing strategies to reduce LGBTQ adolescent suicide: A randomized cluster trial study protocol. *Implement Sci* 2016;11(1):145. doi: 10.1186/s13012-016-0507-2

116. Duda MA, Barrett S. Coaching for competence and impact brief 1: Defining coaching. Washington, DC: OSEP Center on Positive Behavioral Interventions & Supports, 2013.

117. Edmunds JM, Kendall PC, Ringle VA, et al. An examination of behavioral rehearsal during consultation as a predictor of training outcomes. *Adm Policy Ment Health* 2013;40(6):456-66. doi: 10.1007/s10488-013-0490-8

118. Fixsen DL, Blase KA, Naoom SF, et al. Core implementation components. *Res Soc Work Pract* 2009;19(5):531-40. doi: 10.1177/1049731509335549

119. Nadeem E, Gleacher A, Beidas RS. Consultation as an implementation strategy for evidence-based practices across multiple contexts: Unpacking the black box. *Adm Policy Ment Health* 2013;40(6):439-50. doi: 10.1007/s10488-013-0502-8

120. Oxman AD, Fretheim A, Schunemann HJ, et al. Improving the use of research evidence in guideline development: Introduction. *Health Res Policy Syst* 2006;4(12) doi: 10.1186/1478-4505-4-12

121. Weiner BJ, Lewis CC, Stanick C, et al. Psychometric assessment of three newly developed implementation outcome measures. *Implement Sci* 2017;12(1):108. doi: 10.1186/s13012-017-0635-3

Table 1. Synthesized Recommendations for Primary Care from Existing Guidelines Appraised by McNair and Hegarty

1. Creating inclusive environments	Overt signs/displays; sensitive language/attitudes among staff; inclusive intake forms; optional self-identification; non-discrimination policies; procedures addressing complaints.
2. Standards for clinician-patient communication	Non-judgmental and affirming attitudes; assuring confidentiality; gender-neutral language; use of patient's language; open, inclusive questioning; complete sexual history; responding to disclosure.
3. Sensitive documentation of SGM identity/orientation	Medical notes (documenting SGM identity/orientation and informing patients of what is written), electronic medical records, referral letters, and decision-makers/next of kin/emergency contact.
4. Special knowledge for SGM awareness	Impact of discrimination on health; mental health/substance misuse; reproductive health; safer sex; higher risks for specific diseases; coming out; referrals to support groups and health professionals.
5. Staff training	Confidentiality; use of intake forms; identifying/addressing SGM-negativity; support visibility of SGM employees; inclusive hiring practices supporting SGM recruitment.
6. Addressing population health issues	Marketing services to SGM communities; engaging in SGM-targeted health promotion; performing community outreach and forging relationships with SGM agencies; advocacy.

Table 2. Timeline of Study Activities by Quarter

Table 2. Study Activities Timeline by Quarter	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2
Perform systematic literature review, recruit sites, and conduct document reviews, walkthroughs, and focus groups/interviews with surveys										
Develop list of practice guidelines and implementation strategies from data collection and research evidence derived from systematic review										
Undertake Nominal Group Technique and develop toolkit										
Hold focus groups with SGM patients and revise toolkit										
Organize implementation meetings and convene implementation resource teams										
Engage in toolkit piloting via Plan-Do-Act-Study cycles with coaching support										
Conduct final document review, walkthroughs, and focus groups/interviews with surveys										
Analyze and draft results and develop a follow-up study featuring a hybrid type 2 effectiveness-implementation experimental design										

Table 3. Sample Theories of Change based on the IoCM to Inform SGM Practice Guideline Implementation Strategies

Type and Example of Theory	Description
Sample theories pertinent to individual provider/staff	
Cognitive • Decision-Making Theory	Provision of a convincing argument as to why it is worth the time and cost to make services more appropriate for SGM patients.
Motivational • Theory of Planned Behavior • Social Learning Theory	Determine expectations of outcomes from implementing SGM practice guidelines and assess whether the expected outcomes are desirable to stakeholders. Increase perceived social norms for guideline adherence while supporting providers/staff.
Sample theories pertinent to social and practice setting	
Social Network and Influence	Opinion leaders, formal/informal leaders, and significant peers share views and model implementation of SGM practice guidelines (also see Social Learning Theory).
Theories on Teamwork	Encourage team collaboration to create a better environment for SGM populations. The team sets goals and targets and reviews process together regularly.
Theories on Professionalism	Appeal to sense of professional identity/standards (e.g., use recommendations from American Medical Association for physicians and from the American Nursing Association for nurses).
Sample theories pertinent to organizational context	
Theory of Quality Management	Assumes inadequate performance is an organizational failure requiring strong leadership and organizational changes. Organizations set improvement goals and collaborate to reach goals.
Theories of Organizational Culture	Recognize organizational cultures shape work performance and can be altered to achieve an innovation-centered culture to improve performance and stimulate improvements in patient care.

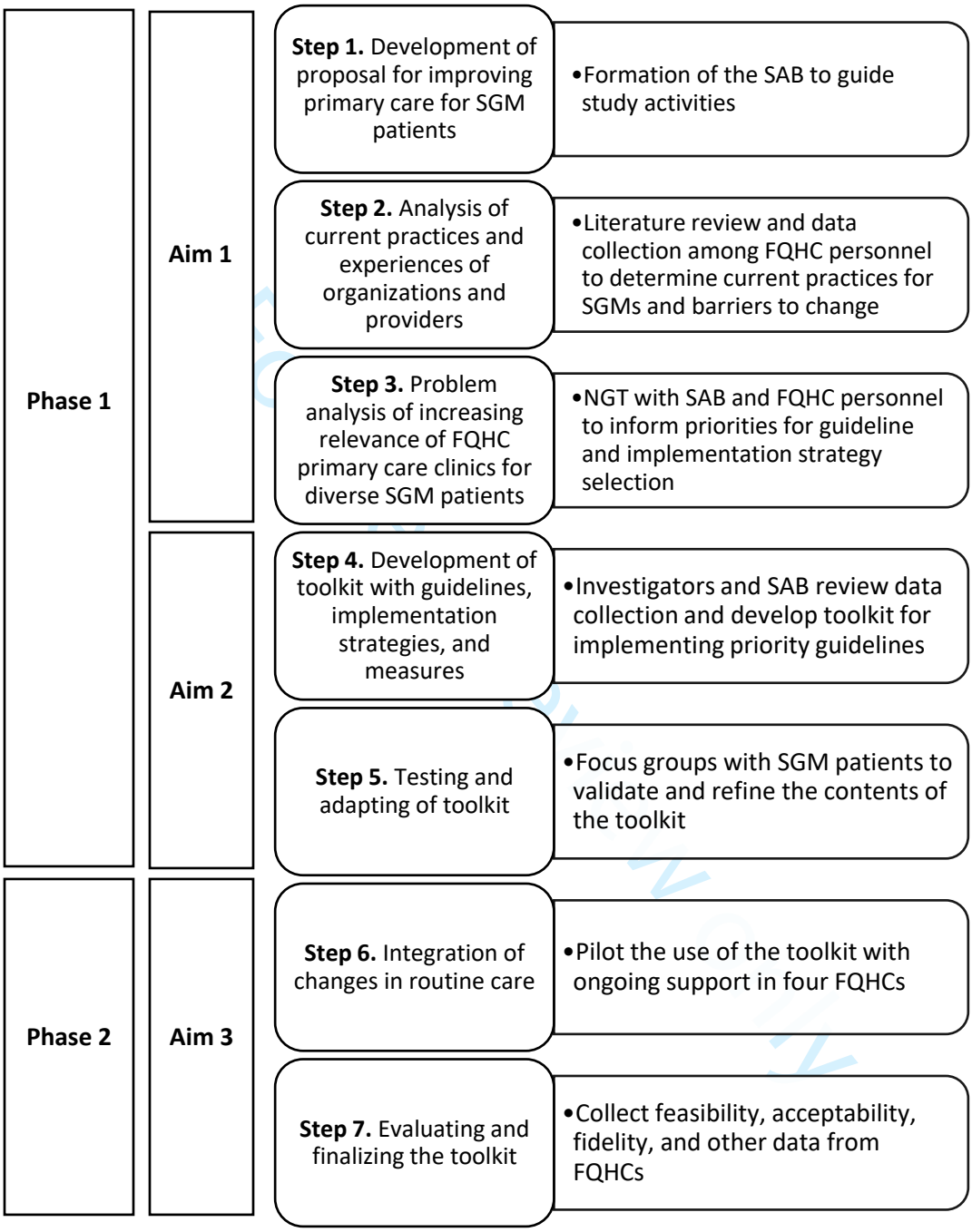
Table 4. Preliminary Outline of the Comprehensive Toolkit

Module	Description
1. SGM guideline overview	Underlying rationale of relevant guidelines and key issues to consider when implementing them.
2. Creating an IRT	How to identify and engage providers/staff in the FQHC to lead implementation of the guidelines.
3. Engaging SGM patients	How to identify, recruit, and involve SGM patients of multiple minority statuses in implementation.
4. Assessing organizational barriers and facilitators	How to perform a localized problem analysis of current care practices and policies related to SGM patients and identify factors likely to impact implementation of SGM practice guidelines.
5. Selecting practice guidelines based on organizational assessment	How to use data from an organizational self-assessment to develop statement of practices/policies requiring change, identify barriers and facilitators, and prioritize SGM practice guidelines to implement (or improve implementation of) in the FQHC social/practice setting.
6. Choosing theory-based implementation strategies	How to apply an intersectionality lens and match a theory of change at the individual, social/practice setting, and organizational levels with specific SGM practice guidelines.
7. Obtaining support from leaders/champions/staff	How to garner "buy in" from leaders of FQHCs at various levels and actively involve physicians and other key staff as opinion leaders or champions in the change process.
8. Creating action plans	How to develop action plans to guideline implementation drawing on the organizational assessment.
9. Developing evaluation plans	How to select fidelity and impact measures for guidelines and implementation strategies.
10. Using action plans	How to determine roles; review accomplishments, deadlines, and budget; and provide feedback.
11. Planning for the future	Using evaluation data to refine implementation; Recruiting new members to the FQHC implementation team; Long-term strategic planning to better care for SGM people in the FQHCs.
Appendix: Measures and tools	Example measures, policies, documentation, intake forms, brochures, mission statements, etc.

Legend for Figure 1. Adapted Implementation of Change Model by Study Phase, Aim, and Step

Note: SGM Sexual and Gender Minority; SAB Scientific Advisory Board; FQHC Federally-Qualified Health Center; NGT Nominal Group Technique

Figure 1. Adapted Implementation of Change Model by Study Phase, Aim, and Step



Note: SGM Sexual and Gender Minority; SAB Scientific Advisory Board; FQHC Federally-Qualified Health Center; NGT Nominal Group Technique

Systematic Review Search Strategy and Terms

Two search strategies will be employed to explore the literature on practice guidelines and recommendations for culturally competent primary care for sexual and gender minority patients. Both searches will be conducted across the following eight databases: CINAHL, PsycARTICLES/PsycINFO, Mental Measurements, SPORTDiscus, SocINDEX, PubMed/MEDLINE, Wed of Science, and Cochrane Collaboration.

The first search strategy will consist of three sections of keywords. These include keywords identifying sexual and gender minority populations, keywords pertaining to primary care medical services, and keywords concerning practice guidelines and recommendations. The keyword search will be limited to only abstracts and keywords, exclusively English-language results, and without restriction on date of publication.

(LGBTQ OR lesbian* OR gay OR bisexual* OR transgender* OR queer OR questioning OR genderqueer OR "gender queer" OR "gender fluid" OR "gender expansive" OR LGBTQIAA OR intersex OR asexual OR LGB OR SGM OR "sexual and gender minority" OR "sexual and gender minorities" OR "sexual minority" OR "sexual minorities" OR "gender minority" OR "gender minorities" OR SOGI OR "sexual orientation" OR "gender identity" OR "gender expression" OR homosexual* OR transsexual* OR "gender non-conforming" OR "gender nonconforming" OR non-binary OR nonbinary OR "two spirit" OR "two-spirit" OR MSM OR "men who have sex with men" OR WSW OR "women who have sex with women" OR pansexual OR demisexual OR aromantic OR ipsogender OR bicurious OR "cross sex" OR crossgender OR F2M OR "female-to-male" OR "gender change" OR "gender dysphoria" OR "gender reassign" OR "gender transform" OR "gender transition" OR GLB OR GLBQ OR GLBs OR GLBT OR GLBTQ OR heteroflexible OR LGBQ OR LGBS OR M2F OR "male-to-female" OR "same gender loving" OR "same sex attracted" OR "same sex couple" OR "same sex couples" OR "same sex relations" OR "sex change" OR "sex reassign" OR "sex reversal" OR "sex transform" OR "sex transition" OR "sexual preference" OR "trans female" OR "trans male" OR "trans man" OR "trans men" OR "trans people" OR "trans person" OR "trans woman" OR "trans-sexuality" OR transgendered OR transvestite OR "women loving women") AND ("Family practice" OR "General practice" OR "Primary Care" OR "Internal Medicine" OR "Family Medicine" OR "Primary health care" OR "Primary care nursing" OR "Physician, Primary care" OR "Medical home" OR "General pediatrics" OR "Federally Qualified Health Center" OR FQHC OR "nurse practitioner" OR "Indian Health Service" OR IHS) AND (guideline OR guidelines OR guidance OR recommendations OR policy OR policies OR proposal OR practice OR strategy OR approach OR standard OR "standard of care" OR "standards of care" OR directive OR competencies OR "practice recommendation" OR "practice recommendations" OR "evidence-base" OR "evidence-based medicine" OR "evidence-based practice")

A supplemental search will be completed with the same three sections of keywords. This search will center on broader health care settings instead of narrowly focusing on primary care settings. The search strategy for the supplemental search is detailed below. This second keyword search will be limited to only abstracts and keywords, exclusively English-language results, and without restriction on date of publication.

(LGBTQ OR lesbian* OR gay OR bisexual* OR transgender* OR queer OR questioning OR genderqueer OR "gender queer" OR "gender fluid" OR "gender expansive" OR LGBTQIAA OR intersex OR asexual OR LGB OR SGM OR "sexual and gender minority" OR "sexual and gender minorities" OR "sexual minority" OR "sexual minorities" OR "gender minority" OR "gender minorities" OR SOGI OR "sexual orientation" OR "gender identity" OR "gender expression" OR homosexual* OR transsexual* OR "gender non-conforming" OR "gender nonconforming" OR non-binary OR nonbinary OR "two spirit" OR "two-spirit" OR MSM OR "men who have sex with men" OR WSW OR "women who have sex with women" OR pansexual OR demisexual OR aromantic OR ipsogender OR bicurious OR "cross sex" OR crossgender OR F2M OR "female-to-male" OR "gender change" OR "gender dysphoria" OR "gender reassign" OR "gender transform" OR "gender transition" OR GLB OR GLBQ OR GLBs OR GLBT OR GLBTQ OR heteroflexible OR LGBQ OR LGBS OR M2F OR "male-to-female" OR "same gender loving" OR "same sex attracted" OR "same sex couple" OR "same sex couples" OR "same sex relations" OR "sex change" OR "sex reassign" OR "sex reversal" OR "sex transform" OR "sex transition" OR "sexual preference" OR "trans female" OR "trans male" OR "trans man" OR "trans men" OR "trans people" OR "trans person" OR "trans woman" OR "trans-sexuality" OR transgendered OR transvestite OR "women loving women") AND ("health care" OR healthcare OR "health service*" OR "patient care management" OR "delivery of health care" OR "delivery of healthcare" OR "healthcare experience" OR "health care experience" OR "health care quality" OR "healthcare quality" OR "health communication" OR "health facilit*" OR "health personnel" OR "health workforce" OR "health service* administration" OR "health planning" OR health OR "health professional*" OR "health care provider*" OR "health worker*" OR "health administrator*" OR nurs* OR doctor* OR "allied health worker*" OR "medical practitioner*" OR "community health" OR hospital* OR "healthcare provider*" OR physician* OR "healthcare system*" OR "healthcare delivery" OR "health care delivery" OR "community health service*" OR "community health plan*" OR "personal health service*" OR "medical care" OR "health center*" OR care) AND ("cultural competenc*" OR "nurse-patient relation*" OR "communication barrier*" OR "culturally competent care" OR "culturally congruent care" OR "cultura* competen* health care" OR "cultura* competen* healthcare" OR "cross-cultural care" OR "cross cultural care" OR "cultural care" OR "quality assurance" OR "clinical skill" OR transcultural OR "transcultural nursing" OR "cultura* sensitiv*" OR "cultura* safe*" OR "cultura* securit*" OR "cultura* aware*" OR "cultura* litera*" OR "cultura* respect*" OR "cultural framework" OR inter-cultural OR "cultural difference" OR competence OR "cultural humility" OR "health knowledge, attitudes, practice" OR

cultura* OR “multicultural* divers*” OR “cultural diversity” OR “clinical competence” OR “clinical competenc*” OR “organizational change” OR “organizational competenc*” OR “strategic planning” OR “organizational innovation” OR “quality improvement” OR “structural competenc*”)