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Amplification of school-based strategies resulting from the application of the dynamic adaptation process to reduce sexual and gender minority youth suicide

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Abstract

Background: Evidence-informed practices (EIPs) are imperative to increase school safety for lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) students and their peers. Recently, the Expert Recommendations for Implementing Change (ERIC), a taxonomy of discrete implementation strategies used in health care settings, was adapted for schools. The School Implementation Strategies, Translating the ERIC Resources (SISTER) resulted in 75 discrete implementation strategies. In this article, we examine which SISTER strategies were used to implement six EIPs to reduce suicidality among LGBTQ high school students. We applied the dynamic adaptation process (DAP), a phased, data-driven implementation planning process, that accounts for adaptation while encouraging fidelity to the core elements of EIPs.

Methods: Qualitative data derived from 36 semi-structured interviews and 16 focus groups conducted with school professionals during the first of a 3-year effort to implement EIPs in 19 high schools. We undertook iterative comparative analysis of these data, mapping codes to the relevant domains in the SISTER. We then synthesized the findings by creating a descriptive matrix of the SISTER implementation strategies employed by schools.

Results: We found that 20 SISTER strategies were encouraged under the DAP, nine of which were amplified by school personnel. Nine additional SISTER strategies not specifically built into the DAP were implemented independently by school personnel, given the freedom the DAP provided, resulting in a total of 29 SISTER strategies.

Conclusion: This study offers insight into how schools select and elaborate implementation strategies. The DAP fosters freedom to expand beyond study-supported strategies. Qualitative data illuminate motives for strategy diversification, such as improving EIP fit. Qualitative methods allow for an in-depth illustration of the strategies that school personnel enacted in their efforts to

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implement the EIPs. We discuss the utility of the DAP in supporting EIP implementation to reduce disparities for LGBTQ students.

Plain language abstract: Implementation science is, in part, concerned with implementation strategies, which are actions made to bridge implementation gaps between evidence-informed practices and the contexts in which practices are to be used. Implementation experts compiled a list of strategies for promoting the use of new practices in school settings. The authors of this article examine which implementation strategies in this list were promoted by the research team and which were employed independently by school personnel. Our results illustrate how school personnel applied strategies based on the conditions and needs of their individual schools. These results will contribute to knowledge about implementation strategies and improve readiness by building in strategies implementation teams will use. The authors conducted interviews and focus groups with school personnel involved in implementing six evidence-informed practices for reducing suicidality and other negative outcomes for lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) high school students. Findings are from the end of the first year of implementation and provide a glimpse into how and why certain implementation strategies were employed by school personnel to facilitate adoption of the practices. Findings describe how they applied these strategies in communities where LGBTQ people were marginalized and where anti-LGBTQ stigma influenced policies and resulted in barriers to implementation. This article contributes to efforts to identify and tailor implementation strategies that can encourage the use of evidence-informed practices to improve the well-being of LGBTQ youth and other health disparity populations.

Keywords

Implementation science; implementation strategies; schools; LGBTQ; adolescents; suicide

Introduction

Implementation strategies are processes and techniques used to support the uptake and integration of evidence-informed practices (EIPs; Proctor et al., 2013). The current literature on implementation strategies is characterized by a proliferation across studies of different terms and definitions, thereby limiting replication (Michie et al., 2009; Proctor et al., 2013). Taxonomies of implementation strategies can help address the multifarious use of terms that hinder the ability to best translate research to practice (Powell et al., 2015). Use of taxonomies responds to the call for implementation scientists to more systematically classify and document data across studies to help progress the science of implementation (Chambers, 2018; Kirchner et al., 2018).

Implementation of EIPs in public service systems, including schools, is increasingly considered necessary to improve safety and behavioral health outcomes for marginalized youth. EIPs for human service settings, such as schools, unfold in complicated social, political, and economic contexts (Aarons et al., 2011; Hoagwood et al., 2013; Willging et al., 2015). More research is needed on implementation strategies employed in schools to implement EIPs effectively in these settings. Such research can enable us to better identify facilitators and circumnavigate barriers to the implementation of programs that have potential to reduce health disparities for a stigmatized population in school settings

(Regan et al., 2017; Waltz et al., 2019). In this article, we use an expert taxonomy of school strategies, the School Implementation Strategies, Translating the ERIC Resources (SISTER; Cook et al., 2019), to analyze the implementation strategies that teams of school personnel employed in the implementation of six EIPs with potential to reduce behavioral health disparities for lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) students.

Background

Youth who identify as LGBTQ are at elevated risk for suicide compared to their heterosexual and cisgender peers (Johns et al., 2019; Kann et al., 2018). Greater school connectedness protects against youth suicide and suicidality (Ethier et al., 2018; Johns et al., 2019). Implementation of six Centers for Disease Control and Prevention (CDC)–identified practices can enable schools to cultivate safe and supportive environments for LGBTQ youth and their peers (Brener et al., 2017). The six EIPs include (a) provision of safe spaces on campus, (b) prohibition of harassment and bullying based on sexual orientation or gender expression, (c) implementation of health education curricula with information relevant to LGBTQ youth, (d) professional development for school personnel on safe and supportive school environments, (e) facilitation of access to medical providers with experience delivering services to LGBTQ youth, and (f) facilitation of access to behavioral health providers with experience delivering services to LGBTQ youth.

National data suggested that these EIPs may have a sizable benefit for LGBTQ youth, helping to decrease their suicide behaviors and other adverse behavioral health outcomes in measurable and meaningful ways. However, as of 2018, only an estimated 15% of secondary schools in the United States implement all six EIPs (CDC, 2019). When we designed the study that is the focus of this analysis, even fewer schools (<6%) nationwide implemented all six EIPs (Demissie et al., 2013). There is a pressing public health obligation to both address the needs of LGBTQ youth in general and optimize utilization of schools as sites of implementation research that has potential to positively impact student well-being (Ethier et al., 2018; Johns et al., 2019). Our larger study aims to close this research to practice gap by employing the Exploration, Preparation, Implementation, and Sustainment (EPIS) model and the dynamic adaptation process (DAP) to guide school personnel in creating action plans that outline implementation strategies to overcome barriers and promote uptake of all six EIPs.

The parent study is a cluster randomized controlled trial to assess whether LGBTQ youth and their peers in the experimental schools report increased safety compared to control schools, and examine factors that influence implementation and outcomes at the individual, school, and community levels. For intervention outcomes and effectiveness, the study uses the New Mexico Youth Risk and Resiliency Survey, a part of the national CDC Youth Risk Behavior Surveillance System, to measure suicidality, depression, and bullying over the course of the implementation. The analysis presented in this article is from the end of the first year of the implementation of six CDC-identified EIPs in high schools (randomized into “intervention-support” and “delayed-intervention-support” conditions) in New Mexico.

Conceptual framework

The parent study employs a multifaceted implementation strategy called the Dynamic Adaptation Process (Aarons, Green, et al., 2012) to support school teams in strategizing and implementing the EIPs within the unique context of their schools. The DAP supports combining several discrete implementation strategies, such as readiness assessment, identification of champions, coaching, and ongoing feedback. The DAP affords flexibility for implementing organizations to modify and independently apply implementation strategies to help ensure that an EIP fits into the service setting and to make adaptations within this setting to better fit the EIP. Adaptation, or the process of changing a practice or method to fit the intervention context (Baumann et al., 2018), can be expected to happen during efforts to implement EIPs, as inner-context and outer-context factors shape the translation of EIPs from research to practice. Such adaptations can also threaten fidelity to the EIPs. To reduce this threat, the DAP allows for structured yet flexible implementation of EIPs. The provision of site-specific data to inform implementation is a critical component of the DAP, encouraging fit between EIPs and schools.

The DAP's conceptual framework divides implementation into four iterative phases: Exploration, Preparation, Implementation, and Sustainment. The DAP was selected to enable the operationalization of the EPIS, providing a data-driven, iterative process attentive to site-specific contexts, especially important as diverse schools were charged with implementing supports for a stigmatized population. The DAP allows for EIP adaptation in a planned way, rather than spontaneously or without consideration of fidelity. Research activities in the Exploration Phase include initial assessments of system, school professional, and student data to identify school needs, strengths, barriers, and readiness to implement the six EIPs. During the Preparation Phase, an implementation resource team (hereafter team) is established in schools assigned to the intervention-support condition. The teams review data collected during the Exploration Phase to determine (a) adaptations needed in the school context and its workforce to facilitate uptake of the EIPs and (b) how to accomplish such adaptations. In this phase, the teams create action plans to aid uptake of the EIPs. Training with adaptation support begins and continues into the Implementation Phase, when the teams enact their action plans. Per Figure 1, adaptation is integrated into training, with attention to (a) why and what one might adapt, (b) what one might not adapt, (c) when to seek guidance on adaptation, and (d) how to use the teams for implementation support and guidance (Aarons, Green, et al., 2012).

Methods

Study overview

Data for this article are drawn from the ongoing parent study that uses the DAP to empower specially trained champions and implementation resource teams to employ and sustain the six CDC-identified EIPs to address the needs of LGBTQ youth in New Mexico schools. The researchers annually evaluate the implementation process through surveys and semi-structured interviews with administrators and champions at both experimental and delayed-intervention schools, and small-group interviews with the implementation teams at the experimental schools (Willging et al., 2016).

All study procedures involving human participants were approved and implemented in accordance with the ethical standards of the Pacific Institute for Research and Evaluation (PIRE) Institutional Review Board (IRBNet ID # 787984–3). Informed written consent was obtained from all participants.

Study context

This study is set in the rural and culturally rich, yet also impoverished and medically underserved, state of New Mexico. Suicide rates are nearly twice the national rate. All but three counties are medically underserved (Health Resources and Services Administration, 2020). Hispanic and American Indian people comprise 60.3% of the population (U.S. Census Bureau, 2019) and, like LGBTQ people, are disparately affected by poverty, suicide, and unstable housing (New Mexico Department of Health, 2018).

The 2017 Youth Risk and Resiliency Survey data found that 55% of LGBTQ youth in New Mexico reported feeling sad or hopeless in the last 12 months and 29% had been bullied on school property. Regarding LGBTQ youth and suicide, 36% considered attempting suicide, 32% had a plan for it, and 24% attempted suicide. Of the schools in New Mexico, 46% offered an inclusive health curricula, 70% offered safe spaces and 33% had a Genders and Sexualities Alliance (GSA), 91% had policy prohibiting bullying/harassment on the basis of sex/gender, 60% had professional development on safe and supportive schools, 58% offered health services, and 64% offered behavioral health services. Seventeen percent of schools claimed to implement all six CDC-identified EIPs (Brener et al., 2017, p. 174).

Sample

Participants in individual and small-group interviews were recruited from the parent study. We identified school administrators and possible implementation resource team leads from public high schools between August 2016 and April 2017 with the assistance of state agencies and community intermediary organizations. These individuals were contacted by phone or email by the researchers and invited to take part in meetings at their school in which we would present the study and invite their participation. The administrators and leads who affirmed their participation were then enrolled into the study, agreeing to take part in a semi-structured interview on an annual basis. Leads were charged with recruiting team members willing to support the implementation of the six EIPs. Once team members were identified, we reached out to these individuals by email or phone to formally enroll them into the study. All study participants were recruited to participate in interviews and small-group interviews and all agreed to take part.

For this analysis, 36 administrators and leads participated in individual interviews from each school. Sixteen teams were invited to participate in a small-group interview; 43 team members in total participated. Among all invited interviewees, only three administrators declined or were unable to take part. We separated administrators and nurses from one another for interviews and from implementation resource teams to ensure participants felt comfortable to speak freely without repercussion. The small-group interview format for implementation teams was chosen to obtain information from the group about what it was like to engage in the DAP process, which itself was a collective undertaking.

The team leads, including school nurses, counselors, social workers, and teachers, were conceptualized as champions charged with recruiting and convening the teams and promoting implementation of the six EIPs in their schools (Shattuck et al., 2020). Although the composition of the teams varied across schools, they generally consisted of teachers, administrators, and other school personnel, students, and community members who were willing to support the efforts to improve school environments for LGBTQ students. Table 1 portrays demographics of the sample.

Qualitative data collection

Data derived from semi-structured interviews with school administrators and implementation resource team leads, and small-group interviews with the remaining four to six team members. Two authors (D.G.S. and L.M.G.) conducted the individual and small-group interviews over 2 months in 2018, utilizing discussion guides that covered a range of topics to cover the full scope of the research project, informed by the EPIS, to assess factors bearing upon implementation of the EIPs, including attitudes toward EIP implementation, perceived successes and challenges of EIP implementation, and strategies used to improve implementation. Questions included the following: “What factors did the team consider when selecting which EIPs to work?”; “Can you tell me about the key accomplishments of the IRT this past year?”; “To what extent has the IRT stuck to the action plans that it developed this past year to implement EIPs at this school?” Interviews were about 1 hour in length and small-group interviews were about 90 minutes.

Analysis

All interviews were digitally recorded, professionally transcribed, and checked for accuracy by at least one author. We employed an iterative process to review the textual data, using Dedoose (2018), a qualitative data analysis application, to facilitate this work. Analyses of these data were informed by SISTER, a list of 75 implementation strategies relevant for schools adapted from the comprehensive Expert Recommendations for Implementing Change (ERIC) taxonomy of strategies. The ERIC reflects the first comprehensive attempt to develop a taxonomy of implementation strategies (Powell et al., 2015). This taxonomy identifies 73 discrete or single-component implementation strategies used in health care settings to facilitate adoption of an intervention. Recently, the ERIC was adapted to describe strategies pertinent to schools. The SISTER resulted in 75 implementation strategies relevant to schools making a change or adopting a new practice (Cook et al., 2019). Both taxonomies were compiled through a modified Delphi method and concept mapping to produce a consensus among implementation science experts. The SISTER recognizes the unique barriers affecting EIP implementation in schools, such as policies and organizational constraints (Cook et al., 2019). The SISTER, as an analytic device, helps classify, track, and monitor implementation strategies utilized by the school personnel (Cook et al., 2019). The SISTER had yet to be published at the time the data for our study were collected; however, through SISTER, we may label a diverse set of phenomena using universal language as well as offer nuance where strategies were used to achieve different functions.

Two authors (L.M.G. and C.A.V.) undertook iterative comparative analysis, mapping codes to the relevant domains in SISTER and identifying new codes not referenced in this

compilation. In addition, the authors created a descriptive matrix to synthesize findings in relation to SISTER that the teams applied in their schools, and those that teams elaborated upon or spearheaded on their own. In this staged approach to analysis, both authors coded the transcripts, created detailed memos that described and synthesized codes, and then shared their work with one another for review. Through the process of constantly comparing and contrasting their independent coding (Corbin & Strauss, 2008; Glaser & Strauss, 1967), they grouped together codes with similar content or meaning into SISTER presented below. The final list of codes and categories was reviewed, critiqued, and then revised through a consensus of the remaining authors.

Results

Empowered by the DAP, the implementation resource teams employed 20 SISTER strategies, while amplifying nine of those strategies. Nine additional strategies were implemented independently by the teams, resulting in a total of 29 SISTER strategies. In the spirit of the call to specify language and descriptions for the maturation of implementation science, we delineate which SISTER strategies were used and how, and provide an implementation narrative following the EPIS phases with the strategies italicized for identification purposes. The first section elucidates the strategies that the DAP supported and identifies how teams expanded upon nine of the supported strategies. The second section describes the strategies that the teams utilized on their own accord. While the following prose illustrates how strategies were operationalized in practice, we highlight the distinction in Tables 2 and 3 between strategies built into DAP and those elaborated upon by the implementation resource teams (IRTs) in an effort to illustrate the multiple ways these discrete implementation strategies were used in different contexts and for different means. Namely, the same action might be considered for different ends; qualitative data bring out this nuance.

SISTER strategies supported by the DAP and elaborated by implementation resource teams

During the Exploration Phase, prior to the onset of EIP implementation in schools, researchers *assessed for readiness and identified barriers and facilitators* by collecting baseline data at the school, school professional, and student levels. These data enabled researchers to assess school needs, strengths, barriers, and readiness to implement the EIPs in the Preparation Phase. In addition, team leads were identified and the teams convened subsequently in the implementation-support schools during this phase.

The researchers created an implementation-support system to facilitate two-way communication between the school-based teams and researchers during the Preparation Phase. The study *used advisory boards and workgroups* as a pivotal component of this support system, in the form of a Community Advisory Board. The Community Advisory Board membership included local school health professionals, educators, state officials, and representatives of intermediary organizations specializing in LGBTQ advocacy and technical assistance. This group vetted data collection materials and trainings prepared for teams and general school staff, interpreted the meaning and significance of key research findings,

provided resources to schools, and broke into smaller *workgroups* with the researchers, contributing to written reports and analyses, conducting targeted technical assistance, and translating state-level policy and legislation to the EIPs, such as bullying, for localized use in schools.

Baseline results were included in School Feedback Reports distributed to the newly formed implementation resource teams during their initial meetings in the Preparation Phase to prompt *local consensus discussions* to plan EIP implementation. In addition, the teams were built into the DAP design to *create a professional learning collaborative* in each school to assess, strategize, and plan actions to support EIP implementation that its members would undertake during the Implementation Phase. The teams favored highly flexible structures, and membership often shifted depending on the specific EIPs they aimed to implement. At any time, a team might bring in others within the school community to tap into expertise it lacked and to forge local connections that might aid implementation (e.g., health teacher for inclusive health education, grounds administrator for a gender-neutral restroom). Throughout the Implementation Phase, research staff undertook mixed-method data collection to monitor implementation progress of schools. The results provided researchers, coaches, and external intermediaries with insight into resources required by schools and changes schools initiated to best implement EIPs. Results were shared with teams at an annual summer conference, or training institute, to facilitate their own planning. This strategy to *audit and provide feedback* then enabled teams to evaluate their implementation efforts and *tailor strategies* accordingly.

Given the parent study goal of encouraging implementation of the six EIPs in diverse school settings across the state, the researchers consciously incorporated several strategies into the implementation-support system as a way to support and guide implementation while allowing teams to *test-drive and select practices* (in this case, the EIPs). The implementation resource teams then chose the order in which they would implement specific EIPs and how they would implement them within their schools. To tailor their efforts, some teams took the additional step of collecting their own data. For example, prior to posting Safe Zone posters in hallways, the members of one team created and distributed its own survey to better understand how their colleagues and students might perceive these signs and the purpose behind establishing Safe Zones.

As noted above, researchers identified team leads at each school during the Preparation Phase, who were then *designated and trained for leadership* with the purpose of facilitating team planning and delegation of tasks. These leads interfaced with school administration when necessary. The study allowed for a wide range of school professionals to volunteer for this role, and included school nurses, social workers, counselors, teachers, and librarians who might already support LGBTQ students and/or suicide prevention efforts. These individuals were given leadership training and LGBTQ-specific education during the annual summer conference. Ongoing trainings in EIP-specific topics were provided throughout the academic year. Initially identified as *champions* by the researchers, leads were responsible for *building partnerships to support implementation* in the schools by recruiting team members and engaging in short presentations on the importance of reducing risks for LGBTQ adolescent suicide in schools to encourage their colleagues to join. All the team

leads were intentional in reaching out to leadership at their schools and colleagues who had expressed personal interest in advocating on behalf of LGBTQ students. However, once the teams were established, the members worked together to develop their own recruitment processes.

Although the *development of an academic partnership* between the researchers and schools undergirded the DAP, a few implementation resource teams reached out to community experts to further support their efforts to implement the EIPs. For example, one team invited community members from a university-based LGBTQ resource center to speak at the school and another team involved a graduate student who identified as LGBTQ in a support capacity as part of their studies, with one team member noting, "We need to have adults that openly identify as trans or LGBTQ within our schools."

In order to *provide ongoing consultation/coaching*, schools were each assigned a coach, a trained expert in the EIPs with experience in schools. Coaches *conducted educational outreach visits* during the Implementation Phase, in support of team efforts to implement the EIPs, and *monitored the progress of the implementation effort* through quarterly fidelity monitoring at each school. The coaches consulted with teams to negotiate factors affecting implementation either in the planning stages or in unexpected situations requiring immediate *facilitation/ problem-solving*, such as discomfort among school personnel in talking about LGBTQ issues. The coaches delivered in-person technical assistance (TA) and training, emailed with teams, and communicated over the phone about the study to reduce LGBTQ adolescent suicide, the EIPs, and provided talking points for teams to use with resistant colleagues, especially in socially conservative schools. A couple of teams, for example, in consultation with their coach, emphasized the suicide prevention aspect of the initiative to try to reach colleagues who were uncomfortable broaching LGBTQ issues. Coaches were also meant to impart skills in fidelity monitoring to others in the third year of implementation, so that the teams would be positioned to assume responsibility for this task and track progress into the Sustainment Phase. The coaches provided a sounding board for the teams in designing action plans, focusing their attention on EIP components that teams might wish to prioritize, and helping them address their feasibility concerns. The coaches role-modeled best practices that teams might need to engage their colleagues in implementation efforts, and to brainstorm solutions to emergent challenges experienced by teams. The teams were also supported by their coaches in reaching out to administrators at schools, the researchers, and external intermediaries (e.g., technical assistance providers) as part of this effort.

Coaches and teams reviewed the School Feedback Reports and then completed a school self-assessment detailing the key components of each of EIP during the Preparation Phase. The teams and coaches identified which components were already in place at the schools, which were absent, and which the teams might explore further. This assessment was designed to be updated biannually to monitor progress and assist in *developing a detailed implementation plan or blueprint*. These blueprints, or action plans, created by all teams in collaboration with their coach guided implementation. Plans were created, updated, and re-created as often as necessary for each individual team, as part of the ongoing iterative process of assessing, planning, and implementing supported by the coach. In this process, teams partnered

with coaches to utilize data from School Feedback Reports, conduct self-assessments, and evaluate the school environments, to prioritize which EIPs to implement or build upon, while tailoring efforts to fit their schools.

The DAP *promoted adaptability* for strategies to map onto implementation contexts, address the needs of schools, and leverage local knowledge and capacities. While coaches helped teams adapt and maintain fidelity to the EIPs, teams modified them to fit the cultural and organizational parameters of their school (e.g., time constraints, level and type of administrative support). For example, one team enhanced the EIP related to safe spaces, organizing a poster contest to designate Safe Zones rather than order stock posters. This contest generated much enthusiasm among the student body. A second team shared their efforts to avoid using "you guys" to refer to all students, in a different effort to nurture safe spaces. Another team based in a school with a large Native American population adapted available LGBTQ-inclusive health curricula content to ensure its cultural relevancy to the student body and improve the prospects that it would be used.

While it is part of the DAP to *organize school personnel implementation team meetings* so they can plan and carry out actions, only four teams benefited from specifically protected time during the workday following the strategy definition in SISTER. Most members met during their free time, often after the end of the school day. They expressed a commonplace desire for explicit support from administrators, particularly in terms of allocating time for professional development on LGBTQ issues and suicide prevention, implementation resources, and permission to distribute materials (e.g., GSA posters, per the safe spaces EIP) within school communities. Because of time constraints that the district, rather than the school, imposed on professional development, one team was able to negotiate before-school training events for personnel that would not interfere with the school day to achieve the professional development EIP on safe and supportive school environments.

Researchers *conducted ongoing training* annually with teams. This familiarized trainees with the DAP and processes of adaptation, while building knowledge and skills in youth suicide prevention, working with LGBTQ populations, and promoting school safety. *Dynamic trainings* were provided to teams in a wide range of formats, including online webinars, documentaries, individual consultation with coaches or external intermediaries, and interactive in-person and group-oriented training events. Furthermore, education was delivered to both teams and general school personnel via external technical assistance providers identified by the Community Advisory Board and through the dissemination of "guidance documents," or brief reports that offered teams tips and talking points specific to sensitive topics, such as using gender-neutral language in classrooms, supporting transgender and gender-expansive students, or vetting the LGBTQ competency of local health and behavioral health professionals. Four teams also strove to vary their training methods, delivering information to their school communities through staff-led professional development trainings, invited guest speakers, and class-based screenings of the award-winning educational film, *I Am Me*. Produced by the state government, this video showcased the voices of LGBTQ youth to illuminate what it was like to be a sexual or gender minority within New Mexico. The teams engaged in guided discussion with their colleagues and students after the film had been viewed collectively to reinforce its messages

and to respond to questions and concerns. The teams also shared relevant webinars produced by the researchers as well as YouTube videos they had located themselves, engaging in small-group discussions with colleagues and students about the content. For example, one team shared how it invited the school's three health teachers to listen to the GSA's advice for more inclusive health education, and some GSA members spoke to the health classes after they watched *I Am Me*.

Strategies the implementation resource teams enacted independently

While all of the strategies are in some way a result of applying the DAP because of the emphasis on adaptation to local context, the following strategies were independently implemented by the implementation resource teams, given the freedom that the DAP enabled (see Table 4). These were strategies included in SISTER that teams found useful given the context of their schools.

Seven teams collaborated with their school administrators to *change ethical and professional standards of conduct*. The teams sought to instill professional standards centered on utilizing LGBTQ-appropriate terminology, best practices for supporting LGBTQ students, and becoming and remaining aware of LGBTQ-specific resources available to schools and the community. The members reported that their involvement in the implementation resource team represented an ethical responsibility that reinforced "a sense of pride" that they were "doing something good" by transforming schools into "safe havens" for students in need, empowering LGBTQ youth and their peers, and making it clear to their coworkers that they had roles to play in this endeavor. The teams sought to communicate such standards in a variety of ways, including messaging to school personnel that implementation of the EIPs was expected and encouraging them to support the changes teams were leading. The rationale for making such expectations clear was to ensure that the "few staff members that are grumblers" would not derail the work of the teams while conveying the sentiment that school leadership was fully onboard with efforts to increase school safety and support for LGBTQ students.

The teams *conducted educational meetings* on a range of topics, including terminology and language usage (e.g., asking about pronouns). Meetings were often informal, conducted on a one-on-one basis with colleagues. They also distributed invitations to other school staff to learn more about what was occurring in terms of EIP implementation. The teams emphasized the need to be flexible in scheduling such meetings given the time constraints under which teachers, school health professionals, and other staff operated. When possible, teams would squeeze in a screening of a webinar or relevant video to heighten awareness of issues impacting LGBTQ student well-being. By engaging in such activities, teams also made it clear that school personnel could come to any member individually for consultation. For example, when a teacher was unsure whether to refer to a student who was not out to their family with their chosen pronouns during a parent–teacher conference, the teacher consulted with a team member.

The teams *created new practice teams*, bringing in additional members when necessary to best support implementation. Pressures external to teams also led to transitions in the team, including heavy workloads and high rates of turnover among school personnel generally.

Decisions to recruit additional members were also due to the need to incorporate new skills or knowledge into the team, particularly knowledge regarding health education curricula per the EIPs and suicide prevention per an increasing recognized need throughout the state. Two teams identified Safe Zone representatives at their schools to become members.

The team leads assumed the responsibility of *identifying early adopters*. They used various methods, including reaching out to known LGBTQ allies, circulating invitations through mass email, and identifying change agents in the school who could then recruit others to participate. The leads reached out to staff with whom they knew students felt comfortable, people who expressed personal interest, individuals who self-identified as part of the LGBTQ community, and other people the lead felt had favorable characteristics (age, innate personality, grade level). One lead described this process: "I picked some of the staff that I knew cared about the safe-being of the students … I already know what staff members are willing to go above and beyond to help me with these topics." Similarly, teams worked to *improve implementers' buy-in*, engaging their colleagues through informal discussions and professional development, as described above. A team member at one school described efforts to involve coworkers by making and distributing "Be an ally" buttons after a staff viewing of *I Am Me*. Members of other teams described more informal efforts, including approaching individuals, for example, to designate their classrooms as safe spaces.

Some teams made considerable efforts to *involve students, family members, and other staff*; others paired their outreach efforts with aims to *obtain and use student and family feedback.* A lead spoke of aligning team efforts with what students wanted: "They added the student's perspective on the issues we were talking about which was very helpful to get us more going in the right direction with issues." These teams also reached out to parents/caregivers to watch *I Am Me* and participate in trainings. In this vein, a lead expressed a desire to reach out to caregivers to organize family events, so that they may be included in the interventions. Members of teams reportedly received equal favorable and unfavorable parent responses to their initiatives, depending on the local context (e.g., level of LGBTQ support or prejudice in the community).

While overall administrative leadership support varied, some administrators buoyed the initiative with a *mandate for change*, requiring staff attendance at professional development events such as "LGBTQ 101" and including new bullying and harassment language in student handbooks. One team lead described an assistant principal serving as the primary communication between the team and the rest of the administration in order to, as she stated, "Put things into play." A different lead said that their school's administration facilitated a meeting with the instructional team to incorporate health education curricula relevant to LGBTQ youth. This person perceived the school's administration to be grateful for steps the team was taking to address bullying.

Some teams assumed the task of *reminding school personnel* to prompt them to participate in the new practices, and results were mixed. Members of one team attempted repeatedly to communicate with their administrator who promised to watch *I Am Me* but never received a response. The teams took it upon themselves to serve as the primary reminder system about their initiatives, posting signs for designated Safe Zones and flyers for GSA clubs. Members

of one team described putting up LGBTQ+ affirmative posters on the Day of Kindness celebrated at school to inspire acts of kindness.

Discussion

This study affords insight into ways that implementation resource teams combined multiple implementation strategies to enable adoption and uptake of EIPs intended to enhance behavioral health for a marginalized population at school. Selecting implementation strategies for behavioral health interventions is complicated and comes with little instruction (Powell et al., 2017), especially as they relate to marginalized populations. This analysis describes implementation strategies that school personnel found useful to address LGBTQ adolescent suicide, contributing to the call to more systematically address health care inequities in implementation science (Woodward et al., 2020). The implementers in our analysis were involved in culturally aligning the strategies to their school in their efforts to integrate the EIPs.

Adaptation of EIPs is a clear concern of implementation science (Aarons, Miller, et al., 2012; Chambers & Norton, 2016). The DAP fostered freedom to contextualize study-supported strategies within schools and amplify or make changes that local stakeholders perceived favorable to implementation and sustainment. Although several strategies were employed based on the DAP, schools not only modified those strategies to best fit their school but advanced new strategies to support their work. The DAP kept the implementation people-centered and maximized local fit and the acceptability of the EIPs in the service setting.

This study indicates that single-component implementation strategies are likely to be insufficient in promoting use of the CDC-identified EIPs. Rather, the teams combined and built on discrete implementation strategies as part of their general practice and in unique ways based on local school contexts. For example, in the case of improving buy-in among school personnel, teams often leveraged multiple strategies to support this effort, including educational meetings and professional development. The same actions taken by teams could meet the intended goals of more than one implementation strategy. Thus, it was sometimes not possible to categorize the strategies in discrete terms. Qualitative data illuminated for what ends teams used the strategies. Without these data, it may not have been clear, for example, that showing the *I Am Me* film to staff constituted a professional development strategy, while screening the same film with parents and guardians provided an avenue to involve families in the implementation effort and invite their feedback. We can more accurately observe how strategies and activities align. Moreover, we can better determine how the strategies fit together theoretically, meaning that in practice, for example, outreach to families often entails inviting feedback from families as well, or how professional development among school personnel may improve their buy-in for the EIPs. This finding adds important nuance to the argument for a uniform language and shared definitions of implementation strategies, by demonstrating that goals and justifications for strategy selection are not uniform (Powell et al., 2015).

These points are critical to make when evaluating EIP implementation to enhance support for communities of people facing stigma and discrimination, such as LGBTQ youth. Stigma based on gender, sexuality, race/ethnicity, or socioeconomic difference influences policies and creates inequities that can affect implementation of EIPs and implementation strategies. The teams in this study were applying strategies often in socially conservative communities where LGBTQ marginalization was prominent (Green et al., 2018). Yet, EIPs for culturally diverse health disparity populations, including sexual and gender minorities of Native American or Latinx heritage, are lacking. Chinman et al. (2017) advocate for studies to expand their focus on exploring the underlying mechanisms to disparities in order to improve development of interventions that address the disparities. They argue that researchers of health disparities can select and tailor from implementation strategies taxonomies such as SISTER to promote consistency across disparities research. Our study shows that we can identify and tailor context-specific implementation strategies that enable organizations and people to address inequities perpetuated by larger order systems.

Next steps include examining how the strategies expand or change over the process of implementation and sustainment (Chambers, 2018). In addition, it is important to examine which strategies ultimately support or do not support successful implementation, the impact of the order of strategy implementation, and how strategies work synergistically with one another.

We found that the ways in which teams independently applied strategies often aligned with SISTER. Researchers might consider planning for adaptation via the DAP and educating teams about the range of strategies they may deploy. Adding in strategies like those the teams developed might improve efficiency of implementation by accounting for those ahead of time. Our data underscore that we must account for what teams could possibly need beyond the flexibility afforded through the DAP. The DAP provides a mechanism to carry out the EIPs by tailoring implementation strategies to new contexts, prompting close attention to strategies that are utilized, while encouraging refinement to account for what teams may need in the future.

We also suggest that familiarizing school personnel with SISTER early on may help determine expeditiously which strategies might be most advantageous to adopt. This study underscores the need to document strategies to further understanding of how to promote implementation success in diverse contexts. For the delayed implementation-support schools in this study and future iterations of the parent study, provision of SISTER may be embedded as part of the DAP in the Preparation Phase and revisited over time as challenges arise.

Limitations

The study was based on the implementation of the six CDC EIPs. However, we believe our findings may apply to the implementation of other EIPs in education systems, especially interventions meant to reduce disparities in schools (e.g., restorative justice programs, LGBTQ-specific), as innovations that support stigmatized populations may call for similar approaches.

These qualitative findings are drawn from individual and small-group interviews conducted after the first year of implementation in high schools located within a single state, which therefore limits their generalizability. We anticipate that strategies will change as implementation progresses and is ultimately sustained. For example, some SISTER strategies, such as *capture and share local knowledge*, will likely materialize over the course of the implementation. *Intervene/communicate with students, families, and other staff to enhance uptake and fidelity* may also appear as implementation progresses. While we were able to do some modest quantification at the school level, we were not able to systematically count frequency with which each strategy was used within and across different schools. Bunger et al. (2017) examined the use of monthly activity logs that document strategies over Implementation Phase; this approach may be useful for phased interventions to capture the detail of who is implementing what strategy for what means, and helps identify the optimum time to operationalize a strategy. Finally, our findings are from an ongoing study that does not yet have outcomes on whether one strategy was more effective than another. However, future examination may provide insight into which strategies were more effective in different contexts.

Conclusion

This article provides an analysis of implementation strategies used by education systems to implement suicide prevention innovations for LGBTQ youth. Successful implementation requires planning and attention to local contexts. Thoughtful application of implementation strategies will result in successful implementation. The use of a flexible multifaceted implementation strategy such as the DAP that can be tailored to the needs of individual settings allowed our schools to select, refine, and employ the discrete strategies that worked for them while also benefiting from an empirically developed overall strategy. The DAP affords structure to keep teams on track during implementation and flexibility in allowing them to implement in ways that work best for their schools. In addition, empowering the people who will implement the EIP to participate in strategizing implementation for their school context can support buy-in and fit.

This article contributes to implementation science, providing a usable list of strategies for schools to use to address behavioral health disparities. With technical assistance and support in the form of coaching built into the study as part of the DAP, and regular communication between the community and researchers, school personnel were free to select and implement strategies that they perceived to best fit their school context. Findings from this study may be a launching pad for exploring how the use of strategies to address equity issues functions in practice.

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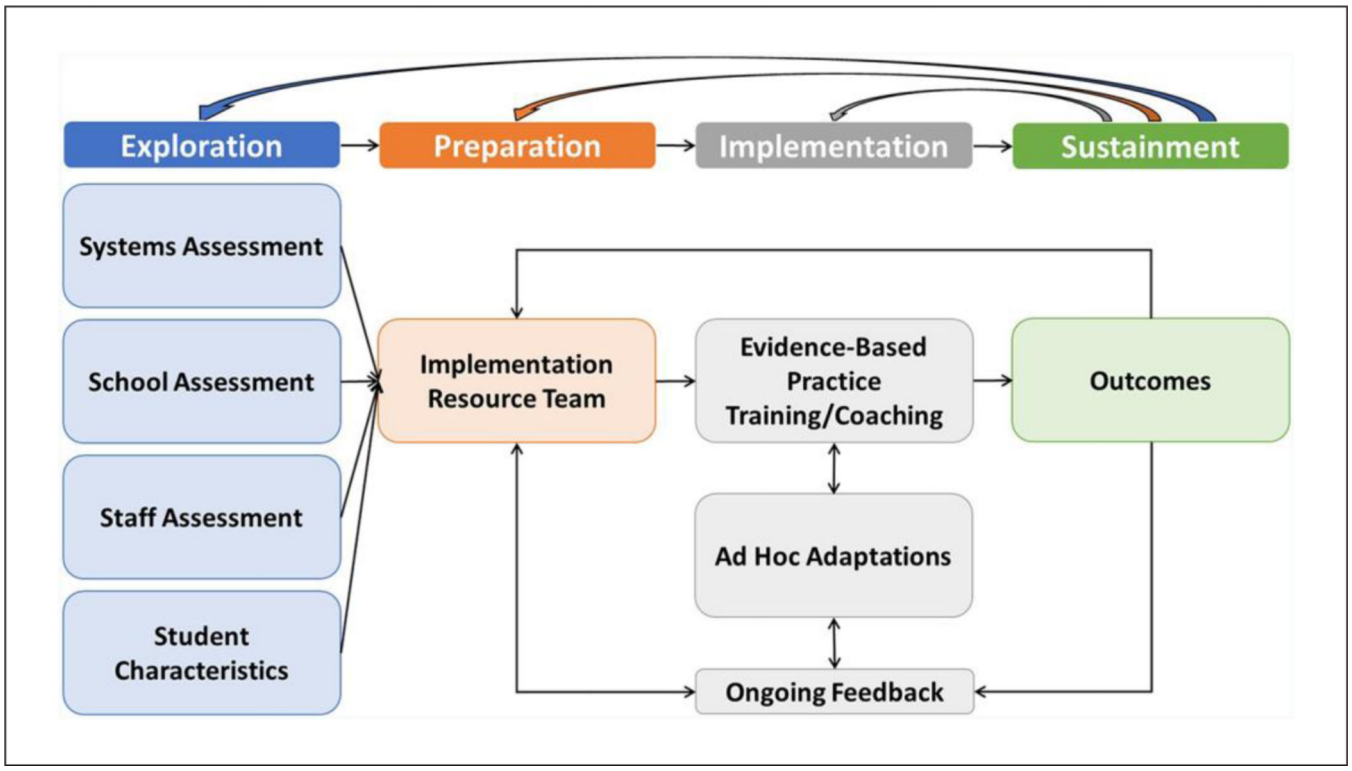

Figure 1.
Dynamic adaptation process to support strategy implementation per the Exploration, Preparation, Implementation, and Sustainment framework (Aarons, Green, et al., 2012).

Table 1.

Demographic sample.

Distribution	%
Distribution of race (select all that apply)	
American Indian	12.35
African American	7.41
Middle Eastern	1.23
Native Hawaiian	0.00
Asian	1.23
White	69.14
Other	17.28
Distribution of Hispanic	37.04
Distribution of current gender identity	
Male	18.52
Female	76.54
Trans man	1.23
Trans woman	1.23
Gender queer/gender non-conforming	1.23
Other	0.00
Prefer not to say	1.23
Distribution of sexual orientation (select all that apply)	
Bisexual	4.94
Heterosexual	79.01
Gay/lesbian	9.88
Queer	2.47
Questioning	1.23
Other	0.00
Prefer not to say	4.94

Table 2.

Dynamic adaptation process–driven SISTER strategies (n = 11).

SISTER domain (Cook et al., 2019)	DAP driven	EPIS phase
Assess for readiness and identify barriers and facilitators Assess various aspects of the school context to determine the degree to which it and the school personnel within it are ready to implement, barriers that may impede implementation, and strengths or facilitators (such as coaches, professional learning communities, whole staff training) that can be used/ leveraged in the implementation effort	• Semi-structured interviews conducted with administrators, nurses, and individuals randomly selected from teams during the Exploration Phase in all study schools • Survey administered among administrators and team leads to measure EIP readiness, organizational climate and culture, and work attitudes in all study schools • Summaries of these data distributed to teams and to the implementation team (e.g., coaches) for action planning purposes	Exploration, Preparation
Audit and provide feedback Collect and summarize data regarding implementation of the new program or practice over a specified time period and give it to administrators and school personnel to monitor, evaluate, and support implementer behavior	• School assessments provided during the Implementation Phase to teams to plan their particular implementation, using the data summaries that described key facilitators and barriers • Teams furnished with school-level findings from the Youth Risk and Resiliency Survey	Preparation, Implementation
Conduct educational outreach visits Have a trained person (i.e., person who has developed the intervention, received certified training in the practice, and/or extensive experience implementing the practice) meet with school personnel in their practice settings to educate them about new practices with the intent of changing the school personnel's practice	• Teams assigned and met regularly with coaches to support implementation • Coaches selected based on experience with school health, community health, and LGBTQ advocacy	Implementation
Conduct local consensus discussions Include local teachers, staff, and other stakeholders in discussions that address whether the identified problem/need is important and whether the new practices to address the identified problem are appropriate	• Researchers encouraged teams to undertake school assessments using local data to help teams action plan for school context • Researchers met with teams, and separately with Community Advisory Board (CAB) members, to discuss utility of findings and support needed	Preparation, Implementation
Conduct ongoing training Plan for and conduct training in new practices in an ongoing way	• Researchers offered yearly trainings, one-on-one with third-party facilitators (e.g., LGBTQ 101), and webinars • Training specifically included and supported staff-led and GSA-led initiatives (e.g., suicide prevention and bullying)	Preparation, Implementation, Sustainment
Create a professional learning collaborative Facilitate the formation of groups of school personnel within or between school systems to foster a collaborative learning environment to improve implementation of new practices	• Researchers built teams into the DAP design • Team members collaborated with coworkers to improve implementation • Team activities included conducting student engagement (e.g., poster contests), encouraging staff to attend trainings, and promoting participation overall in the initiative	Sustainment Preparation, Implementation
Monitor the progress of the implementation effort Monitor the progress of key implementation outcomes (fidelity, reach of the intervention, acceptability) and adjust practices and implementation strategies as needed to continuously improve the quality of delivery	• School assessments reviewed and updated at the beginning and end of the school year • Annual data collection (semi-structured interviews, survey) to track change and inform strategy implementation at schools	Implementation
Provide ongoing consultation/coaching Provide ongoing consultation/coaching with one or more experts in the strategies used to support implementing new practices	• Teams received ongoing coaching per the DAP • Coaches checked in with teams through email, phone, and in-person meetings	Implementation
Recruit, designate, and train for leadership Recruit, designate, and train leaders for the change effort so they can effectively engage in leadership behaviors that support others to adopt and deliver the new practice	• Training centered on leadership behavior to support EIP implementation and adaptation provided as part of the DAP • Trained leaders engaged with Safe Zone representatives, committee members, student leaders (GSA), and parents/ caregivers	Preparation
Tailor strategies Tailor the implementation strategies to address barriers and leverage facilitators that were identified through earlier data collection	• Coaches worked with schools to use initial readiness and ongoing assessment data to tailor strategies to schools • Coaches provided support, focusing on ways to encourage community/family involvement and address blind spots	Preparation, Implementation

SISTER domain (Cook et al., 2019)	DAP driven	EPIS phase
	• School staff requested assistance from coaches to facilitate education and leverage research resources. One coach helped a team send out their own school survey to tailor strategies	
Use advisory boards and workgroups Create and engage a formal group of multiple kinds of stakeholders to provide input and advice on implementation efforts and to elicit recommendations for improvements	• A CAB was integrated into the community-driven research design. The CAB consisted of local educators, state officials, and representatives of intermediary organizations • CAB members interpreted and provided input into research findings and advised on implementation efforts	Preparation, Implementation, Sustainment

SISTER: School Implementation Strategies, Translating the ERIC Resources; ERIC: Expert Recommendations for Implementing Change; DAP: dynamic adaptation process; EPIS: Exploration, Preparation, Implementation, and Sustainment; EIP: evidence-informed practice; LGBTQ: lesbian, gay, bisexual, transgender, and queer or questioning; GSA: Genders and Sexualities Alliance.

Table 3.

DAP-driven SISTER strategies that implementation resource teams amplified (n = 9).

SISTER domain (Cook et al., 2019)	DAP driven	Team elaborated	EPIS phase
Build partnerships (i.e., coalitions) to support implementation Recruit and cultivate relationships with partners external and/or internal to the school who help facilitate the implementation effort	•Teams constructed with a lead and two to six additional school staff and, in some cases, parents/ caregivers and students •Teams were charged with supporting implementation, interpreting data, and addressing adaptation as part of the implementation process	• Leads recruited their teams, and teams decided their process to implement EIPs in the context of their schools (19 schools)	Implementation
Develop academic partnerships Partner with a university or academic unit for the purposes of shared training and bringing research skills to an implementation project	•Academic partners (i.e., researchers) provided training and technical assistance, and convened an annual training institute in which team leads come together to share and learn	•Teams reached out to university-based LGBTQ resource center and a graduate school intern for support, and investigated independently health curricula (three schools)	Preparation, Implementation
Develop a detailed implementation plan or blueprint Develop a detailed implementation plan or blueprint that includes the intended goals/ outcomes to be achieved via the implementation effort as well as the process and strategies that will be used to achieve those goals. The blueprint should include (a) aim/purpose of the implementation, (b) scope of the change, (c) goals/outcomes to be achieved, (d) time frame and milestones, (e) appropriate performance/progress measures, and (f) specific strategies that will be used to attain goals/outcomes. Use and update these plans to guide the implementation effort over time	•Researchers circulated study timeline with milestones, accomplishments, and goals for next phases •Teams completed webinars about the DAP, research aims, scope of change, outcomes, time frames, measurements, and the six EIPs •Initial blueprint called for the implementation of two EIPs annually	•Teams re-evaluated their plans in the context of their schools and made changes with their coach's support (19 schools)	Preparation, Implementation
Facilitation/problem-solving A process of interactive problem-solving and support that occurs in a context of a recognized need for improvement in the implementation of a specific practice and a non-evaluative but informative and supportive interpersonal relationship	•Coaches provided technical assistance, supported use of inclusive terminology, served as a liaison between teams and administrators, and generated ideas for implementation improvement	•Teams problem solved with coaches, one another, administrators, the researchers, and community members to improve implementation (19 schools)	Implementation, Sustainment
Identify and prepare champions Identify and prepare individuals who dedicate themselves to supporting, marketing, and driving through an implementation, overcoming indifference or resistance that the intervention may provoke in a school or district	•Researchers selected initially school nurses (in their role as student health advocates) to be team leads	•Some leads transitioned to people in different roles, depending on local context and needs of the school (nine schools)	Preparation, Implementation
Make training dynamic Vary the information delivery methods to cater to different learning styles, structures for professional development, and shape the training in new practices to be interactive	•Research-led trainings included webinars, expert-led experiential learning activities, and didactic/ PowerPoint content with discussion •Researchers invited third-party experts to lead some trainings	•Team-led methods included professional development, guest lectures, and classroom activities (four schools)	Preparation, Implementation
Organize school personnel implementation team meetings Develop and support teams of school personnel who are implementing new practices and give them protected time to reflect on the implementation effort, share lessons learned, and support one another's learning	•Teams built into the DAP as a strategy for teams to receive peer support, share lessons learned, and reflect on the implementation effort	•Some teams received protected time from school administrators to meet; others donated their free time (four schools)	Implementation
Promote adaptability Identify the ways a new practice can be tailored or adapted to best fit with the school/classroom context, meet local needs, and clarify which elements of the new practice must be maintained to preserve fidelity	•The DAP allowed for adaptations to meet local needs •Coaches helped teams adapt while encouraging fidelity to the EIPs	•Teams focused on cultural relevance, modified to fit school contexts, extended some strategies (e.g., Safe Zone poster contest; three schools)	Preparation, Implementation, Sustainment

SISTER domain (Cook et al., 2019)	DAP driven	Team elaborated	EPIS phase
Test-drive and select practices Support school personnel to try out various practices in small doses and have them choose/select the one they find most acceptable and appropriate	•DAP encouraged teams to take the lead in implementing the EIPs	•Teams chose the order of and how to implement EIPs •Some teams designed their own surveys to inform EIP implementation (19 schools)	Preparation, Implementation

DAP: dynamic adaptation process; SISTER: School Implementation Strategies, Translating the ERIC Resources; ERIC: Expert Recommendations for Implementing Change; EPIS: Exploration, Preparation, Implementation, and Sustainment; EIP: evidence-informed practice; LGBTQ: lesbian, gay, bisexual, transgender, and queer or questioning.

Table 4.

SISTER strategies that implementation resource teams independently enacted (n = 9).

SISTER domain (Cook et al., 2019)	Team independent	EPIS phase
Change ethical and professional standards of conduct Participate in efforts to reform ethical and professional standards for conduct that encourage school personnel to view delivery of new practices as an ethical responsibility and consistent with the expectations for professional conduct	•Leads, teams, and administrators in some schools messaged to their school communities that implementation of the EIPs was the expectation. They framed participation as a professional responsibility •Some team members reportedly perceived their involvement as an ethical responsibility •Some schools implemented non-discrimination policies concerning Gender Support Plans, universal dress codes for social events, and use of inclusive language in student handbooks (seven schools)	Preparation, Implementation
Conduct educational meetings Hold meetings targeted toward different stakeholder groups (e.g., teachers, principals, central administrators, other organizational stakeholders, and community and family stakeholders) to teach them about the new practices	•Some teams provided professional development at their schools on their strategies around language/terminology, others have provided one-on-one informal trainings with colleagues, or send invitations to school staff to participate in learning more (nine schools)	Preparation, Implementation
Create new practice teams Change who serves on the team supporting the practice or implementation effort, adding different disciplines (counselor, school psychologist, behavior specialist, school-based mental health provider) and different skills to make it more likely that the new practices are delivered (or are more successfully delivered)	•Teams built and changed their team membership, adapting to changes in climate and culture at the school, and turnover •While the researchers originally called for nurses to serve as team leads, some nurses were unwilling to take on the role, allowing leaders from other disciplines to emerge (nine schools)	Preparation, Implementation
Identify early adopters Identify early adopters within the school or district to learn from their experiences with the implementation of the new practice	•Team leads were responsible for identifying early adopters and used various methods (e.g., snowballing, strategic outreach to known allies, mass emails) to identify and recruit members. They prioritized outreach to coworkers with whom students felt comfortable, who had favorable characteristics (e.g., age, personality), who had expressed personal interest, and/or who self-identified as LGBTQ (14 schools)	Preparation, Implementation
Improve implementers' buy-in Engage school personnel in activities or discussions that attempt to increase their buy-in and motivation to adopt and use the new practice	•Teams engaged colleagues through professional development (e.g., organizing staff screenings of *I Am Me*; 14 schools)	Implementation
Involve students, family members, and other staff Engage or include students, families, and other staff in the implementation effort who may not directly be involved in delivering the new practice but are associated with it	•Some teams reached out to parents/caregivers to screen films and videos (e.g., *I Am Me*) and participate in youth-led training (Mental Health First Aid) •Teams stated they have received about equal favorable and unfavorable parents/caregiver responses to their initiatives, depending on the community context (four schools)	Implementation
Mandate for change Have leadership declare the priority of new practices (i.e., top down) and their determination to have it implemented	• Some administrators mandated attendance at professional development events related to this initiative •Some administrators allowed new language to be included into the school handbook and educational curricula •One administrator communicated to all school staff expectations surrounding the new uses of school space and bathrooms and the rationales underlying the changes (five schools)	Preparation, Implementation
Obtain and use student and family feedback Develop strategies to increase student and family feedback on the implementation effort	•Teams reached out to students for feedback, but few elicited feedback directly from parents/ caregivers •Teams invited parents/caregivers to screen *I Am Me* and participate in video-based trainings •Some team members received phone calls from parents/caregivers •Some team members overheard conversations between students initiating conversations about their initiatives (four schools)	Implementation
Remind school personnel Develop reminder systems (e.g., email prompts or visual cues) designed to help school personnel recall information and/or prompt them to deliver core components of new practice	•Teams elicited buy-in, inviting staff to take part in events and activities intended to support implementation (five schools)	Implementation

SISTER: School Implementation Strategies, Translating the ERIC Resources; ERIC: Expert Recommendations for Implementing Change; EPIS: Exploration, Preparation, Implementation, and Sustainment; LGBTQ: lesbian, gay, bisexual, transgender, and queer or questioning.