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Sustaining suicide prevention programs in American Indian and Alaska Native communities and Tribal health centers

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Abstract

Background: Research on sustaining community-based interventions is limited. This is particularly true for suicide prevention programs and in American Indian and Alaska Native (AIAN) settings. Aiming to inform research in this area, this paper sought to identify factors and strategies that are key to sustain suicide prevention efforts in AIAN communities.

Methods: We used a modified Nominal Group Technique with a purposeful sample of N = 35 suicide prevention research experts, program implementors and AIAN community leaders to develop a list of prioritized factors and sustainability strategies. We then compared this list with the Public Health Program Capacity for Sustainability Framework (PHPCSF) to examine the extent the factors identified aligned with the existing literature.

Results: Major factors identified included cultural fit of intervention approaches, buy in from local communities, importance of leadership and policy making, and demonstrated program

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Declaration of Conflicting Interests

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success. Strategies to promote these factors included partnership building, continuous growth of leadership, policy development, and ongoing strategic planning and advocacy. All domains of the PHPCF were representative, but additional factors and strategies were identified that emerged as important in AIAN settings.

Conclusions: Sustaining effective and culturally informed suicide prevention efforts is of paramount importance to prevent suicide and save lives. Future research will focus on generating empirical evidence of these strategies and their effectiveness at promoting program sustainability in AIAN communities.

Keywords

suicide prevention; indigenous health; sustainability

Introduction

American Indian and Alaska Native (AIAN) communities have faced long standing suicide related health inequities. Suicide rates in AIAN populations are on average about twice as high as all other racial and ethnic groups in the United States ("First Nations Community HealthSource," 2021). In 2019, AIAN populations had a suicide rate of 22.2 per 100,000 compared to the U.S. overall suicide rate of 13.2 per 100,000 ("First Nations Community HealthSource," 2021). The burden of suicide in AIAN populations concentrates in youth, with youth ages 15–19 on average 4 times more likely to die from suicide compared to their White counterparts ("First Nations Community HealthSource," 2021). This parallels disparities seen in other indigenous populations worldwide (The Lancet Child Adolescent Health, 2019) and is a direct result of historical trauma (e.g., history of genocide, boarding schools), and ongoing systematic discrimination and racism.

Due to these disparities, AIAN communities are also at the forefront of innovations in preventative interventions to address youth and young adult suicide and related behaviors. In general, tribal stakeholders are prioritizing strengths-based strategies that harness Native ways of knowing and being, integrate local and cultural resources, and promote Tribal nations' self-determination (see Allen et al., 2014; Cwik et al., 2016; Harlow et al., 2014; Lafromboise & Lewis, 2008; Rasmus et al., 2019a, 2019b; Redvers et al., 2015). Preventative strategies that emphasize holistic and relational perspectives, and strong connections with land, spirituality, cultural traditions and Elders, are shared across many Tribal settings (Allen et al., 2019; Cwik et al., 2019; Kenyon & Hanson, 2012; LaFromboise & Malik, 2016; O'Keefe et al., 2018; Rasmus et al., 2014) and hold relevance to other communities that face significant suicide-related health disparities.

The scientific evidence for these 'ground up,' strengths-based and culturally driven suicide prevention strategies in AIAN communities is currently emerging (Clifford et al., 2013; Harder et al., 2012; Hatcher et al., 2017; Walters et al., 2020). Recent reviews elevate the need for rigorous effectiveness research on Indigenous suicide prevention (Clifford et al., 2013; Harder et al., 2012; Hatcher et al., 2017). Given the high burden of suicide in many communities; there is a critical need to accelerate the science to service translational process.

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Historically the research paradigm has focused on testing and proving programs and interventions designed and delivered in non-indigenous settings, and then adapting and implementing these in Native communities as a move towards implementing evidence-based practice (EBP). However, there are fundamental problems with this approach. First, the majority of the time, the evidence behind these EBPs is based on non-Indigenous participant outcomes, making it unclear whether the findings will generalize to AIAN communities (Walker et al., 2015). Second, as EBP requirements grow for funding mandates, this often go against the sovereign rights of tribes to determine which healthcare options are most relevant (Novins et al., 2012). Finally, most EBPs are designed with little focus on the new implementation contexts, particularly the context of AIAN communities, or how they can be integrated for long term sustainment. This causes even further delay with the research to practice gap for Indigenous communities and may exacerbate existing health disparities. Indeed a commonly cited concern for AIAN communities when engaging in intervention research studies is how the intervention, if proven efficacious or effective, will be sustained after the research and grant funding has ended (Rasmus et al., 2020).

In the academic literature there is a gap in implementation and dissemination research focused on Indigenous communities. For example, in a recent systematic review focused on implementation of health interventions in indigenous communities, only 21 studies were identified that included Indigenous populations (Harding & Oetzel, 2019). Focusing parallel efforts on rigorous research for AIAN suicide prevention programs and understanding and addressing implementation and sustainability challenges will yield far greater impact and return on investment than either approach alone.

In an effort to advance AIAN health disparities science, the National Institute of Mental Health (NIMH), granted five-year awards in 2017 to three diverse “Hubs for American Indian and Alaska Native youth suicide prevention research” in the US. The first, the “Southwest Hub,” is working with a consortia of rural reservation communities in Arizona, New Mexico, Oklahoma and Montana to evaluate the effectiveness and implementation of brief interventions that address culturally informed risk and protective factors with acutely suicidal youth. The second, the “Urban Hub,” is working with two urban Indian health centers in Seattle and Albuquerque to test culturally adapted, evidence-based interventions in clinical settings. The third, the “Alaska Hub,” uses scientific tools and methods to recognize and build Alaska Native strengths and protection against suicidal and other adverse behaviors through a multilevel model of youth resilience. All three projects are each the culmination of decades-long Tribal-academic research partnerships demonstrating a shared commitment to balancing rigor with community and culturally informed interventions and evaluation.

An early defined priority of the cross-Hub research teams was to examine facilitators and barriers of sustainability of effective or promising practices for suicide prevention in AIAN communities and Tribal health programs. The aims of the current paper are to: 1) identify facilitators of sustaining suicide prevention efforts with AIAN communities; 2) enumerate key strategies to promote these facilitators across three diverse contexts; and 3) compare the identified factors and strategies to the Public Health Program Capacity for Sustainability, an established, theoretically driven framework for promoting program sustainability (Schell

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et al., 2013). Our goal is to share and discuss approaches to sustainability that may inform such efforts within the Hubs. Lessons learned from this project hold relevance for other AIAN communities, other historically underserved, low-income settings, other communities that face signficant suicide related disparities as a result of historical trauma and/or ongoing discrimination, and more broadly for suicide prevention efforts in general.

Methods

Each year members of the Hub teams, comprised of suicide prevention research experts, program implementors and AIAN community leaders, gather for one-and-a-half days to engage in cross-hub co-learning. The August 2018 meeting facilitated a group discussion and consensus building exercise that addressed challenges and opportunities for sustaining successful suicide prevention efforts within each of the Hub's AIAN regions or Tribal health sites. Participants were purposefully recruited by leadership within each Hub resulting in thirty-five individuals including Principal Investigators or Co-Investigators (11), Tribal Leaders or Advisory Board Members (12), Project Coordinators (7), and Program Implementers (5).

During the meeting, participants listened to a brief presentation regarding current definitions and conceptual models pertaining to program sustainability (Chambers et al., 2013; Schell et al., 2013). Following the presentation, discussion leaders conducted a modified Nominal Group Technique (NGT; Harvey & Holmes, 2012; McMillan et al., 2016) to elicit factors for sustaining effective suicide prevention programming and strategies to promote these factors in each site. The modified NGT is a structured process for guiding small-group discussion that encourages participation from all group members and reduces potential domination by any single group member. It generates a list of prioritized items based on input from all participants. We carried out the NGT in the following steps: 1) The large group divided into eight groups of 4–5 participants each; 2) Participants in the small groups independently recorded their answers to two question prompts; 3) Participants next shared their answers with the other small groups members; 4) Small groups then discussed the ideas among themselves; 5) Each small group then ranked their top 5 most important factors or strategies through consensus discussion; and 6) The top 5 answers from each small group were then shared with the larger group. The first question prompt asked: "What are all the factors that will contribute or have contributed to sustaining the suicide prevention program in your context?" The second asked: "What can be done to help promote or enhance the factors you prioritized?" Each factor or strategy prioritized by the small groups were displayed on a computer screen to all in attendance. Overlapping factors or strategies were added only once to a master list. The process yielded a prioritized list of factors and strategies related to sustaining effective suicide prevention activities in Tribal settings. The group discussion activity was reviewed by the [INSTITUTION] IRB #8694 and declared non-human subjects research.

In an effort to examine how factors and strategies aligned with the extant literature, we compared the final list to key elements in a widely accepted framework: the Public Health Program Capacity for Sustainability (PHPCSF; Schell et al., 2013). This framework was generated from a review of 85 studies of sustainability of public health

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programs and combined expert panel definitions of core domains specific to public health program capacity for sustainability. The PHPCSF posits nine domains that affect a program's capacity for sustainability. These domains include: Political Support; Funding Stability; Partnerships; Organizational Capacity; Program Evaluation; Program Adaptation; Communications; Public Health Impacts; and Strategic Planning. Full definitions of each domain are included in the supplemental materials (S1). We sought to compare each of the factors and strategies elicited from Hub participants in the manner described above to each of these nine domains. We then noted factors or strategies that did not fit within the framework and, conversely, which domains were not represented in the master list of group responses.

Results

Table 1 presents participants' enumeration of factors thought to facilitate sustainability and, in turn, strategies to promote those factors. Across all small groups, major themes included the importance of fit with local culture, buy-in by community, importance of leadership and funding, and need to demonstrate program success. Strategies aimed at promoting these factors included building partnerships and trust with the local communities, developing ways to continue to grow leadership, continuous strategic planning, and advocacy related to program success at all levels of government.

Table 2 depicts how the above list of factors and strategies array across the nine domains of the Public Health Program Capacity for Sustainability Framework (PHPCSF). For some domains, facilitating factors were not prioritized during group discussions but strategies were. For example, strategies related to political support included mobilizing advocacy and engaging leadership (i.e., the local or tribal government) and developing policy that engages support from local, state and federal political bodies, including tribal councils, governing health or education boards, state and even federal agencies like the Indian Health Service. A number of factors and strategies were not anticipated by the nine domains of the PHPCSF. These differences mainly included factors related to and strategies for drawing upon cultural systems, respecting tribal sovereignty, and ascertaining the intentions of outsiders working with tribal communities. Such considerations appear to be particular to AIAN communities and require explicit attention in planning for the sustainability of AIAN suicide prevention programs especially over the long term.

Discussion

Given the high burden of youth suicide in some AIAN communities and the need to speed translation and sustainability of promising, ground-up strengths based prevention approaches, we aimed to identify facilitators and strategies that could be leveraged to promote program sustainability. We identified factors and strategies for facilitating sustainability of suicide prevention programs in AIAN communities and then compared these results to the broader empirical literature regarding program sustainability. The major factors identified included cultural fit and buy-in by local communities, importance of leadership and funding, and demonstrated program success. Strategies to promote these factors included partnership building, continuous growth of leadership capacity, and ongoing

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strategic planning and advocacy. All domains of the PHPCSF were represented in our data. However, this framework did not cover certain factors and strategies that emerged as priorities with AIAN settings, such as building on existing cultural systems and the importance of tribal sovereignty.

These findings are consistent with previous implementation science findings indicating the importance of unique considerations for implementation research with Indigenous communities (Oetzel et al., 2017). Our findings also highlight the importance of multi-tiered sustainability strategies, as it was clear from this and other work, that sustaining suicide prevention programs and initiatives involves factors under multiple domains (Shelton et al., 2018). Our findings are also consistent with previous research on the dynamic processes involved in sustaining programs – participants in our discussions pulled on 20 + year relationships with tribal communities with factors and strategies that emerged representing the dynamic nature of the systems in which interventions need to be sustained (Chambers et al., 2013). For example, the White Mountain Apache Tribe (WMAT) Celebrating Life program has experienced increase in demands over time (Haroz et al., 2019) indicating emerging needs for increased staffing or other strategies to sustain reach of its services. Future work should continue to investigate which factors and strategies, delivered under what conditions, to which stakeholders, and when in the implementation process to further our understanding of sustaining programs in community-based settings, including leveraging existing frameworks that provide an organized approach to empirical investigating these questions (e.g., The Collaborative Organizational Approach to Selecting and Tailoring Implementation Strategies - COAST-IS; Powell et al., 2020).

The Hub mechanism brought experienced researchers and practitioners together to discuss sustainability by drawing on their collective knowledge and experience testing and implementing youth suicide prevention programs. These participants drew on their experience of suicide prevention strategies and practices that have been sustained in AIAN communities, including, but not limited to: the Screening, Brief Intervention and Referral for Treatment (SBIRT), the White Mountain Apache Tribe's Celebrating Life surveillance and case management program (Cwik et al., 2014), and the Qungasvik (Tools for Life) prevention model (Allen et al., 2014; Rasmus et al., 2019b). The SBIRT model has been successfully adapted for suicide prevention by Tribal health care clinics and programs such as the Southcentral Foundation in Alaska (Dillard et al., 2012), and the First Nations Community Healthsource in New Mexico ("First Nations Community HealthSource," 2021). Both efforts began as pilot studies, followed by rigorous evaluation and are now eligible for reimbursement through Medicaid expansion and are sustained through institutional support. The Celebrating Life program started in 2006 through a collaboration with university researchers, has been shown to have contributed to reductions in suicide rates; remains active today receiving over 1200 referrals per year (Cwik et al., 2014; Cwik et al., 2016; Haroz et al., 2019), and is currently being scaled-up to six additional Tribal communities. Finally, the Qungasvik (Tools for Life) prevention model, built through a 25 + year period of collaboration between university partners and communities, engages Yup'ik Alaska Native youth in a culturally-centered, Indigenous theory-driven intervention implementation (Rasmus et al., 2014; Rasmus et al., 2019a) that builds multilevel protection to promote growth in reasons for life and reasons for sobriety (Allen et al., 2018; Allen

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et al., 2019). An ongoing effectiveness trial is rigorously testing the Qungasvik prevention model, and while this project is currently ongoing; additional communities have sustained their programs through SAMHSA Tribal behavioral health service grants.

These examples illustrate how suicide prevention programs, including those adapted and/or developed and tested originally with AIAN communities, can be built to last using multi-tiered strategies based on strong partnerships, engagement and leveraging of existing resources and cultural strengths, and respect for Tribal sovereignty. For example, the SBIRT model worked closely with stakeholders to develop and refine its tools (Starks et al., 2015), while also being embedded in health systems that have dedicated research departments devoted to health services research that is responsive to community needs and priorities (e.g., Southcentral Foundation Research department). The Celebrating Life program was established by the Tribe through their own sovereign laws. For example, Celebrating Life mandates community-based reporting of individuals at risk of suicide and employs Native paraprofessionals from the community, in a cost-effective approach that allows for delivery of culturally responsive care (O'Keefe et al., 2021). Finally, the Qungasvik (Tools for Life) prevention service model is Indigenous knowledge-driven and rural community-based. As an Indigenous intervention, Qungasvik is based in a Yup'ik theory of youth development and intervention change processes, it adheres to Yup'ik cultural practices through fidelity to its Qasgiq (encircling) implementation model, and locally developed measures of outcomes align with Yup'ik cultural understandings (Rasmus et al., 2019a, 2019b). As a rural community-based intervention, resources and expertise mobilized come from within the community. There is critical need for evidence-based prevention services that are community-based,-driven, and -staffed in remote, rural Alaska Native communities, the majority of which exist off the road system at significant distance from clinic-based advanced degree service providers. Together these examples demonstrated how critical cultural and contextual considerations are in implementing and sustaining effective programming which is consistent with findings more broadly (e.g., Baumann et al., 2015; Kumpfer et al., 2017).

The factors contributing to the success and sustainability of the three programs outlined above reflect several of the factors and strategies identified through our Cross-Hub efforts. Yet, despite our ability to describe the course by which suicide prevention programs evolve, we still know little about the ingredients essential to their sustainment. More research is needed to empirically understand which factors or strategies, delivered when in the process, and under what conditions, influence the developmental trajectory from demonstration to integration into organizational practice and ultimately sustainability. Future effectiveness research in AIAN suicide prevention should focus on hybrid-effectiveness studies or implementation trials that begin to study the effects of different strategies on implementation and sustainability of suicide prevention efforts for these communities (Curran et al., 2012; Kemp et al., 2019).

These examples also largely emphasize the human capital and demonstrate the strong-partnerships required at each step to move promising interventions to sustainability. It is clear, however; that human capital and partnership alone are necessary but not sufficient conditions. It also requires funding to support these efforts. It is becoming clear that

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we do have a growing knowledge of what needs to be done to reduce the seemingly intractable burden of suicide on AIAN youth and communities (Allen, 2019); what we need do more is confront the multilevel barriers within paradigms of prevention, our academic and health institutions, and in our national and state policies along with the structural and social determinants that all work together to perpetuate the inequities in access to care and community-based service modalities. From our own data presented in this paper, funding stability was a clear sustainability facilitator, but to date, few strategies have been identified that are known to enhance this factor for suicide prevention programs in AIAN communities. Understanding the costs associated with the spectrum of suicidal behavior (e.g. ideation, attempts, and deaths) and the cost effectiveness of associated prevention and treatment programs is critical to sustaining effective programs over time (e.g. Ahern et al., 2018; Dunlap et al., 2019), but has rarely be studied in Indigenous contexts. Robust economic analyses of AIAN suicide prevention programming is necessary to further enhance research to practice translation.

Limitations

There are several noteworthy limitations which may temper the completeness and generalizability of the findings. First, although the initial brainstorming lists were discussed and prioritized in small groups, it was not feasible to pursue further clarification and consensus across the wider group in its entirety. This resulted in a longer list of prioritized factors and strategies and less consensus on the meaning of each one. Larger group discussion may also have led to more clarity on how strategies were operationalized and the multiple ways to accomplish this across different settings and contexts. Our sample was also limited to participants in this particular meeting and likely does not represent views from all people possessing relevant knowledge about how to implement and sustain suicide prevention programming in Tribal settings. The participants did include people with an array of experience and knowledge, including direct service providers, but did not include child or adolescent consumers; a group that undoubtedly has valuable insight into how and why programs continue. Moreover, participants were not asked about potential or experienced external events that may impact sustainability, which may have limited the identification of additional implementation factors. Finally, we briefly presented the PHPCSF in the introduction to the Nominal Group Technique process, which could have resulted in a priming effect meaning that we were more likely to elicit factors under these domains than if we had not presented the PHPCSF.

Future Directions

Sustaining high-quality, effective, and culturally informed suicide prevention efforts is imperative for saving lives and protecting future generations in AIAN communities. Identifying the factors and strategies that facilitate continuity of care and sustained programming will potentially enhance a community's or an organization's ability to continue to address suicide risk and provide prevention services even after initial funding of a research grant ends. Key stakeholders participating in this unique, NIMH-sponsored collaborative effort largely underscored the important guidance provided by the PHPCF. However, key stakeholders in the AIAN Cross-Hub initiative identified unique factors

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and strategies specific to working within their own AIAN communities and Tribal health programs that had not been previously identified in the more broadly-based public health sustainability frameworks. These lessons are not only relevant to the Hubs' specific populations, but also hold value for suicide prevention research both within other Indigenous communities and more generally in community-based efforts in non-Indigenous popualtions. Future efforts should pursue empirical inquiry that more fully specifies these contextual and settings-specific factors and elucidates strategies by which to promote them most effectively to sustain AIAN suicide prevention best practices.

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Summary

What is already known about the topic?

Evidence for effective suicide prevention efforts in American Indian and Alaska Native communities is growing, yet little is known about how to sustain these efforts after research ends.

What does this paper add?

This paper adds to our understanding of important factors and strategies for sustaining suicide prevention efforts in AIAN communities, some of which overlap with other contexts and some of which are unique to these settings.

What are the implications for practice, research or policy?

Suicide prevention programs should consider how to implement strategies identified in this paper to enhance sustainability, while future research should work to build empirical evidence to support the use of these strategies.

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Table 1.

Factors facilitating sustainability and strategies to promote these factors in tribal suicide prevention programs

Sustainability Factors	Sustainability Strategies
• Addressing community priorities *	• Automate the intervention using technology
• Attainable goals *	• Build and support community level networks
• Built on cultural systems (holistic)	• Build trust by listening to everyone
• Champions among providers *	• Commitment to the community
• Collaboration with other organizations *	• Continuous strategic/action planning
• Community engagement *	• Develop policy at tribal, state, federal, local level
• Community/Stakeholder buy-in and support for program *	• Disseminate research in a collaborative and strategic manner
• Continued or additional funding *	• Focus on relationship building and developing networks
• Culturally relevant design	• Highlight value/impact of the program
• Demonstrate success *	• Holistic approach
• Generate toolkit for partners to implement	• Improve communication
• High quality leadership at all levels of the program *	• Increase capacity for leadership within the program
• Identifying and supporting communities using their own tools	• Meeting the community where it is at
• Importance of intentions	• Occupy critical spaces (i.e. local government)
• Institutionalize the program (at Indian Health Service or with Tribe)	• Train behavioral health clinicians and other staff (cross-training)
• Integrated into other systems	
• Leadership continuity *	
• Leveraging existing strengths	
• Ongoing process of sustainability *	
• Reimbursement for services *	
• Self-governance and decision making	
• Shared commitment and values	
• Stand-alone program	
• Strong, long-term relationships built on trust and reciprocity *	

* Denotes factors that map onto the PHPCSF

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Table 2.

Comparison of participant-generated factors and strategies to domains specified in the PHPCSF

Domain	Factors	Strategies
Political Support		• Occupy critical roles (i.e. local government) • Develop policy at tribal, state, federal, local level
Funding Stability	• Continued or additional funding • Reimbursement for services	• Reimbursement for services • Institutionalize the program (at Indian Health Service or with Tribe)
Partnerships	• Strong, long-term relationships built on trust and reciprocity • Community/Stakeholder buy-in and support for program • Community engagement • Collaboration with other organizations	• Build and support community level networks • Focus on relationship building and developing networks
Organizational Capacity	• Champions among providers • Leadership continuity • Leadership at all levels	• Train behavioral health clinicians and other staff (cross-training) • Grow leadership
Program Evaluation	• Demonstrate success	
Program Adaptation	• Addressing community priorities	• Meeting the community where it is at • Identifying and supporting communities using their own tools
Communications		• Build trust by listening to everyone • Improve communication
Public Health Impacts		

Domain	Factors	Strategies
	• Demonstrate success	• Highlight value/impact of the program • Generate toolkit for partners to implement
Strategic Planning		
	• Ongoing process of sustainability • Attainable goals	• Continuous strategic/action planning

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