**ORIGINAL RESEARCH**

# Assessing the readiness of rural public health agencies for facilitating a school-based intervention

**RUNNING HEAD:** Readiness for partnership

1. Benjamin C. Ingman, PhD [corresponding author]
Director of Research & Evaluation, Research Assistant Professor
Center for Rural School Health & Education
Morgridge College of Education | University of Denver
720-203-1929 | benjamin.ingman@du.edu

2. Carla Loecke, MEd
Director of Research & Evaluation, Research Assistant Professor
Center for Rural School Health & Education
Morgridge College of Education | University of Denver

3. Elaine S. Belansky, PhD
Executive Director, Research Associate Professor
Center for Rural School Health & Education
Morgridge College of Education | University of Denver

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**ABSTRACT**

**BACKGROUND:** Partnerships are best positioned for success when the readiness of those engaged is assessed and discussed from the outset. Doing so requires an approach to readiness that is responsive to the particular context of the partnership.

**OBJECTIVES:** This study contributes to the topic of partnership readiness through a readiness assessment used with rural local public health agencies (LPHAs) to partner with a university research team on implementing a K-12 school-based health intervention called AIM.

**METHODS:** Through case study methodology, we explored the readiness of LPHAs to partner with a university on this initiative as well as the role the readiness assessment played in facilitating this partnership. We conducted semi-structured interviews with directors and agency staff in 5 rural LPHAs before (N=8) and after (N=5) they implemented AIM. We also documented their work with K-12 schools and in partnership with us throughout the initiative.

**RESULTS:** The findings of this study are presented in three phases. Phase 1 outlines the results from the initial readiness assessment interviews as aligned with select constructs of readiness. Phase 2 recounts how these constructs materialized through partnership between LPHAs and the university. Phase 3 includes findings from a post-intervention interview focused on readiness for partnership. Collectively, these findings portray prospective, operational, and retrospective perspectives on LPHA readiness for partnership.

**CONCLUSIONS:** This study contributes to the constructs of readiness for partnership, highlights the distinction between assessing and cultivating readiness, and demonstrates the benefits of a multiphase approach to readiness for partnership.

**KEYWORDS:** Partnership, Public Health Agencies, Readiness Assessment, Readiness for partnership

# Introduction

Local public health agencies (LPHAs) in rural communities often operate with limited resources and few staff [1] while serving populations with lower access to quality care and a higher incidence of obesity and chronic disease.[2] Forming partnerships with external organizations, such as universities, has the potential to offset some of these challenges as well as extend the reach of effective interventions and strategies into rural communities. Assessing an LPHA's readiness for partnership is an important initial step to both understand the viability of such a partnership and identify next steps to promote the success of an initiative and partnership. This study recounts an approach to assessing the readiness of LPHAs to partner with a university on a K-12 school-based initiative. This work has implications for the form and role of readiness assessments for partnership. Accordingly, we first review approaches to readiness and readiness assessments and LPHA-university partnerships before outlining the methods and findings of this study.

## Readiness and Readiness Assessments

Readiness, as a means of understanding capacity for change, has been a construct applied by practitioners and researchers in a variety of health-related settings, including those working with individuals,[3–8] organizations,[9–12] and communities.[13–18] These approaches to readiness are supported by a growing compendium of frameworks and models designed to discuss, investigate, and foster readiness. The transtheoretical model of behavior change, for instance, provides a framework for understanding how individuals adopt new behaviors by advancing through stages of readiness.[3,4,8] The five stages of this model—precontemplation, contemplation, preparation, action, and maintenance—have been applied to therapeutic approaches for individual behavioral change, such as smoking cessation programs.[4] Building on this work, researchers at the Tri-

Ethnic Center of Prevention Research created the Community Readiness Model [15,17,18] to understand the implementation process of community-wide public health interventions, such as substance abuse prevention programs[19] and HIV/AIDS prevention efforts.[20] This model, which has also been applied in a K-12 school setting,[16] outlines nine stages of readiness for change (1) no awareness, 2) denial/resistance, 3) vague awareness, 4) preplanning, 5) preparation, 6) initiation, 7) stabilization, 8) confirmation/expansion, and 9) community ownership)[18] and attends to six dimensions of readiness (community efforts, community knowledge of the efforts, leadership, community climate, community knowledge about the issue, and resources).[15,18]

Readiness has also been explored in the context of organizational change and numerous readiness assessments support its utility in this setting.[9,10,14,21,22] Two pertinent examples that assess organizational readiness include the Organizational Readiness for Change Assessment (ORCA)[9] and the Organizational Readiness for Implementing Change (ORIC) tool.[10] Application of these tools illustrates that assessing organizational readiness can not only reveal areas of strength and weakness in readiness, but also provide an inroad for promoting readiness.[14,23] As such, conducting an assessment at the outset of an initiative may better position those initiatives for success.[21]

To promote the assessment of readiness, numerous models have been established and implemented, which attend to different constructs, reflecting different disciplinary perspectives, purposes, and contexts. Despite these differences, there is general consensus that readiness is a multidimensional construct with physical (e.g., resources, funding, capacity) and behavioral (e.g., climate, commitment) elements that can be evaluated and modified. In a review of 13 readiness assessments, Casteñada et al.[14] concluded that constructs used to assess change readiness fall into four categories: 1) community and organizational climate that facilitates

change, 2) attitudes and current efforts toward prevention, 3) commitment to change, and 4) capacity to implement change. The Organizational Readiness to Implement Change (ORIC) framework has further consolidated the multiple dimensions of readiness into two broad categories: change efficacy and change commitment.[10]

Readiness assessments have also been applied to the context of partnerships. Andrews et al.[13] have offered the Partnership Readiness for Community-based Participatory Research (CBPR) Model, which presents readiness for a CBPR partnership as:

> the degree to which academic/community partners 'fit' and have the 'capacity' and 'operations' necessary to plan, implement, and disseminate CBPR projects that will facilitate mutual growth of the partnership and influence positively targeted social and health needs in the community. (p. 184)

This model includes three dimensions of readiness: 1) goodness of fit, 2) capacity, and 3) operations.[13,24] It differs from other models in that readiness of the academic institution, community, or organization is understood within the context of a specific partnership and positions the readiness assessment as a dynamic process that engages all participants in dialogue and consensus-building.

**Rural LPHA—University Partnerships**

Local public health agencies provide ten essential services to their communities, including items such as providing direct care, collecting health data, enforcing laws, and informing policies.[25] Executing such a complex workload requires a diverse skill set, which is complicated in rural communities, where agencies often have fewer qualified staff and less access to training, information, and resources.[26,27] Partnerships, which have been identified as a nationwide public health priority,[25] provide one way for rural LPHAs to offset some of these challenges.[28] Universities also stand to benefit from forging partnerships with LPHAs because

such a partnership can provide a means of connecting with local communities and expanding the reach of health-based initiatives.[29] Additionally, there is precedent that creating LPHA-university partnerships through the context of K-12 settings is a viable pathway for improving the impact of public health initiatives.[30]

There have been efforts to assess the readiness of LPHAs for partnership. The Positioning for Partnerships work by Nelson et al.[11] assessed the readiness of public health agencies for partnership through six categories. The results rank-ordered the importance of these categories as follows: 1) leadership, 2) planning, 3) teamwork, 4) mission, 5) information, and 6) operations. In particular, they noted that leadership, communication, and teamwork were foundational to position LPHAs for partnership with external organizations. But there are few examples in the literature of readiness assessments being used with LPHAs prior to engaging in a partnership.

In summary, LPHA-university partnerships have the potential to cultivate widespread community benefit, and readiness assessments have been identified as promoting success in partnerships. However, the use of readiness assessments with LPHAs has been limited, as have studies that use a multiphase approach to attend to readiness before, during, and after a partnership. This study explores these topics directly through the context of a partnership between our university team and 5 LPHAs to deliver a strategic planning process in K-12 schools. This inquiry contributes to the growing body of literature concerning readiness for partnerships and readiness assessments, and diversifies the methods used to assess readiness.

## Methods

### Study Context

Our organization created the Assess, Identify, Make it happen (AIM) strategic planning process to cultivate healthier school environments (Author, 2009). During AIM, schools Assess the current status of evidence-based practices (EBPs) shown to promote healthy eating and physical activity, Identify EBPs to put in place, and Make it happen by implementing those EBPs. Prior to the partnership described in this work, AIM had been implemented in 29 schools and was facilitated by staff hired specifically for their knowledge and skills as facilitators.

This project was an effort to expand the reach of AIM by partnering with LPHAs across a 15,962 square mile rural/frontier region (larger than the state of Maryland) that includes the lowest county health rankings and highest childhood poverty rates in the state.[31] LPHAs were identified as potential partners because (1) their location within rural communities was physically proximal to target populations, and (2) a majority of LPHAs in the region had identified obesity as a primary health goal in public health improvement plans, which aligned to the outcomes of AIM. The partnership between the university and participating LPHAs was initiated by the university partners, supported with funding from the Colorado Health Foundation, and structured through a Memorandum of Understanding signed by the university partner and all LPHAs. The university partner recruited all elementary schools and LPHAs for partnership, and provided LPHAs with materials (facilitator guide, video tutorials, online resources for implementation), training (a week-long initial training and booster training mid-way through the school year) and technical assistance (monthly conference calls and ad-hoc correspondence). LPHAs designated staff to facilitate school districts through the AIM process, which included directors, nurses, environmental health workers, and business administrators. This version of the AIM process was comprised of 7 to 9, 2-hour meetings convened at the school district. Meetings were attended by a school-district task force selected by the school

principal. Key decisions were made in partnership between the LPHA and university. While the study was not formally a CBPR project, we used core principles of CBPR as a guide to partnership.[32]

**Research Questions and Methodology**

This case study[33] was guided by the research question: What is the readiness of rural local public health agencies to partner with a university to implement a school-based intervention? The boundaries of this case are relegated to the activities of the university and LPHAs as related to partnership on the intervention outlined above (facilitating AIM in 18 elementary schools). In addition to a case study methodological approach, this study also leans on elements of narrative inquiry in that the chronological perspective is a central consideration in the portrayal of findings.[34]

**Participants**

We partnered with all 5 LPHAs in a 15,962 square mile region to facilitate the AIM process in 18 elementary schools, including 2,816 elementary students (70% Free/Reduced Lunch; 51% Hispanic).[35] This study includes the LPHA directors and staff who partnered with our organization and participated in interviews (5 LPHA directors and 3 staff). More information about participating LPHAs is available in *Table 1. Partnering LPHAs.* All names of LPHAs and interview participants are pseudonyms.

**Table 1. Partnering LPHAs**

| LPHA pseudonym | Population serviced | Square miles serviced | Partnering elementary schools (students) | Interviewee participant pseudonyms and roles | PRE-intervention interview participation | POST-intervention interview participation |
|---|---|---|---|---|---|---|
| **Agora** | 3,788 | 2,558 | 2 (79) | Abigail, Director | X | X |
| **Burne** | 6,499 | 1,541 | 1 (282) | Bridget, Director | X | X |
| | | | | Bella, Nurse | X | |
| **Cork** | 22,218 | 6,365 | 6 (886) | Catalina, Director | X | X |
| | | | | Cindy, Nurse | X | |
| **Door** | 24,663 | 2,067 | 3 (583) | Daniel, Director | X | X |
| **Elk** | 13,949 | 3,431 | 6 (1,092) | Emilia, Director | X | X |
| | | | | Edith, Nurse | X | |
| **Total** | 71,117 | 15,962 | 18 (2,816) | N=8 | N=8 | N=5 |

[35–37]

## Data Collection

We developed a readiness assessment informed by both the parameters of our intervention and extant literature of readiness, which guided data collection and analysis. We drew on three models of readiness in particular: 1) the Community Readiness Model [15,18] and a school-based adaptation of this model;[16] 2) the Organizational Readiness to Implement Change Framework;[10] and 3) the Positioning for Partnerships public health agency readiness assessment.[11] The readiness assessment used in the present study included seven constructs: Mission, Community climate, Leadership, Communication, Personnel, Change efficacy, and Change commitment (Table 2).

**Table 2: Readiness Constructs Across Phases of the Study**

| | Construct | Phase 1: Pre-intervention Interview | Phase 2: Implementation | Phase 3: Post-intervention interview |
|---|---|---|---|---|
| 1 | **Mission**: Does the mission of the local public health agency align with the goals of the intervention? | Strong alignment between mission and project was noted. | Strong readiness | Noted as important |
| 2 | **Community climate**: What is the prevailing attitude of the agency and community toward the partnership and intervention? | Community climate varied across LPHAs. | Limited readiness | |
| 3 | **Leadership**: Is leadership at the agency effective, supportive of the intervention, and willing to dedicate resources to its success? | Strong, effective leadership was noted. | Strong readiness | |
| 4 | **Communication**: Does the agency have effective communication practices in place? | Strong communication was noted. Important recommendations for programming were also offered. | Strong readiness | Noted as important |
| 5 | **Personnel**: Do agency staff have the knowledge, skills, and availability to complete the requirements of the partnership? | Personnel was noted as the most prominent concern. | Limited readiness | Noted as important |
| 6 | **Change efficacy**: Does the agency have the capacity and resources to complete the requirements of the partnership? | Confidence in LPHA capacity to provide necessary support was noted. | Limited readiness | Noted as important |
| 7 | **Change commitment**: Is the agency committed to follow through on the initiative? | Commitment was varied, often citing personnel concerns. | Strong readiness | |

There were three phases of data collection in this study. During phase 1 (April, 2014), we conducted semi-structured interviews with directors and staff in 5 LPHAs before they agreed to partner with our organization to facilitate the AIM process (N=8). During the initial interviews, directors of each of the LPHAs were recruited for the interview and encouraged to invite other

staff to participate in this interview at their discretion based on the context of readiness for a prospective partnership. This semi-structured interview was guided by the constructs of readiness outlined above. During phase 2 (March, 2014—June, 2016), we documented the partnership and the work of LPHAs in schools, as well as our actions to promote the success of the project and partnership. Data sources include meeting notes, text from email exchanges, and other artifacts that document the process of implementation. During phase 3 (April, 2016), near the completion of the project, we conducted semi-structured interviews with all LPHA directors to understand their perspectives on readiness for partnership in hindsight (N=5). Whereas the phase 1 interview prompted consideration of all constructs outlined above (i.e., organized by questions for each construct), the phase 3 interview was open-ended related to these constructs (e.g., "Now that we have partnered, what do you think are the most important things to consider in determining the 'readiness' of an agency for this type of partnership?). Although LPHA staff facilitating AIM also participated in post-intervention interviews, these interviews were focused on their perceptions of technical assistance, training, and the strategic planning process, rather than readiness for partnership. As such, these interviews were not analyzed for the purposes of this study.

**Data Analysis**

After all interviews were transcribed, transcripts were reviewed by interviewees and data was entered into Dedoose software. We used structural coding to organize data as pertaining to different constructs of readiness.[38] We then used open coding to identify recurrent patterns within the data [39] with attention to chronology, given the narrative focus of this study.[34] Two university researchers completed the analysis with regular meetings to identify inconsistencies and discrepancies in coding and to discuss emergent findings.[40] Artifacts from the project (e.g.,

select meeting notes and email exchanges) were also reviewed with the lens of the research question to re-visit key events, decisions, or interactions that aid in re-storying the partnership as it unfolded with each LPHA. These artifacts were not formally coded. Participants were not engaged in analysis due to confidentiality considerations. This study was approved by the Colorado Multiple Institution Review Board.

## Results

The findings of this study are presented according to three phases. Phase 1 outlines findings from the initial readiness assessment interviews with LPHA directors and staff. Phase 2 recounts key themes from the implementation of the intervention and partnership. Phase 3 includes findings from retrospective interviews with LPHA directors after the completion of the intervention. Although the constructs featured throughout these results are often included separately, they often operationalize in overlapping and intersectional ways (Table 2).

### Phase 1: Pre-Partnership Readiness Assessment

In this section we outline the findings from the pre-intervention interviews with directors and staff from the five LPHAs. These findings are organized in alignment with the seven constructs of readiness: mission, community climate, leadership, communication, personnel, change efficacy, and change commitment.

***Mission.*** Participants at all LPHAs identified strong alignment between the programmatic focus of AIM (healthy eating and physical activity) with their mission as LPHAs. As the director of nursing at one agency shared:

> "[For] a lot of health departments, obesity is their focus. And [AIM] fits right into that focus. … 'Cause our goal is to, like I said, increase adequate nutrition and physical activity and this fits right into that." – Cindy, Cork County

***Community Climate.*** A confluence of factors, including the alignment of the intervention with public health improvement plans, high need in their communities, and the lack of resources available within the agency to address these community needs, made rural public health agencies particularly receptive to partnership.

> "The more collaborative efforts we show in our public health improvement plan, the better it solidifies our plan and, especially with AIM, because we're working [with] those younger kids, younger community members, so yeah, it fits nicely in our public health improvement plan." – Emilia, Elk County

Participants were also able to characterize receptivity beyond their agencies. For instance, interviewees were conscious of how to leverage successful partnerships and statewide initiatives and, generally, anticipated that county leadership would be supportive:

> "My position reports to a three-member board. And I believe that they would be in support of this type of project. And I am very much interested in it. And there's working with our partners and kind of building on some of the foundation that [another initiative] has already created for us thus far." – Bridget, Burne County

> "We're not going to have any political barriers. Our commissioners are top notch." – Daniel, Door County

Despite high levels of intra-agency support, however, some LPHA representatives expected that schools and community members might not be as receptive to this initiative:

> "Some possible barriers could come from the schools themselves. … [Schools] tapping out is very accurate. And then there's some [schools] that … probably would think that this is a waste of time. I mean I've been in public meetings where we've talked about tobacco control and they think it's a waste of time." – Daniel, Door County

***Leadership.*** Public health directors showed enthusiasm for the partnership and a willingness to do what it would take to bring AIM to their communities. Responses showed dedication to pursuing initiatives that would support their established health priorities and agency mission, a strong personal commitment to the communities they serve, and high levels of trust for employees tasked with the work related to the initiative:

> "[I want to partner] because I care about these kids. I care, you know we see it, well we're already seeing it. We're seeing kids with horrible diseases that they don't need to have. Sleep apnea, diabetes, and we just… I care. I don't know how to say that any more elaborately." – Abigail, Agora County

> "This is one of my priorities. And I think it's very important. Cause quite frankly, I'll tell you, and I would tell you, if I didn't think there was a good public health benefit to this, I would say we can't do it. That's why we're having this conversation. Cause I believe in it." - Daniel, Door County

***Communication.*** LPHA representatives requested regular, honest, open communication to ensure the success of the project and partnership, and some identified the initial interview itself as a first step toward effective communication. Participants identified regular meetings with university staff, robust in-person trainings, and responsive communication and support from university staff as integral to the success of the partnership:

> "For me, [a positive partnership would require] good communication, you know, support, just accessibility to you guys. ... And just providing what we need to be successful at this." – Cindy, Cork County

> "I think what you're already doing, anything of this type. We have to communicate openly and honestly. And if there's a problem, then you, of course, diplomatically and tactfully, bring it up and solve it. So, open, honest communication." – Daniel, Door County

> "Well, from my perspective, I think a lot of what you're already doing is going a long way. That everybody has a shared understanding going into this; what's expected. That there aren't any surprises down the road. Knowing that we're having those discussions now and being allowed to ask questions and identify any concerns if there's things we need to change." – Bridget, Burne County

***Personnel.*** The availability of personnel was among the primary concerns of readiness for the partnership. None of the participating LPHAs had staff readily available to serve as AIM facilitators. In fact, many disclosed that their agencies were already overburdened by multiple responsibilities and competing priorities:

> "All my staff is pretty well tapped out." – Emilia, Elk County

> "Just understand that we're fairly hammered, especially in some of these smaller agencies. There's not a lot of people and resources available." – Daniel, Door County

> "Understand that we're a small agency and that we have to cover. That's my only concern." – Bella, Burne County

> "One of our nurses just resigned so we're in the process of hiring another nurse but, by the time this would get started, I'm sure we'll have a nurse and I think it's doable." – Cindy, Cork County

Despite these challenges, directors were able to identify members of their current staff to serve as AIM facilitators, and in some cases offered to take on the role of facilitator themselves. The willingness for directors in an already stressed agency to accept additional responsibilities was attributed to the alignment of the intervention with agency priorities.

***Change Efficacy.*** Directors expressed confidence in their departments' capacity to provide logistical support for AIM (technology, office space, supervision, etc.) and in their ability to identify staff to serve as AIM facilitators with the caveat that agencies would need significant support, resources, and flexibility from the university:

> "We would need to know exactly what we need to do. I mean that is what makes all the difference in the world of being successful. That's the only way I'm comfortable. … And the materials, training, support from you guys, if you guys are available to answer questions if I feel I'm not sure about something. As long as I know what I need to present and do, I'm good." – Cindy, Cork County

> "Well, there's not a lot of money and we're consistently tasked with doing more with less money. And that's just the way it is. But you know, we'll do the best we can with it." – Daniel, Door County

> "Funding is always huge. You know, and resources. Limited resources. You see it in the schools, you see it in public health. We don't have a lot of dollars, so we're trying to do a lot with what little we have." – Bridget, Burne County

***Change Commitment.*** While public health directors voiced enthusiasm for participating in the partnership to implement the intervention, commitment was inconsistent, citing staffing and funding concerns:

> "It excites me that we're finally going to be doing something. You know, we've had these issues with obesity increasing, we have childhood obesity, childhood diabetes, and so many people just always talk about it ... and nobody has any outcomes. So, we're finally going to be making some changes and some positive outcomes." – Emilia, Elk County

> "I'm very excited about this project. I think it's a wonderful thing. I just, again, am worried about the resources. I don't want to ask [our nurse] for more than she's capable of." – Bridget, Burne County

The ongoing, competing demands placed on rural LPHA staff and limited resources available to complete their work were consistently referenced as factoring into commitments. In general, a theme of cautious optimism emerged:

> "[My biggest concern with the partnership is] time. Being able to actually do it. I'm not at all fearful of the scope of work. I'm excited. … I'm looking forward to this. [But] the time piece is actually very concerning." – Daniel, Door County

**Phase 2: Implementation and Partnership**

In this section, we recount how the constructs of readiness were observed in the partnership, providing an operational perspective of readiness for partnership and serving as a point of corroboration for the initial readiness assessment. We include in this section actions taken by LPHAs and our organization to ensure the success of the partnership. While each agency exhibited unique levels of readiness across constructs, this section is organized by the dimensions in which agencies tended to demonstrate limited and strong readiness.

***Dimensions of Limited Readiness***

***Community Climate.*** During our initial readiness assessment, community climate emerged as an area of limited readiness in one agency in particular. The local history was one of tenuous relationships between certain K-12 schools, agencies, and county commissioners in the region. As a result of the assessment of community climate, we resolved to instead hire a community partner to facilitate AIM with schools in this region. In the second year of programming,

however, the community climate changed with at least one school district due to a personnel shift at the public health agency. As a result, we were able to facilitate a successful partnership between the university, LPHA, and one school district in the second year of the intervention.

***Personnel***. As indicated by readiness assessments, dedicating personnel to complete the requirements of the initiative was a persistent obstacle faced by LPHAs throughout the intervention. While some agencies were able to follow through with their staffing plans with limited adaptations, personnel shortages and staff turnover threatened to compromise the partnership with several agencies. For instance, one agency's readiness for this partnership was tested when the staff designated to facilitate the intervention unexpectedly resigned from the agency. In response, we agreed to delay facilitation with schools in this region until a new employee was hired and trained. This allowed this agency to continue partnering on the initiative despite an inability to facilitate the intervention on the original schedule. At another agency, the lone employee of the LPHA resigned from her position after the first year of the intervention. Without any available staff at the LPHA, AIM facilitation duties in the region were delegated to a facilitator in an adjacent region.

***Change Efficacy***. In some cases, our approach was modified to accommodate agencies' existing readiness. Although many LPHAs struggled to allocate time to the facilitator position, this problem was especially prevalent in the smallest partnering LPHA. In this agency, the person designated to facilitate AIM was also the public health director and sole nurse serving this frontier community. The competing responsibilities of the position were further complicated by inclement weather and scheduling conflicts. In order to make AIM workable in this situation, we reduced the number of meetings, consolidated activities, and provided revised materials (a revised facilitator guide). This allowed the facilitator to continue facilitating the process. In this

case, adapting the intervention increased the agency's efficacy, ensured continuity of the intervention, and sustained the partnership.

Additional examples of how we adjusted our approach to increase change efficacy include: 1) moving training locations to ensure reliable internet so trainees could complete their regularly scheduled duties during the training; 2) shifting participating schools to different implementation years based on staff availability; and 3) loosening AIM facilitator requirements so staff with the most available time could serve in the role.

***Dimensions of Strong Readiness***

***Mission, Leadership and Change Commitment.*** High levels of readiness in the areas of mission, leadership, and change commitment provided an undercurrent of support throughout the intervention. Tacit support in these areas was observable through LPHA facilitators' engagement in AIM-related activities and agency follow-through on the memorandum of understanding. Each intervention year started with a 4-day, in-person facilitator training, and included a one-day booster training midway through the year. Despite the off-site location and significant commitment of time, attendance at these trainings was high, indicating that alignment of mission, leadership support, and change commitment remained strong at critical junctures of the partnership.

***Communication***. LPHA personnel were reliably accessible by email, phone, and in-person meetings throughout the partnership. University staff maintained open channels of communication and instituted regular touchpoints with LPHA facilitators. In addition to the trainings described above, we convened facilitators for monthly phone calls and checked in individually with facilitators after each school meeting. We were also accessible to facilitators to provide ongoing technical assistance to address challenges as they arose. Honest and timely

communication between LPHA staff and the university team alerted us to changes in capacity for partnership (i.e., change efficacy, personnel, community climate) and often provided the means to address concerns (e.g., hiring new staff, amending the implementation timeline, revising the intervention itself).

**Phase 3: Readiness in Retrospect**

Following the implementation of the AIM process with schools, we interviewed LPHA directors to encourage a retrospective discussion of the partnership and their experience. These interviews explored the characteristics and actions of both agencies and university partners as it pertained to the partnership in hindsight. At the agency level, LPHA directors most frequently referenced constructs of mission and change efficacy as important factors in ensuring a successful partnership. Directors reiterated the importance of mission alignment between the agency and AIM:

> "Obesity is one of our concerns and hitting the kiddos at a younger age and kind of instilling some of that healthy attitude, those healthy behaviors, seemed like a win-win. And just another element, something that we could bring into the community to kind of help address obesity." – Bridget, Burne County

LPHA directors also noted how change efficacy was a concern in their small rural agencies. Some described how challenges related to limited personnel or resources could be mitigated through collaboration and teamwork:

> "I need to spend a certain amount of time in the office. And so that was a challenge. And it's challenging on my staff then because they're having to schedule around all of my meetings and events. And so, like I said, that was just one more thing that took me away from my office and made me unavailable to people who needed nursing services." – Abigail, Agora County

> "We are so small-staffed between the two communities that we make sure that we have at least two or three people trained in that same area to be able to cover and cross train. We cover each other." – Catalina, Cork County

LPHA directors also described the role the university partner played in facilitating success, crediting the quality of materials, training, and technical support for facilitators as central to the success of the partnership. As one director explained:

> "I go back to lots of people that wear lots of different hats, and everybody's just to their max. So, you know if it hadn't been structured the way that it had, or if AIM hadn't been present at all, and we were looking to address obesity in the community, we would have been starting from step one. We had the luxury of having something that had already been developed, it had already been tried, it had already been tested, and we didn't have to go research and hope that what we were selecting or looking at was going to be beneficial." – Bridget, Burne County

Directors also expressed an appreciation of training and technical assistance provided to facilitators throughout the project. Accessibility of the university team to answer facilitators' questions and provide support fostered the agencies' readiness for partnership and, in some cases, freed up directors' time for other work:

> "...[the facilitator] felt confident and comfortable with what she was doing, and the fact that she didn't come to me on a regular basis saying 'Oh my. What am I gonna do?' or 'I can't do this'. I didn't have those discussions with her. When we did discuss the AIM project it was that it was moving in a positive direction, things were falling in like they needed to be … She had the guidance and support that she needed either through the training, through the materials that were provided or through [university staff] to where I wasn't being tasked with those responsibilities on a regular, routine basis." - Bridget, Burne County

Additionally, success of the project and partnership was attributed to strong communication between the university and LPHA staff. Effective communication created a collaborative environment where parties worked together to identify flexible solutions that suited the intervention while adapting to the needs of a rural LPHA. One example comment that speaks to this collaborative partnership:

> "You know, we just had to take it kind of a day at a time. One of the things, of course you guys know what we did to cope with the weather challenges that we had, was we ended up combining two different sets of meetings, so we did meeting 4 and 5 and meeting 6

> and 7 together. And that actually worked out really well for my group. So, thank you guys for helping me do that." - Abigail, Agora County

The post-intervention interviews also revealed that certain constructs of the readiness assessment were foundational to a productive partnership. When it came to managing available resources, such as staff and time, alignment of AIM's mission with that of the agency provided the motivation to overcome challenges associated with such a partnership:

> "It did increase our capacity to address the obesity through our public health improvement process. So yeah, it decreased our capacity personnel-wise for certain things but increased our capacity to address the public health issue that we feel is important." – Abigail, Agora County

> "We're at carrying capacity … because we're tasked with so many things. And that's why I always have a concern with something like this, but it worked out. … If we were gonna do it again, I would not hesitate. I would probably have the same concern as I always do, I don't want to stress my folks out, but this is worthwhile." – Daniel, Door County

## Discussion

The approach to readiness for partnership outlined in this study was critical to facilitating the successful completion of this school-based intervention. Attention to partnership readiness up front allowed us to avoid likely pitfalls and challenging dynamics (e.g., Elk and Burne LPHAs) while also being able to leverage opportunities and existing social dynamics within the community (e.g., hiring new staff with pre-existing strong relationships with school districts). It is unlikely that this intervention would have been as successful at negotiating these challenges without a conscious ongoing effort to understand and account for the readiness of each LPHA to participate in this partnership. Further, this study also 1) inspires a reconsideration of the constructs of readiness for partnership, 2) highlights the interrelated activities of assessing and cultivating readiness, and 3) offers a prospective, operational, and retrospective lens of readiness for partnership. We discuss each in turn.

**1. Revisiting Constructs of Readiness for Partnership**

The constructs of readiness used in this study pull from existing models of readiness in different ways (see Community Readiness Model;[15,18] Organizational Readiness for Implementing Change;[10] Positioning for Partnerships public health agency readiness assessment [11]), and we found these constructs useful in assessing readiness for the context of this intervention. We also note that interviewee responses to questions of readiness during the phase 3 interview revisited many of these same constructs without our prompting (e.g., mission, community climate, leadership, communication, personnel, change commitment, and change efficacy). This further supports the pertinence of these concepts for assessing readiness for partnership.

This work also contributes communication as a critical consideration in readiness that may deserve additional attention in inquiry of readiness for partnership. Although the importance of communication is named in the CBPR Partnership Readiness Model[13] and the Positioning for Partnership readiness framework,[11] Rogers' diffusion of innovation,[41] and implied in the construct descriptions of other models,[10,14,15] we found that attending directly to communication as an independent dimension of readiness helped bring this element of partnership to the forefront as both an agent of readiness and construct in its own right.

This study also highlights that constructs of readiness do not operate in isolation. Rather, as evidenced in the actions of LPHAs, they intersect and overlap, and strengths in one dimension of readiness can be leveraged to account for weaknesses in others. For instance, many interviewees noted that mission alignment between the LPHA and AIM inspired the strong support from leadership that was necessary to overcome challenges in other dimensions of

readiness (personnel, change efficacy). We also note the interrelation of personnel and community climate as informing change efficacy.

**2. Assessing versus Cultivating Readiness with LPHAs**

In the context of this study, our primary concern was the success of the initiative and partnership. Therefore, we sought to address or account for gaps in readiness as partnerships unfolded. As a result, we sometimes found it difficult to disaggregate an agencies' operational readiness for partnership from our efforts to address perceived gaps in their readiness. For instance, our questions of readiness pertaining to personnel and change efficacy directly informed revisions to implementation to better position the initiative for success. For example, discussion of the readiness of staff working in LPHAs to facilitate informed the scope and sequence of the training for new facilitators, and the suggestion of the importance of communication informed our approach to technical assistance throughout the initiative. In some cases, this resulted in amending the intervention itself, which stands as a reflection of our orientation to the principles of CBPR[32] and implementation science[23,42] (i.e., willingness to adapt to different settings and circumstances may be necessary to promote the greatest benefit). Readiness for the partnership, in this regard, was not approached as a passive assessment, but was an active catalyst in cultivating the conditions for a success. This supports the arguments of Andrews et al.[13] that readiness not be merely assessed, but that partners engage in dialogue around topics of readiness for partnership to help best position those engaged for a successful partnership.

**3. Prospective, Operational, Retrospective Readiness**

This study provides prospective, operational, and retrospective views of readiness for partnership. Such an approach contributes to the temporal perspectives[43] of the readiness for

change constructs as applied to partnerships. Of note, different constructs were emphasized and acknowledged to different levels throughout the course of the intervention and partnership. Mission, for example, was mentioned as an important construct in which LPHAs had high levels of readiness. During implementation, mission was observed as an implicit, underpinning support of the intervention. Finally, during the post intervention interview, mission was emphasized as a critical dimension of facilitating the success of the partnership and intervention. Change efficacy also offers an intriguing storyline through the course of this partnership. These connections, and others, may be instructive for those facilitating partnerships (e.g., It may be beneficial to remind partners of mission alignment with the intervention during challenging times).

**Limitations**

The central limitation in this work is that we did not conduct meaningful readiness assessments of other key partners in this partnership (University partner and K-12 schools). Assessing the readiness for partnership of all entities involved would have provided a more balanced and complete conception of the interchange of organizational readiness for partnership. Further, all interviews were conducted by university staff, and findings should be considered in this context.

**Topics of Future Research**

The findings in this study inspire several new lines of inquiry. First, empirical inquiries into the established constructs of readiness for change in real world settings will lead to a deeper understanding of what constitutes readiness for partnership. Future studies exploring this topic might experiment with the constructs used in this and other works. Further, future studies will complement this literature by using other approaches to assessing the readiness of all partners across the span of a partnership. A second topic for future research is the relationship of discrete

constructs of readiness. Specifically, understanding if certain constructs of readiness occur in conjunction, and how some constructs of readiness might be leveraged to address weaknesses in other areas. Third, future research might more deeply ex`plore the application and prevalence of constructs of readiness for change to different sectors of partnership, and as more broadly applied to the discipline of partnership.

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