



PROJECT REPORT

Barriers and bridges to implementing a workplace wellness project in Alaska

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ABSTRACT:

Context: The vast, rugged geography and dispersed population of Alaska pose challenges for managing chronic disease risk. Creative, population-based approaches are essential to address the region's health needs. The American Cancer Society developed Workplace Solutions, a series of evidence-based interventions, to improve health promotion and reduce chronic disease risk in workplace settings.

Issues: To adapt Workplace Solutions for implementation in eligible Alaskan businesses, research teams with the University of Washington and the Alaska Native Tribal Health Consortium collaborated to address various geographic, intervention, and workplace barriers. Terrain, weather, and hunting seasons were frequent geographic challenges faced over the entire course of the

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pilot study. Coordinating several research review boards at the university, workplace, and regional tribal health organizations; study staff turnover during the entire course of the study; and difficulties obtaining cost-effective intervention options were common intervention barriers. Few workplaces meeting initial study eligibility criteria, turnover of business contacts, and a downturn in the state economy were all significant workplace barriers.

Lessons learned: Flexibility, organization, responsiveness, communication, and collaboration between research staff and businesses were routinely required to problem-solve these geographic, intervention, and workplace barriers.

FULL ARTICLE:

Context

Cancer, diabetes, and diseases of the cardiovascular, cerebrovascular, and pulmonary systems are the leading causes of morbidity and mortality in Alaska¹. Along with associated health risk behaviors, these chronic illnesses represent a significant public health burden. Among the behaviors contributing to chronic disease and poor health are tobacco and alcohol use, poor nutrition, and sedentary lifestyles². National and state government agencies have proposed systems-based initiatives to reduce the burden of chronic disease by developing programs to promote early recognition and management of these behaviors³⁻⁷. Collaborations with employers offer an excellent opportunity to broaden the dissemination of such health promotion efforts to large populations of working adults^{8,9}.

The American Cancer Society developed Workplace Solutions, an evidence-based package of insurance benefits (eg full coverage for tobacco cessation treatment), policies (eg provision of facilities for physical activity), programs (eg onsite weight control programs), and strategies for tracking and communication (eg employee health surveys and health promotion campaigns). This package has been disseminated through several pilot and randomized clinical trials in largely urban areas in the Pacific Northwest of the USA¹⁰⁻¹². Likewise, these studies evaluated the Workplace Solutions program among companies with mid- to large-sized numbers of employees¹⁰⁻¹², with one trial focusing on how implementation fared with low-wage businesses¹⁰. Improvements in health-related policies and communications were most likely to change among mid-sized businesses¹⁰, whereas, among large-sized companies, coverage for tobacco cessation and cancer

screening showed the most significant change¹¹. At the time that the present study was conducted in Alaska, little was known about adapting this program for smaller businesses, operating out of rural locations, that employ non-White individuals. Supporting smaller sized and lower-income generating businesses in health promotion efforts is particularly important given the limited resources available to evoke change^{13,14}.

The pilot study was conducted over 24 months between 2008 and 2012, with 26 participating businesses. Recruitment of businesses into the study began in late 2008 and was completed in 2010. An initial pool of small to mid-sized workplaces in Alaska that employed 50–1000 individuals was generated. To be included in the initial recruitment process, business owners needed to be either Alaska Native or have legal rights to use Alaska Native hiring practices, and the workplace needed to have at least 20% of its employee base identified as Alaska Native/American Indian, a percentage that approximates the share of these peoples in the entire Alaskan population. Additional eligibility criteria included businesses to be established for at least 3 years, their home offices located in Alaska, 75% of their workforce with health insurance coverage, and willingness to be randomized to receive either an immediate or a delayed intervention.

Effective implementation of workplace interventions is challenging, often requiring several levels of policy, practice, and environmental changes to evoke positive outcomes on workforce health¹⁵. Furthermore, evidence-based health promotion programs often need to be modified and problem-solved when applied in historically underserved and understudied areas. This project report details how adapting Workplace Solutions for Alaska-based

employers required the study team to address various geographic, intervention, and workplace barriers. Strategies employed to overcome these barriers are described, including implications for future directions on workplace wellness implementation efforts.

Issues

Geographic barriers

Alaska is both the northernmost region and the largest state in the USA, covering more than 147 600 ha (570 000 square miles). Most of the landscape is rugged, several areas are accessible only by air or sea, and the extreme climate challenges both travel and communications. Several geographic barriers were encountered during study implementation. Few roads connected the broad catchment areas targeted for participant recruitment, requiring substantial travel by air. Harsh weather periodically disrupted schedules, especially for businesses in the most remote areas, and several flights had to be postponed. Winter typically prevented recruitment visits for extended periods, but weather in all seasons could be foggy, and the eruption of Redoubt Volcano in March 2009 was especially disruptive.

Even in summer, it was difficult to meet with administrators and company representatives, because Alaska's fishing and hunting seasons occur during the summer months. The prevalence of subsistence lifestyles for the Alaskan peoples meant that even human resource managers and CEOs were often unavailable for extended periods at these times. Several recruitment visits had to be rescheduled, and one manager of a participating business noted that most of his employees also fished and harvested natural resources for subsistence.

Intervention barriers

Conducting research with Alaskan and Alaska Native communities requires collaboration with several agencies and tribal boards to obtain approval for the ethical conduct of research. The study team encountered research review boards at the institutional, regional, and company levels, with delays at each level. After the Institutional Review Board process at the University of Washington was complete, further approval was needed from the Alaska Area Institutional Review Board. Study colleagues at the Alaska Native Tribal Health Consortium (ANTHC) assisted in coordinating approvals with various tribal health organizations across the state, given that the study recruited businesses who employed Alaska Native/American Indians. The study team identified 10 geographic regions in Alaska that required additional formal approval before the team could contact businesses for study recruitment.

Eleven different tribal health organizations were approached to obtain permission to contact businesses. Each one required submission of all the approvals noted above, and several either conducted their own research review, involving the completion of agency-specific forms, or required formal approval from a specific committee or tribal health director. Approvals were eventually obtained to recruit in 9 of the 10 regions identified by the team. Although the timeframe for individual approval processes ranged from 1 week to more than 14 months, most were completed in

3–9 months. Several businesses also had internal review processes to determine whether they would participate in the pilot study. In some, the internal review involved several organizational layers, requiring numerous communications with company representatives and adding further complexity to the process. Such multi-layered internal review is an ordinary part of organizational culture in Alaska for research programs of this scope.

An additional barrier encountered during the study was turnover among research staff at the University of Washington and ANTHC. A core group of research personnel remained stable at each site. However, delays in obtaining approvals, combined with the extended duration of the intervention itself, led to loss and replacement of staff.

A final barrier involved the adaptation of certain Workplace Solutions recommendations from the original randomized trials in the Pacific Northwest^{10,11} to fit the resources available in Alaska. In many rural areas, for example, it was either impossible or prohibitively costly to increase the availability of healthy food choices or to obtain discounted gym memberships to promote physical activity. In addition, ANTHC experienced difficulties obtaining cost estimates for various cancer screening tests, including mammography.

Workplace barriers

Workplace barriers also posed problems. The first wave of recruitment began in October 2008, and the first business was fully enrolled and randomized in February 2009. Even after obtaining approvals to recruit in nine regions, recruitment progressed slowly, as more businesses than expected did not meet eligibility criteria. Many businesses were ineligible, either because of the size of their workforces or because less than 75% of employees had health insurance. Large employers in rural areas were often subsidiaries of still larger companies. In such subsidiaries, it was sometimes impossible to isolate the benefits available at the workplace identified for recruitment. In other cases, the total number of employees at the larger company exceeded the sample size criterion.

Establishing relationships with key representatives at all businesses was essential to the success of the study. Company representatives needed to be not only accessible but also exercise influence over the policies and procedures governing their workforce. Representatives typically included CEOs, human resource managers, and supervisors. As with the research team, contact personnel at businesses invited to participate also experienced turnover. Such turnover interrupted communications, delayed study recruitment, and sometimes resulted in loss of interest in study participation.

A marked downturn in the US economy occurred during the active recruitment phase, bringing some of the highest unemployment rates in the nation since the Great Depression of the 1930s. At the time study recruitment started in October 2008, the unemployment rate in Alaska was 6.7%. The unemployment rate steadily rose over ensuing months, peaking at 7.8% in June 2009. Several businesses declined to participate in the study because of

the resulting financial stress.

Ethics approval

Ethics approval for this study was granted by the University of Washington Institutional Review Board (32333) and the Alaska Native Tribal Health Consortium Institutional Review Board (2007-12-039).

Lessons learned

Bridging geographic barriers

To address barriers related to geography and climate, recruitment efforts had to maximize efficiency. Whenever study staff traveled to a given region, they tried to orchestrate recruitment visits with as many local businesses as possible. Sometimes informal meetings were scheduled on the spot; these were especially helpful in building relationships between businesses and study staff, and they facilitated formal enrollment. Research staff often received last-minute confirmations to visit key company personnel, requiring flexibility in all travel arrangements.

Weather frequently delayed travel, especially by air. Staff had to respond immediately to delays and flight cancellations. Fortunately, the team observed a business culture in Alaska that was patient and understanding of such unpredictable obstacles. In addition, they learned to be respectful of local fishing and hunting seasons. In communications with candidates for study recruitment, they regularly inquired about seasonal aspects of business operations and workforce participation. This sensitivity and flexibility required extra time and lengthened the recruitment schedule, but it also enabled the enrollment of businesses that might otherwise have declined participation.

One of the most popular options in the Workplace Solutions package was the promotion of physical activity. However, implementation of this intervention choice in rural areas was challenged by harsh weather, dangerous wildlife, rugged terrain, and limited indoor fitness facilities. One business addressed the problem of unsafe walking conditions in winter months by subsidizing the cost of ice cleats for employees. In areas where outdoor encounters with moose or bears were likely, creative solutions were explored for indoor physical activity. For example, all participating businesses were given a Nintendo Wii Fit console to encourage indoor exercise. One company promoted Wii Fit as a company-wide incentive program that permitted virtual teams, with tennis and bowling among the teams created.

Bridging intervention barriers

To facilitate the complex review process outlined above, study staff at ANTHC responded rapidly to questions from review boards and provided required information on an accelerated schedule. They also coordinated communications and formal permissions among all review boards at the academic and state levels. In addition, recruitment efforts were staggered by region so that, as soon as one region received final approvals, ANTHC staff members were prepared to begin recruitment immediately.

Maintaining core research staff was essential to the successful completion of the study. These staff remembered the narrative history of study efforts and shared this history with all new staff, along with lessons learned. Staff training was therefore participatory and conducted in pairs, so that each new staff member was paired with a core staff member to learn all elements of the study protocol. New staff observed telephone-based recruitment and joined senior staff in face-to-face recruitment and intervention visits. In this way, new staff rapidly gained enough experience to operate independently. Staff periodically visited the University of Washington and ANTHC over the lifetime of the study to encourage team cohesion, reinforce adherence to study protocols, and share effective problem-solving strategies. During the recruitment phase, weekly conference calls were conducted with the university and ANTHC, while email communication happened daily. Conference calls became monthly during the intervention and follow-up phases.

Some intervention recommendations included in the original Workplace Solutions trial^{10,11} were not available among participating Alaska businesses, requiring alternative approaches. For example, when study staff had difficulties obtaining accurate, up-to-date cost estimates for preventive screenings, they worked with a local insurance broker to obtain state averages. This process revealed significant cost disparities between Alaska and the continental USA – some screenings cost hundreds or even thousands of dollars more in Alaska. Working with the local insurance broker facilitated cost estimates for screening, thereby helping participating businesses make more informed choices.

Bridging workplace barriers

When the recruitment process began, study staff reviewed a list of more than 1500 potential intervention sites generated by the Alaska Department of Labor and Workforce Development. To narrow their search to businesses most likely to meet eligibility criteria, they identified businesses that were owned by Alaska Natives or had a legal right to use Alaska Native hiring preferences. They also examined the demographics of communities where businesses were located, assigning higher priority to those with substantial Alaska Native populations. Efforts by the recruiting team found that the most common reason for ineligibility was the size of the workforce falling out of the a-priori range set at the start of the trial. Furthermore, the largest potential pool of businesses had 40–49 employees located in largely rural areas in Alaska. This process indicated the need for revisions in study eligibility criteria. In May 2009, study staff elected to expand the range of eligible workforce numbers from 50–1000 to 40–1500 employees, and to drop the requirement for 75% of their workforce to be insured. This decision required quick work to obtain additional ethics approvals and to communicate protocol changes to regional and organizational stakeholders. Increasing the range of workforce numbers allowed the study to recruit additional rural sites (17/26 defined as residing outside of Anchorage, Alaska) of smaller size (19/26 defined as having fewer than 250 employees), which increased the likelihood that study findings could be more generalizable to business demographics in Alaska.

ANTHC personnel advised research staff to try informal approaches to recruitment. They highlighted face-to-face contact as the most fruitful strategy. As noted above, when staff traveled to a remote area for scheduled recruitment meetings, they often stayed in the area for a few days longer to make further business contacts in person. One such trip resulted in six additional recruitment meetings.

Staff also stepped up efforts to promote study recruitment by sending emails and informational flyers more frequently to eligible businesses, by publicizing the study on the ANTHC website, by engaging a local consultant who had contacts among numerous Alaska CEOs, and by temporarily hiring a recruiting specialist in Anchorage, Alaska. Staff used the Reference USA database to expand the list of potential business participants. This resource offers data on more than 14 million public and private companies in the USA, including number of employees, type of industry, and contact information, enabling staff to further refine recruitment strategies.

The economic downturn was a systemic barrier outside the control of study staff and businesses. This development led to another extension in the timeframe for study recruitment, because staff elected to re-contact businesses that initially declined participation on account of the downturn, to see if their financial circumstances had stabilized enough to permit enrollment.

Frequent contacts with businesses throughout the study period were the most helpful way to address workplace barriers. For example, each business that was successfully recruited was contacted an average of 25 times before enrollment. Ongoing communications also informed study staff of changes in participating businesses so they could reinforce and rebuild relationships, as needed, in real time. Staff learned about the duties and responsibilities of their business contacts so they could better accommodate busy work schedules. They acknowledged competing demands among workplace participants and found approaches to study implementation that minimized workplace disruptions and excess workloads. These time-intensive efforts evidently paid off, since none of the participating businesses were lost to follow-up. Building and sustaining relationships proved the best way to avoid attrition.

Conclusions

Implementation of the American Cancer Society's Workplace Solutions project in Alaska required creative, collaborative strategies to overcome geographic, institutional, and workplace barriers. Flexibility, organization, responsiveness, communication, and respect for Alaska-based workplaces were essential components to the success of this pilot study. Conducting community-based, participatory research in this geographic region required forming, cultivating, and maintaining relationships at several levels and at every stage of the study process. Partnering with the tribal organizations was needed to ensure that the study design and communication of its findings were consistent with tribal values and priorities. Although the randomized trial was completed in 2012, approval from each tribal review council was required before submission of findings for peer review, a process that lasted close to 8 years. Additionally, ongoing contacts and communications between the study team and interested businesses helped to identify additional workplaces that eventually joined the trial. Further, these relationships assisted in problem-solving each of the study barriers encountered. Support and endorsement from tribal councils and businesses are essential and unique implementation factors for all future workplace wellness programs conducted in this geographic area.

Recent reviews of strategies to improve the effectiveness of implementing workplace health promotion efforts noted significant variability among workplace trials, with very few utilizing a theoretical framework for their efforts¹⁵ or sharing common operational definitions of wellness programs¹⁶. Similar to other studies, this study did not use a guiding theoretical framework for implementation. Future research may benefit from assuming a hybrid effectiveness-intervention approach¹⁵ in which evidence-based implementation models are applied concurrently to workplace intervention programs¹⁷. Potential models, such as the Consolidated Framework for Implementation Research¹⁸ and the Theoretical Domains Framework¹⁹, may help identify intervention-implementation interactions that could yield useful information for the longer term success and sustainability of workplace health promotion programs¹⁵.

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REFERENCES:

1 Centers for Disease Control and Prevention National Center for Health Statistics. *Stats of the state of Alaska*. 2017. Available: <http://www.cdc.gov/nchs/pressroom/states/alaska/alaska.htm> (Accessed 22 February 2020).

2 Centers for Disease Control and Prevention National Center for Chronic Disease Prevention and Health Promotion. *The four domains of chronic disease prevention: working toward healthy people in healthy communities*. 2015. Available: <https://stacks.cdc.gov/view/cdc/27508> (Accessed 22 February 2020).

3 State of Alaska Department of Health and Social Services Section of Chronic Disease Prevention and Health Promotion. *Strategic plan 2018-2020*. 2017. Available: http://dhss.alaska.gov/dph/Chronic/Documents/CDPHP_StrategicPlanAndMap_2018-2022.pdf (Accessed 22 February 2020).

4 State of Alaska Department of Health and Social Services Division of Public Health. *Alaska Division of Public Health strategic plan 2016-2020*. 2015. Available: <http://dhss.alaska.gov>

/dph/Director/Documents/DPH_StrategicPlan_1pager.pdf
(Accessed 22 February 2020).

5 State of Alaska Department of Health and Social Services and Alaska Native Tribal Health Consortium. *Healthy Alaskans 2020*. 2012. Available: <http://hss.state.ak.us/ha2020/default.htm> (Accessed 22 February 2020).

6 Department of Health and Human Services Office of Disease Prevention and Health Promotion. *Healthy people 2020*. 2010. Available: <http://www.healthypeople.gov> (Accessed 22 February 2020).

7 US Preventative Task Force. *Published recommendations*. 2020. Available: <http://www.uspreventiveservicestaskforce.org/BrowseRec/Index/browse-recommendations> (Accessed 22 February 2020).

8 Harris JR, Cheadle A, Hannon PA, Forehand M, Lichiello P, Mahoney E, et al. A framework for disseminating evidence-based health promotion practices. *Preventing Chronic Disease* 2012; **9**: E22. <https://doi.org/10.5888/pcd9.110081>

9 Wolf J, Prüss-Ustün A, Ivanov I, Mugdal S, Corvalán C, Bos R, et al. Preventing disease through a healthier and safer workplace. 2018. Available: <http://apps.who.int/iris/bitstream/handle/10665/272980/9789241513777-eng.pdf> (Accessed 22 February 2020).

10 Hannon PA, Harris JR, Sopher CJ, Kuniyuki A, Ghosh DL, Henderson S, et al. Improving low-wage, midsized employers' health promotion practices: a randomized controlled trial. *American Journal of Preventive Medicine* 2012; **43(2)**: 125-133. <https://doi.org/10.1016/j.amepre.2012.04.014> PMID:22813676

11 Harris JR, Cross J, Hannon PA, Mahoney E, Ross-Viles S, Kuniyuki A. Employer adoption of evidence-based chronic disease prevention practices: a pilot study. *Preventing Chronic Disease* 2008; **5(3)**: A92.

12 Harris JR, Lichiello PA, Hannon PA. Workplace health promotion in Washington State. *Preventing Chronic Disease* 2009; **6(2)**: A80.

13 Hammerback K, Hannon PA, Parrish AT, Allen C, Kohn MJ, Harris

JR. Comparing strategies for recruiting small, low-wage worksites for community-based health promotion research. *Health Education and Behavior* 2018; **45(5)**: 690-696. <https://doi.org/10.1177/1090198118769360> PMID:29658314

14 Hannon PA, Hammerback K, Allen CL, Parrish AT, Chan KG, Kohn MJ, et al. HealthLinks randomized controlled trial: design and baseline results. *Contemporary Clinical Trials* 2016; **48**: 1-11. <https://doi.org/10.1016/j.cct.2016.02.011> PMID:26946121

15 Wolfenden L, Goldman S, Stacey FG, Grady A, Kingsland M, Williams CM, et al. Strategies to improve the implementation of workplace-based policies or practices targeting tobacco, alcohol, diet, physical activity and obesity. *Cochrane Database Systems Review* 2018; **14(11)**: CD012439. <https://doi.org/10.1002/14651858.CD012439.pub2>

16 Motalebi M, Mohammadi NK, Kuhn K, Ramezankhani A, Azari MR. How far are we from full implementation of health promoting workplace concepts? A review of implementation tools and frameworks in workplace interventions. *Health Promotion International* 2018; **33**: 488-504. <https://doi.org/10.1093/heapro/daw098> PMID:28065884

17 Wolfenden L, Williams CM, Wiggers J, Nathan N, Yoong SL. Improving the translation of health promotion interventions using effectiveness-implementation hybrid designs in program evaluations. *Health Promotion Journal* 2016; **27(3)**: 204-207. <https://doi.org/10.1071/HE16056> PMID:29241482

18 Damschroder LJ, Aaron DC, Keith RE, Kirsch SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science* 2009; **4**: 50. <https://doi.org/10.1186/1748-5908-4-50> PMID:19664226

19 Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science* 2012; **7**: 37. <https://doi.org/10.1186/1748-5908-7-37> PMID:22530986

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