Agency: Commerce, Community and Economic Development

Grants to Named Recipients (AS 37.05.316)

Grant Recipient: Yukon-Kuskokwim Health Corporation **Federal Tax ID:** 920041414

Project Title: **Project Type:** Other

Yukon-Kuskokwim Health Corporation - Qungasvik Youth Sobriety Project

State Funding Requested: $1,624,775 **House District:** Statewide (1-40)
Future Funding May Be Requested

Brief Project Description:

The Qungasvik (Toolkit) Projects provides a strengths-based cultural approach to increasing reasons for life and well being among Yup'ik/Cup'ik youth and adults. The prevention project is based on a protective Yup'ik model, called the Qasgiq model. Qasgiq describes an aboriginal practice of gathering together to deal with issues, and builds protection from suicide and alcohol abuse in communities, families, and youth.

Funding Plan:

Total Project Cost:	$4,585,185
Funding Already Secured:	($2,960,410)
FY2012 State Funding Request:	($1,624,775)
Project Deficit:	$0

Funding Details:

Project Title: Elluam Tungiinun (Towards Wellness)

Funding Source: National Center for Minority Health and Health Disparities, National Institutes of Health

Project Start: 09/30/2005

End Date: 03/31/2013

Project Number: 5R24MD001626-06

PI: Allen, James

Detailed Project Description and Justification:

Project Justification: There is no greater source of health disparity in Alaska Native and American Indian communities than that involving alcohol use disorders and suicide, and no greater necessity in addressing this disparity than development of sustainable, strengths-based and culturally-relevant prevention programming.

According to the Statewide Suicide Prevention Council's Annual Report FY2010, southwest Alaska currently shares the highest suicide rates in the State. In 2000-2002, suicide was the second leading cause of death among 15- to 34-year-old's residing in the Wade Hampton census area. In one of the communities, where we conducted our pilot intervention work (population 650), from 2003-2006, there were 14 completed suicides under age 25, 24 lethal attempts, and 10 deaths from alcohol related accidents. This number has changed since our intervention project work began in this community and from 2006-2010 there have been 0 completed suicides in the community. Suicide numbers remain high in other communities in the Yukon Kuskokwim region and the need for local, cultural prevention for youth growing up in these communities remains

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$1,624,800 Approved

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high.

This region can also be characterized by its strengths. Southwest Alaska has among the most significant retention of indigenous cultural practice and indigenous language use in Native North America. The indigenous Yup'ik and Cup'ik Eskimos continue to live a subsistence way of life, based around the annual harvesting of sea mammals (seal, white whales, walrus), fish (salmon and whitefish) and land mammals (moose, caribou) and berries and greens. Eskimo dancing and potlatch remain important parts of the Yup'ik/Cup'ik culture and identity. The Yup'ik/Cup'ik language is still spoken in some areas as a first language. These strengths provide the greatest natural resources for the youth and families living in the region today.

Project Description: The Qungasvik Projects are the result of a long-term collaboration between Alaska Native (AN) leadership in sobriety and suicide prevention, and researchers at the University of Alaska Fairbanks (UAF). The project was initiated in 1992 as a community-based participatory research (CBPR) program originally conceived out of these leaders' interest in how Alaska Native people achieve sobriety. Following our first study, the People Awakening Project, our Alaska Native co-researchers expressed interest in translation of the People Awakening findings into culturally-based interventions that build strengths to prevent substance abuse and suicide among youth. Findings from the People Awakening Project are described in detail elsewhere (Mohatt et al, 2004, attached). Most significant from this study was the identification of protective factors and protective processes that led our Alaska Native participants towards wellness and sobriety. Protective factors are those things that occur within individuals, families and communities that directly contribute or are attributed to the success and wellbeing of individuals, families and communities. People Awakening participants identified things like having safe places to go to as a child, being treated as special, having family models of wellness and coming to Ellangneq (wake-up or achieve a greater awareness) as things that contributed to their own strength and healthy decision making.

These protective factors and processes came to form the basis of the Elluam Tungiinun (Towards Wellness) Project in Alakanuk. The Elluam Tungiinun (ET) intervention program in Alakanuk is a comprehensive, preventive intervention that was conducted over a 3 year period from 2005-2008 and enrolled 80 youth between the ages of 12-18 years and their families.

The Qungasvik (Toolkit) manual (sample attached) was one of the primary outcomes of the Elluam Tungiinun Project in Alakanuk and the Yupiucimita Asvairtuumallerkaa (Strengthening our Identity as Yup'ik People) Project on the YK coast. The Qungasvik toolkit has 36 cultural and bicultural activities designed to build protection from suicide and alcohol abuse in communities, families, and youth. Every rural community is different. Qungasvik activities include a careful process to develop the prevention activities to fit the local customs and practices of the community.

Outcome data from the Elluam Tungiinun project in Alakanuk demonstrate a significant increase in protective factors and reasons for life among the youth in the program (Allen et al, 2009, see attached). Evaluation was also part of the Elluam Tungiinun project and data from an external process evaluation conducted at three time points in the project describe the role of project implementation in relation to prevention outcomes for youth and families in the project (Rasmus, forthcoming, American Journal of Community Psychology, special issue).

The Elluam Tungiinun project also includes a 5 year prevention trial to test the impact of the project with 159 youth and their families in 3 additional communities. The project is in its third year and is currently active in 2 of the 3 planned communities.

This proposal seeks to develop a regional training center for the Qungasvik Projects that would be located jointly in the Elluam Tungiinun community of Alakanuk and the Yuuyaraq community of Emmonak.

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This proposal seeks to hire an Intervention Training Coordinator for all of the new and ongoing Qungasvik projects with the primary responsibility of overseeing the development, implementation and fidelity of the prevention projects. We also seek funding to hire Intervention Training Specialists to be located on a full time basis in the training center communities. These specialists would ensure these communities maintain their projects as model projects and provide local on-site demonstrations and training of Qungasvik project planning processes and activities.

In the last year the project leadership of the Qungasvik Projects (Rasmus and Charles) were approached by tribal administrators from 2 new communities on the Lower Yukon and tribal administrators from Alakanuk and Emmonak, communities whose funding term has ended, to maintain our project efforts. Our current funding through the NIH cannot meet these needs, and we seek funding to add two new additional communities to the project plan and sustain the original and active communities as model training communities.

The goal of this proposal is to create a regional training center on the Lower Yukon for the Qungasvik Projects and maintain the project at a full level for the next three years to create model training communities. This will increase the accessibility of the project for new and interested communities seeking innovative and strengths-based solutions to the problems their youth face growing-up today. We aim to expand the project at the regional and state-wide level at the end of the three-year period that will establish outcomes from the prevention process and project.

The long-term goal of this project is to establish an evidence-base and reduce the most significant health disparities experienced among Alaska Natives, suicide and substance abuse. We aim to test the effectiveness of the Qasgiq Model (see attached) through local, community-based and participatory research that will establish Qasgiq a local logic model that describes a theory of how change happens in rural communities in southwest Alaska.

Project Timeline:

Please see attached:
1. Three year project timeline detailing developed of the training center and addition of new project communities
2. Detailed budget
3. Budget justification

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

N/A

Grant Recipient Contact Information:

Name:	Gene Peltola
Title:	President & CEO
Address:	PO Box 528
	Bethel, Alaska 99559
Phone Number:	(907)543-6000
Email:	n/a

Has this project been through a public review process at the local level and is it a community priority? [X] Yes [ ] No

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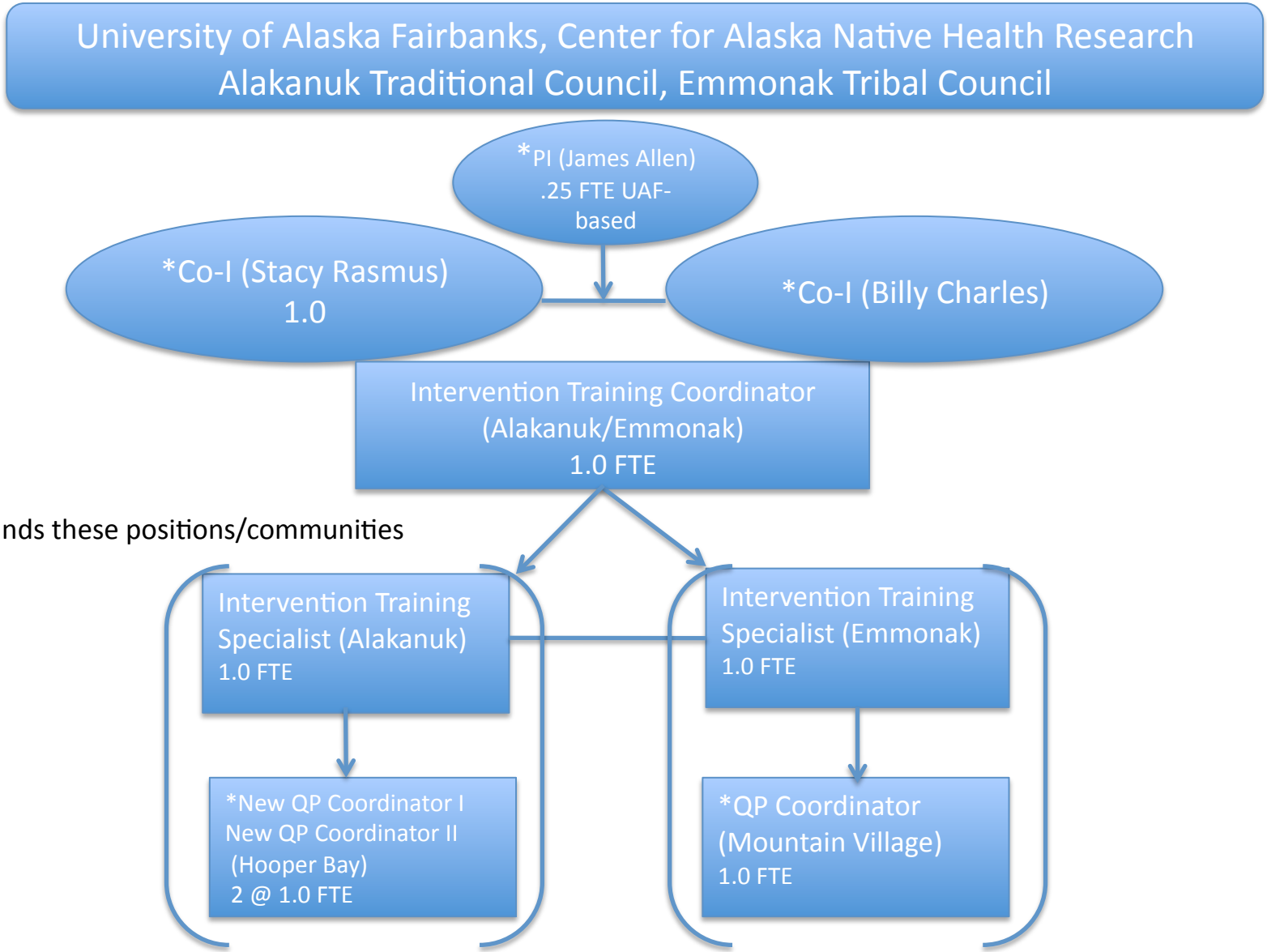
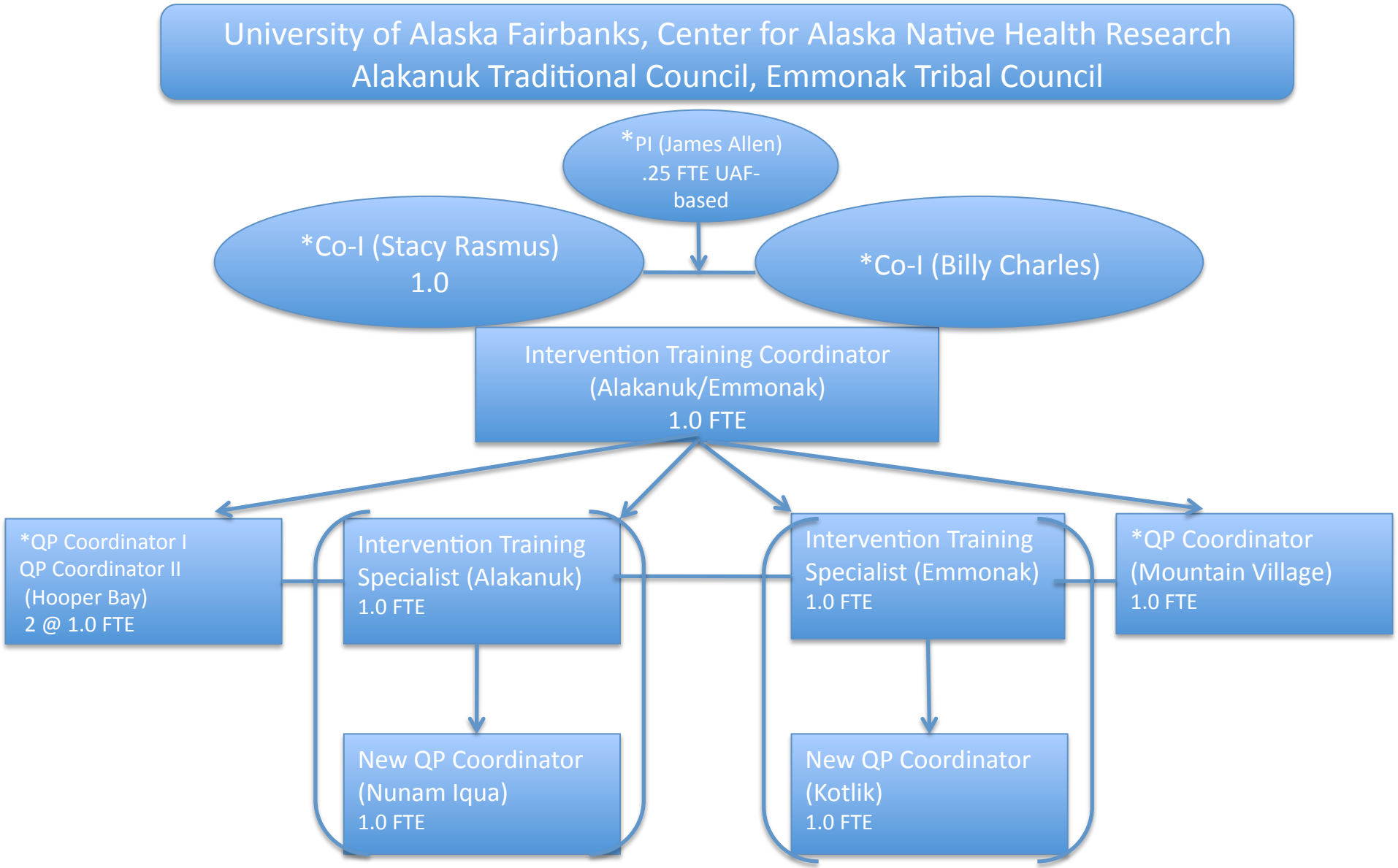
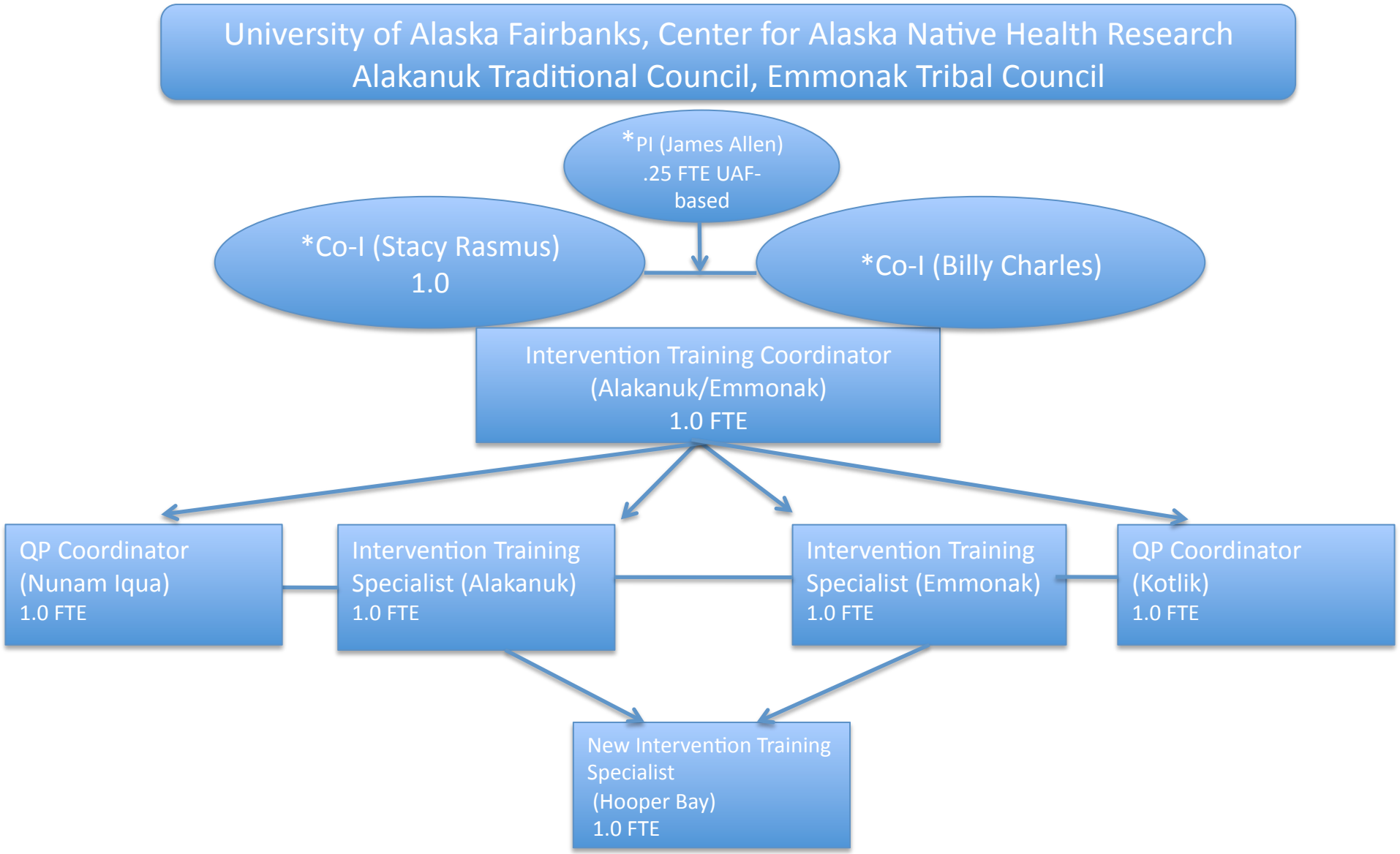
Contact Name: Denise Liccioli
Contact Number: 465-3880



YEAR 1: Set up regional Lower Yukon headquarters and training program for the Qungasvik Projects (QP). Hire 1 Regional Training Coordinator to oversee the development, implementation and fidelity of the QP projects in all of the project sites. Hire 2 Intervention Training Specialists to sustain the project in the training communities and train interventionists in the 2 remaining NIH/UAF intervention trial communities. Hire 1 additional QP Coordinator for Hooper Bay. Develop a mentorship plan between the training QP communities and new or start-up QP communities based on the "train the trainers" model.



YEAR 2: Graduate the 2 new QP communities from community development and project localization to intervention activities delivery. Deliver 20 activities in the graduated communities with 4 annual site visits with the QP training community. Partner 2 new QP communities with the 2 QP training communities. Develop a mentorship plan and implement a community development process in each new community to adapt and localize the Qungasvik (intervention manual) to fit the context and culture of the new village.



YEAR 3: Graduate the 2 new QP communities from community development and project localization to intervention activities delivery. Deliver 20 activities in the graduated communities with 4 annual site visits with the QP training community**. Advance an active QP intervention communities to a QP intervention training communities** upon successful completion of 20 activities in each site. Partner the new intervention training communities with an experienced intervention training community.

UNIVERSITY OF ALASKA FAIRBANKS

PROJECT TITLE: Rasmus-Allen-Charles AK State RSA Draft Budget — **DEPT #:**
PI: Rasmus, Stacy
START: 7/1/2011 — **BANNER #:**
END: 6/30/2014

Be sure to select the appropriate F&A rate on line 154.

ACCT	SALARIES AND WAGES			Hourly Wage	Leave Rate	Increase	Year 1 Hours	Year 1	Year 2 Hours	Year 2	Year 3 Hours	Year 3	Total Project
1000	**Senior Personnel**												
	Total Number of Hours	Employee Name											
	624.00	Rasmus, Stacy *(Project Co-I)*	F9 - Faculty (UNAC)	$43.33	1.2%	1.045	208.0	$9,121	208.0	$9,531	208.0	$9,960	**$28,612**
	624.00	Charles, William *(Community Co-I)*	NR - Classified Staff	$28.43	21.4%	1.03	208.0	$7,179	208.0	$7,394	208.0	$7,616	**$22,189**
	312.00	Allen, James *(Research/Evaluation Co-I)*	NR - Classified Staff	$63.29	21.4%	1.03	104.0	$7,991	104.0	$8,230	104.0	$8,477	**$24,698**
			Total Senior Personnel					$24,291		$25,155		$26,053	$75,499
1000	**Other Personnel**												
	Total Number of Hours												
	6240.00	1 Intervention Training Coordinator (ITC) @ 1 FTE	NR - Classified Staff	$24.50	0.0%	1.03	2080.0	$50,960	2080.0	$52,489	2080.0	$54,063	**$157,512**
	6240.00	Intervention Training Specialist (Emmonak) @ 1 FTE annually	NR - Classified Staff	$20.00	0.0%	1.03	2080.0	$41,600	2080.0	$42,848	2080.0	$44,133	**$128,581**
	6240.00	Intervention Training Specialist (Alakanuk) @ 1 FTE annually	NR - Classified Staff	$20.00	0.0%	1.03	2080.0	$41,600	2080.0	$42,848	2080.0	$44,133	**$128,581**
	2080.00	Intervention Training Specialist (Hooper Bay) @ 1 FTE in Year 3	NR - Classified Staff	$20.00	0.0%	1.03	0.0	$0	0.0	$0	2080.0	$44,133	**$44,133**
	4160.00	1 QP Coordinators in Hooper Bay @ 1 FTE in Year 1 & 2	NR - Classified Staff	$18.00	0.0%	1.03	2080.0	$37,440	2080.0	$38,563	0.0	$0	**$76,003**
	4160.00	1 QP Coordinator in Mtn Village (NIH funded) @ 1 FTE Years 2 & 3	NR - Classified Staff	$18.00	0.0%	1.03	0.0	$0	2080.0	$38,563	2080.0	$39,720	**$78,283**
	4160.00	1 QP Coordinator in Kotlik @ 1 FTE in Years 2 & 3	NR - Classified Staff	$18.00	0.0%	1.03	0.0	$0	2080.0	$38,563	2080.0	$39,720	**$78,283**
	4160.00	1 QP Coordinator Nunam Iqua @ 1 FTE in Years 2 & 3	NR - Classified Staff	$18.00	0.0%	1.03	0.0	$0	2080.0	$38,563	2080.0	$39,720	**$78,283**
			Total Other Personnel					$171,600		$292,437		$305,622	$769,659
			TOTAL SALARIES AND WAGES					**$195,891**		**$317,592**		**$331,675**	**$845,158**
1900	**FRINGE BENEFITS**												
	Senior Personnel	Rasmus, Stacy (Project Co-I)	F9 - Faculty (UNAC)		30.6%			$2,791		$2,916		$3,048	**$8,755**
		Charles, William (Community Co-I)	NR - Classified Staff		58.9%			$4,228		$4,355		$4,486	**$13,069**
		Allen, James (Research/Evaluation Co-I)	NR - Classified Staff		58.9%			$4,707		$4,847		$4,993	**$14,547**
			Total Senior Personnel					$11,726		$12,118		$12,527	**$36,371**
	Other Personnel												
		1 Intervention Training Coordinator (ITC) @ 1 FTE	NR - Classified Staff		58.9%			$30,015		$30,916		$31,843	**$92,774**
		Intervention Training Specialist (Emmonak) @ 1 FTE annually	NR - Classified Staff		58.9%			$24,502		$25,237		$25,994	**$75,733**
		Intervention Training Specialist (Alakanuk) @ 1 FTE annually	NR - Classified Staff		58.9%			$24,502		$25,237		$25,994	**$75,733**
		Intervention Training Specialist (Hooper Bay) @ 1 FTE in Year 3	NR - Classified Staff		58.9%			$0		$0		$25,994	**$25,994**
		Intervention Training Specialist (Mountain Village) @ 1 FTE in Year 3	NR - Classified Staff		58.9%			$0		$0		$0	**$0**
		1 QP Coordinators in Hooper Bay @ 1 FTE in Year 1 & 2	NR - Classified Staff		58.9%			$22,052		$22,714		$0	**$44,766**
		1 QP Coordinator in Mtn Village (NIH funded) @ 1 FTE Years 2 & 3	NR - Classified Staff		58.9%			$24,502		$25,237		$25,994	**$75,733**
		1 QP Coordinator in Kotlik @ 1 FTE in Years 2 & 3	NR - Classified Staff		58.9%			$0		$22,714		$23,395	**$46,109**
		1 QP Coordinator Nunam Iqua @ 1 FTE in Years 2 & 3	NR - Classified Staff		58.9%			$0		$22,714		$23,395	**$46,109**
		0	Select E-Class		0.0%			$0		$0		$0	**$0**
			Total Other Personnel					$125,573		$174,769		$182,609	**$482,951**
			TOTAL FRINGE BENEFITS					**$137,299**		**$186,887**		**$195,136**	**$519,322**
			TOTAL SALARIES AND BENEFITS					**$333,190**		**$504,479**		**$526,811**	**$1,364,480**

UNIVERSITY OF ALASKA FAIRBANKS

			Number Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Item Cost	Yearly Increase				
2000	**TRAVEL**												
	1. Domestic Travel	**Description**											
	Select Travel Cost from List	ITC Regional Travel; 3 Trips Total						0	**0**	$0	$0	$0	**$0**
	Airfare	Regional Airfare	3	3	3			700	**1.1**	$2,100	$2,100	$2,100	**$6,300**
	Meals	5 days @ $44/diem	15	15	#			44	**1**	$660	$660	$660	**$1,980**
	Taxi	Ground Transport	3	3	3			75	**1.1**	$225	$225	$225	**$675**
	Select Travel Cost from List	ITC Intervillage Travel; 4 Trips Total						0	**0**	$0	$0	$0	**$0**
	Airfare	Regional Airfare	4	4	4			300	**1.1**	$1,200	$1,200	$1,200	**$3,600**
	Meals	5 days @ $44/diem	20	20	#			44	**1**	$880	$880	$880	**$2,640**
	Taxi	Ground Transport	4	4	4			75	**1.1**	$300	$300	$300	**$900**
	Select Travel Cost from List	QP Coordinators (Hooper Bay & Mtn Village) Intervillage Travel; 10 trips total in Year 1							**0**	$0	$0	$0	**$0**
	Airfare	Regional Airfare	10					300	**1.1**	$3,000	$0	$0	**$3,000**
	Meals	5 days @ $44/diem	50					44	**1**	$2,200	$0	$0	**$2,200**
	Taxi	Ground Transport	10					75	**1.1**	$750	$0	$0	**$750**
	Select Travel Cost from List	QP Coordinators (Kotlik & Nunam) Intervillage Travel; 10 trips total in Year 2							**0**	$0	$0	$0	**$0**
	Airfare	Regional Airfare		10	0			300	**1.1**	$0	$3,300	$0	**$3,300**
	Meals	5 days @ $44/diem		50	0			44	**1**	$0	$2,200	$0	**$2,200**
	Lodging	Ground Transport		10	0			75	**1**	$0	$750	$0	**$750**
								Total Domestic Travel		$11,315	$11,615	$5,365	$28,295
									TOTAL TRAVEL	**$11,315**	**$11,615**	**$5,365**	**$28,295**
3000	**CONTRACTUAL SERVICES**		**Description**										
	Honoraria - 3017		Honoraria Costs ($20,000/new community; $10,000 for planning community; $7,000 for training communties)							$40,000	$60,000	$28,000	**$128,000**
3028								**Total Other Contractual Srvs**		$40,000	$60,000	$28,000	**$128,000**
									TOTAL CONTRACTUAL SERVICES	**$40,000**	**$60,000**	**$28,000**	**$128,000**
4000	**COMMODITIES**		**Description**										
	Supplies (Program and Project) - 4015		Computers (4 in Year 1, 2 in Year 2; 1 in Year 3)							$8,000	$4,000	$2,000	**$14,000**
	Supplies (Program and Project) - 4015		Supplies/Materials ($15k per new community; $5,000 per training community)							$30,000	$40,000	$20,000	**$90,000**
									TOTAL COMMODITIES	**$38,000**	**$44,000**	**$22,000**	**$104,000**
	A. Total Direct Costs (TDC)									**$422,505**	**$620,094**	**$582,176**	**$1,624,775**
	B. F&A							**Enter other rates manually**	**25.0%**	**$105,626**	**$155,024**	**$145,544**	**$406,194**
	C. Total Requested Costs									**$528,131**	**$775,118**	**$727,720**	**$2,030,969**

Notes

Year 1 will have greater amount of budget for equipment and supplies and travel

Tuition has a 5-10% yearly increase.

Graduate and undergrads will work full-time during summer and part-time during academic year

One month full time = 173.33 hrs (~174 hrs)

Tuition for 2 academic semesters = 18 credits

Qungasvik Projects Budget Justification

PERSONNEL

Stacy Rasmus, PhD, (.10 FTE) will serve as a key investigator on this project. Dr. Rasmus is a Lummi tribal member and Research Assistant Professor at the University of Alaska, Fairbanks. Dr. Rasmus has developed long-term, collaborative relationships with Coast Salish, Northern Athabascan and Yup'ik groups. Her expertise in conducting research with indigenous youth in areas related to health, mental health and prevention will be valuable in developing the strategies for this intervention.

James R. Allen, PhD, (.05 FTE) will serve as a senior investigator on this project. Dr. Allen is a licensed clinical psychologist with expertise in the area of suicide and community intervention, and has extensive experience providing related services to Alaska Native communities. Dr. Allen is currently a tenured professor in the Psychology Department at the University of Alaska Fairbanks. He has served as principal investigator on many projects, and has research experience and a high level of expertise in conducting community based participatory research (CPBR). Dr. Allen has been conducting projects in rural Alaska for many years; he has built strong, trusting relationships with Alaska Native communities, and is a respected partner within those same communities.

Billy Charles (.10 FTE) will serve as key community investigator on this project. Mr. Charles is an Alaska Native community partner who is currently collaborating with Drs. Allen and Rasmus in suicide prevention projects in rural Alaska. Mr. Charles has been a valuable member of the research team, and will serve as crucial role as coordinator for this project. He will provide key local knowledge and support in the program region. He will assist with recruitment, intervention planning and implementation, and will serve as a liaison with the State of Alaska. Mr. Charles' effort is an in kind contribution funded through his existing work on the Elluam Tungiinun NIH CBPR project.

Intervention Training Coordinator (TBN) will be regionally based, and will be responsible for overseeing the development and implementation of this project in each of the communities. The Coordinator will work to ensure the fidelity and consistency of the research taking place. This project emphasizes local development and implementation of prevention programs, so it will be necessary for this individual to be aware of how the research is being conducted within each community. This position will work closely with the investigators, the Intervention Training Specialists and the Qungasvik Projects (QP) Coordinators to ensure project fidelity.

Intervention Training Specialist (TBN) will be locally based assistants who will be responsible for sustaining the project within the community. The Specialists will coordinate with the community to train the Qungasvik Projects (QP) Coordinators in implementation of the intervention, and will provide intensive day to day supervision of their work.

Qungasvik Projects (QP) Coordinators (TBN) will be locally based assistants responsible for developing 20 community specific intervention activities and implementing those activities in the community. The QP Coordinators will be essential to the development of community relevant activities, as they will be able to provide key knowledge about the community and its needs.

<u>Salary & Wage Escalation:</u>

All salaries have been escalated at an annual rate of 4.5% for faculty and 3% for staff. The current UAF leave & benefits rates apply to all positions. Leave rates are not calculated for positions budgeted as FTEs.

TRAVEL

Please note that travel costs projected beyond Year One are increased for inflation.

Intervention Training Coordinator:

$8,955 is requested for the Intervention Training Coordinator to travel to other communities within the study region for 5 days, 3 times per year. Costs are based on **$995/trip**.

$7,140 is requested for the Intervention Training Coordinator to travel regionally for 5 days, 4 times per year. Estimated costs are based on **$595/trip**.

QP Coordinators:

$12,200 is requested for regional QP Coordinators to travel within the study region. 5 trips for 5 days for the QP coordinators in Hooper Bay, Mountain Village, Kotlik and Nunam Iqua (20 trips total) have been budgeted. EstimaStacyted costs are based on **$595/trip**.

CONTRACTUAL SERVICES

Honoraria:

$128,000 ($40,000 in Year 1; $40,000 in Year 2; $21,000 in Year 3) is requested to pay honoraria to community members. Honoraria are not considered as compensation of any type; for example community members who provide the project with their expertise in a particular activity may receive an honorarium. Costs are based on [$20,000/new community x 2 communities in Year 1] and [$20,000/new community x 2 communities + $10,000/training community x 2 communities in Year 2] and [$7000/training community x 4 communities in Year 3].

MATERIALS AND SUPPLIES

Computers:

$14,000 is requested to purchase computers for research staff. Costs are based on [4 computers @ $2000/ea in Year 1 + 2 computers at $2,000/ea in Years 2 & 3].

Project/Field Supplies:

$90,000 is requested for project specific supplies. Costs are based on [$15,000/new community x 2 communities in Year 1] and [$15,000/new community x 2 communities + $5,000/training community x 2 communities in Year 2] and [$5,000/training community x 4 communities in Year 3].

QUNGASVIK

Toolbox

A toolbox for promoting youth sobriety and reasons for living in Yup'ik/Cup'ik communities

Elluam Tungiinun
"Toward Wellness"
Ellangneq Project

Yupiucimta Asvairtuumallerkaa
"Strengthening our Identity as Yup'ik People"
People Awakening Resilience Project

Yuuyaraq
"Our Way of Life"
Yuuyaraq Project

CANHR

CENTER *for* ALASKA NATIVE HEALTH RESEARCH

Cover photo
Qungasvik: Toolbox
Yup'ik bentwood box with blue bead
University of Alaska Museum of the North
Catalog Number: 0638-6076AB; UA64-064-0018AB
Photographer: Angela J. Linn

All other photos in Qungasvik
Gunnar Ebbesson, Scarlett Hopkins, James Barker

Yup'ik dance fan and mask illustrations
Harry Asuluk

Layout and design
Diana Campbell

People Awakening Team (2009). Qungasvik *Toolbox*: A toolbox for promoting youth sobriety and reasons for living in Yup'ik/Cup'ik communities. Fairbanks, AK: University of Alaska Fairbanks, Center for Alaska Native Health Research.

This publication was supported by National Institutes of Health Award Numbers R21 AA015541 from the National Institute on Alcohol Abuse and Alcoholism, Gerald V. Mohatt, PI; R24 MD001626 from the National Center on Minority Health and Health Disparities, Gerald V. Mohatt, PI; James Allen, PI; and R21 AA016098 from the National Institute on Alcohol Abuse and Alcoholism, James Allen, PI. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIAAA, the NCMHD or the NIH.

QUNGASVIK

Toolbox

A toolbox for promoting youth sobriety and reasons for living in Yup'ik/Cup'ik communities

DEVELOPED BY

Alakanuk Community Planning Group
James Allen
Debbie Alstrom
Rebekah Burkett
Diana Campbell
Arthur Chikigak
Gunnar Ebbesson
John Gonzalez
Nick Hubalik
Gerald V. Mohatt
Charles Moses
Dora Nicholai
Eliza Orr
Marvin Paul
Toksook Bay Community Planning Group
Yup'ik Regional Coordinating Council

Elluam Tungiinun
"Toward Wellness"
Ellangneq Project

Yupiucimta Asvairtuumallerkaa
"Strengthening our Identity as Yup'ik People"
People Awakening Resilience Project

Yuuyaraq
"Our Way of Life"
Yuuyaraq Project

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May 2010

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Toksook Bay City Council

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Qasgiq—The Men's House
Module 3

Goal:

To construct or create a qasgiq, a sacred place for teaching yuuyaraq (the way or how to live) and molding young people for their future.

Objectives:

- To learn rules of the qasgiq and receive guidance from elders.
- To point out and set apart the importance and significance of the traditional qasgiq.
- To learn to work together, communicate, and value group efforts and form strong relationships.
- To learn about a Yup'ik work place for building subsistence tools such as harpoons and sleds.
- To reinforce the sacred way or ritual for beginning activities to mark the importance and seriousness of the occasion.

People Awakening Protective Factors:

- Communal-mastery
- Safe places
- Clear limits and expectations
- Limits on alcohol use
- Role models

Setup:

Remember the goal of this activity is to create a sacred learning space to be used in future indoor activities. We recommend that you consider this when thinking about a suitable space, seating and lighting for the qasgiq.

Work with your group to come up with a design for the room such as seating arrangements for participants and speakers that fits best with your local traditions and customs.

It is important to consider the resources you already have available to you so think about what materials you will need and are available in your community. Also make a list of speakers.

Joe Philip burns ayuq, or tundra tea, to purify people before an activity.

Introduction:

Design a way to welcome the participants into the qasgiq. You might have the elders facing the door and welcoming people as they arrive. Or you may come up with another idea.

When you perform the ritual you have created, explain the significance of it. Some communities have used smudging with tundra tea to begin the session.

Learning and teaching:

This activity is an important bridge between ancient knowledge and current circumstances and provides a safe place for youth.

Invite and plan time for elders to talk about the traditional qasgiq and what happened in it. Ask the elders to point out how their life experiences increased their reasons for living and sobriety. By highlighting the stories the elders give, you'll emphasize with youth their local role models. They also will have clear understanding about the community limits of alcohol use.

Youth will learn communal-mastery in a qasgiq setting, just as those who sat in one during ancient times.

Reinforce:

After the module have a conversation with the participants about what they liked or disliked about the event. Use the findings to think about what things you want to have continued and reinforced in future modules.

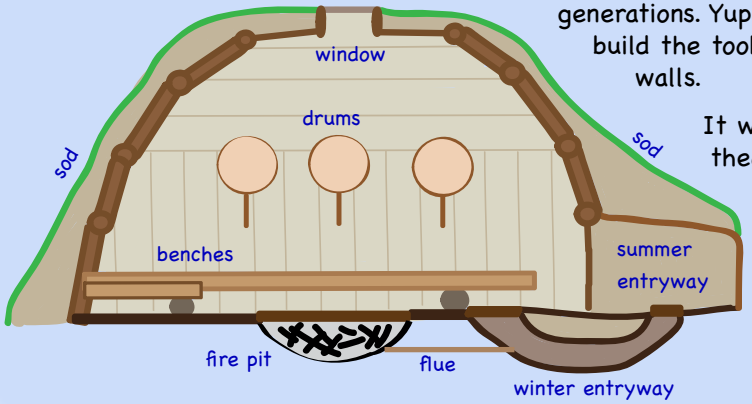
Closing: Do your community closing.

The Qasgiq

The qasgiq, a sod house built halfway into the arctic tundra, held a vital place in Yup'ik culture.

Literally the qasgiq was the men's house. The structure provided a place of education for the young boys and men of a community. It was a place to think and solve problems. A male could come to understand his place in the order of the universe.

The qasgiq was also the community's place of worship and prayer, where Yup'iks held their life celebrations.



It was a place to hand down history to younger generations. Yup'ik men learned to survive and build the tools of survival within its dirt walls.

It was a place of entertainment, of theater. A place to welcome guests, flesh or spirit.

The qasgiq was also the Yup'ik town hall, a place where important political decisions were made.

Yup'ik Values and Traditions:

- Always cooperate to achieve what is best for the community
- Have a sacred, respectable gathering place for teaching, learning and working
- Respect the feelings and property of others
- Respect for elders

Murilkelluku Cikuq—Watch the Ice
Module 10

Goal:

The participants will learn ice safety skills and how to use these skills when presented with challenging life situations, including substance abuse.

Objectives:

- Teach ice safety.
- Recognize dangerous situations.
- Provide youths with hands-on experience to learn about ice and how to survive falling in.
- Explore the rewards and dangers of challenging situations.
- Find solutions on ways of surviving and coping by connecting subsistence skills with the dangers associated with alcohol and drug use.

Setup:

This module uses ice safety to teach youth how to be thoughtful and careful about life decisions. By learning how to be prepared for traveling on the ice, learning the different kinds of ice and how to survive falling through ice into freezing water, youth also learn they have some control over what happens in their lives.

As you develop this activity, think about how you can bridge the lessons of ice safety with the lessons of making good decisions when it comes to substance abuse. For example, you could have an expert tell a story.

Learning and teaching:

The module uses subsistence skills to build ellangneq, a sense of control over one's life. Being aware of your surroundings protects one from making mistakes. Learning from other people's mistakes also helps young people make good decisions.

Ayaruq: Pick end

Also, youth will learn that they can use their own skills and knowledge to protect themselves from danger and that they can help each other stay safe.

We recommend that you choose someone from your community who has traditional knowledge as well as practical experience with traveling on the ice. By having them tell stories about how they overcame or prevented an accident is a good way to also talk about dealing with dangerous life problems.

People Awakening Protective Factors:

- Ellangneq
- Communal-mastery
- Self-efficacy

Storytelling is an excellent way to impart this knowledge, especially if the the stories are humorous.

This module is a good way to get youth involved in something hands on, such as building an ice pick, known as an ayaruq and a tugeq by others, or by taking them outside to look at different kinds of ice.

Reinforce:

After the group is done with the activity, it's a good time to bring all of the lessons about ice safety around for a discussion about substance abuse. You might want to ask someone to talk about their own experience as a young person and how they overcame an obstacle by being prepared, or by thinking about what they were doing before they did it, or any other ice safety lesson that was taught earlier.

As always, debrief afterward and decide which elements from this activity you want to review.

Ayaruq: Hook end

A parent shows how dry grass stuffed into wet shoes can help keep feet warm after falling through ice into the river. Also put grass between skin and wet clothes for warmth.

Yup'ik Values and Traditions:

- Respect for land
- Respect for nature
- Always be prepared and don't panic
- Always be aware of danger and your surroundings while traveling
- Always have a partner when traveling or hunting

Closing:

If you have chosen an ending ritual, use that.

The Qasgiq Model

with Qanruyutet *(protective factors)*

Ellangneq
(awareness)

Wanting
to be a role
model

Believe in
yourself
and others

Independent

Giving

Activity

Safe
places

Interdependence

Familiy
models
of wellness

Community
Work
Group

Community
Planning
Group

Community
role models

Clear limits/
expectations

Opportunities

Being
treated as
special

Qasgiq

Ilateng kellulluki
"Taking care
of each other"

Dependent

Affection/
Praise

Coordinator

Local governments:
tribes/city

Schools

Churches

Other:
Native corps.,
women's shelter, etc.

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Research

"Tied together like a woven hat:" Protective pathways to Alaska native sobriety

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Abstract

Background: The People Awakening Project (1RO1 AA 11446-03) had two purposes, completed in Phase I and Phase II of the project. The purpose of Phase I was to complete a qualitative study; the research objective was discovery oriented with the specific aim of identification of protective and recovery factors in Alaska Native sobriety. Results were used to develop a heuristic model of protective and recovery factors, and measures based on these factors. The research objective of Phase II was to pilot these measures and provide initial validity data.

Methods: Phase I utilized a life history methodology. People Awakening interviewed a convenience sample of 101 Alaska Natives who had either recovered from alcoholism (n = 58) or never had a drinking problem (n = 43). This later group included both lifetime abstainers (LAs) and non-problem drinkers (NPs). Life histories were transcribed and analyzed using grounded theory and consensual data analytic procedures within a participatory action research framework. Analyses were utilized to generate heuristic models of protection and recovery from alcohol abuse among Alaska Natives.

Results: Analyses generated a heuristic model of protective factors from alcohol abuse. The resulting multilevel and multi-factorial model describes interactive and reciprocal influences of (a) individual, family, and community characteristics; (b) trauma and the individual and contextual response to trauma, (c) experimental substance use and the person's social environment; and (d) reflective processes associated with a turning point, or a life decision regarding sobriety. The importance of cultural factors mediating all these protective processes is emphasized. For NPs, the resilience process drew from personal stores of self-confidence, self-efficacy, and self-mastery that derived from ability to successfully maneuver within stressful or potentially traumatizing environments. In contrast, for many LAs, efficacy was instead described in more socially embedded terms better understood as communal mastery. One style of mastery is more associated with individualistic orientations, the other with more collectivistic. Future research is needed regarding the generalizeability of this group difference.

Conclusions: Results suggest that preventative interventions should focus on intervening simultaneously at the community, family, and individual levels to build resilience and protective factors at each level. Of particular importance is the building of reflexivity along with other cognitive processes that allow the individual to think through problems and to reach a life decision to not abuse alcohol.

Background

Many American Indian and Alaska Native people experience problems with alcohol abuse that lead to social, psychological, and physical problems [1-3]. Unfortunately, little is known about American Indian or Alaska Native people who live sober and healthy lives. This paper presents initial findings from the People Awakening Project (PA), a collaborative study involving the Alaska Native community, and Native and non-Native university researchers. The goal of PA was to provide an Alaska Native understanding of the sobriety process. In earlier work, we provided a detailed description of PA's focus on cultural and spiritual understandings of sobriety [4], and its use of participatory research methodologies with Alaska Natives [5]. Sobriety in the addiction literature is generally defined as total abstinence following a period of alcohol abuse and/or dependence. However, many Alaska Natives also consider life-long abstinence, as well as non-abusive or moderate use of alcohol, as examples of a sober lifestyle. PA has adopted this broader definition of sobriety.

Recent research on resilience identifies and describes protective factors that moderate risk and adverse environmental circumstances; this work has relevance to understanding the sobriety process [6-10]. Resilience is "a capacity that develops over time in the context of person-environment interactions" [11] (p. 517). Protective factors are those attributes that contribute to this capacity, and include those "individual characteristics or environmental conditions that help children and youth resist or otherwise counteract the stress to which they were exposed. They delay, suppress, or neutralize negative outcomes" [12] (p. 4). Protective factors can be grouped according to three broadly conceived categories [13-15]: (a) internal or dispositional attributes of the individual, such as sociability, intelligence, social competence, and internal locus of control; (b) familial attributes, such as warmth and closeness of affectional ties, and level of active emotional support within the family network; and, (c) contextual factors, such as social support, and characteristics of school, work and church settings.

Because protective factors include personality traits and family, community, and environmental characteristics, it is difficult to compile a universal list of factors appropriate to all groups of people in very diverse contexts, especially when the nature or the composition of those categories includes diverse cultural dimensions [16]. For example, self-efficacy is a commonly cited protective factor [13,14,17], but few studies describe the nature of self-efficacy and how it works to protect American Indians or Alaska Natives. Hobfoll, Jackson, Hobfoll, Pierce, and Young [18] expanded our understanding of how efficacy may differ in a collectivist culture. A measure of communal mastery developed for the Hobfoll et al. study, but not a standard self-efficacy measure [19], predicted lower depressive mood and anger among American Indian women in stressful situations. Research among other ethnically diverse populations, including work with indigenous people in Kauai [15], Asian-Americans [20], and culturally-diverse inner city populations [21,22] similarly highlight the importance of cultural factors in the understanding of protective processes.

Triadic Influence theory (TI) [23] provides a multi-level, multi-factorial model for understanding protective factors in sobriety that both integrates constructs from other theories on alcohol use and abuse, and provides a conceptual framework for interventions [24]. However, Petraitis, Flay, and Miller [25] noted that there has been limited research on protective factors within a TI framework associated with race and ethnicity. The limited existing research on the role of cultural factors within protective processes from substance abuse among American Indians and Alaska Natives has focused on cultural identity processes and has yielded mixed findings. Beauvais and Oetting's [26] review of research suggested high levels of cultural identification function as a protective factor from substance abuse among American Indian adolescents, and Schinke et al. [27]found bicultural skills training an effective preventive intervention against substance abuse for this population. However, other studies of cultural identity and substance abuse have found no relation [28], or a positive relationship for women [29]. Oetting, Donnermeryer, Trimble, and Beauvais [30] concluded that simple relationships between cultural identification and substance abuse are unlikely to be found given four potentially overlapping considerations. First, members of an ethnic group vary on level of cultural identification, which may effect conformity to substance use norms. Second, substance abuse may originate from norms socialized in the subculture and differ from those of the larger ethnic group. Third, cultural identification and substance use norms may differ in different contexts. Fourth, cultural identification may originate from primary socialization sources that are different than drug use norms.

Instead of attempting to study cultural factors through measurement of identification with Alaska Native culture, the narrative form of the qualitative study reported in this paper allows for an alternative approach involving the generation of hypotheses on ways in which specific culturally mediated processes are conceptualized as protective by the members of the culture themselves.

In summary, there is a need for research that examines the resilience experience of Alaska Natives who lead sober lives, and in particular, for research that includes an examination of the role of cultural factors in the protective

process. In order to provide the rich description necessary to understand the range of experience and cultural processes of Alaska Natives who never drank abusively or who have recovered, qualitative methodologies are used. The goal of this study is to generate a theoretical model [31] of protection grounded in the experience of Alaska Native people that could inform the development of culturally anchored prevention approaches. Aligned with this goal, in this article we focus on Alaska Native pathways to the sobriety outcomes of abstinence and nonproblem alcohol use. Our analysis of the recovery group in this study is therefore restricted to identification of unique attributes within the abstinent and nonproblem drinking group not found among the recovery group. Future research will explore Alaska Native pathways of recovery from alcohol abuse.

Methods

Sample

A purposive sampling procedure was used. Selection criteria were established by the PA Coordinating Council, a statewide group consisting of Alaska Native community leaders, individuals involved with grassroots Alaska Native sobriety movement efforts, and Alaska Native substance abuse services providers, who functioned as co-researchers in the participatory methodology. The Council distinguished three groups of interest: (1) lifetime abstainers (LAs) defined as individuals who have never drank more than two drinks per year, (2) non-problem drinkers (NPs) who report drinking alcohol with no problem and score less than 12 on the lifetime total consequences score of the Drinkers Inventory of Consequences for Alaska Natives (DrInC-AN)-a culturally adapted version of the Drinkers Inventory of Consequences (30), and (3) five years or greater of sobriety (5+) who identified themselves as recovered after a serious problem with alcohol, scored greater than 12 on the DrInC-AN lifetime total consequences score, and reported abstinence for at least five years. The project goal for Phase I was to select 36 participants with equal representation from the five Alaska Native tribal groups-Aleut/Alutiq, Athabascan, Inupiaq, Tlingit/Haida/Tsimshian, and Yup'ik/Cup'ik,-balanced by gender, age, and sobriety group status, and to oversample 12 additional interviews from the Yup'ik because Phase II measurement development would focus on this group. PA utilized nomination and snowball procedures to identify potential participants. Age representation was categorized into three age groups: 21 to 30, 30 to 55, and 56 and over. These age ranges were selected by the Council as indicative of culturally significant age ranges, marking indigenous age transitions from young adulthood to middle adulthood to elder. The Council selected these three sobriety categories to maximize our ability to discover potential protective factors as well as recovery factors, together which would define broadly resilience factors used by Alaska Natives in dealing with alcohol. Consultants from the respective tribal communities, the regional non-profit corporations, area health service providers, and other Native political organizations nominated individuals for participation, who then nominated others. Additionally, radio shows, advertisements, and newspaper articles solicited volunteers. This yielded 152 volunteers. Because our Council indicated it would be culturally inappropriate to not interview people following their offer to tell their life story to the project, PA offered interviews to all volunteers, and 101 completed the entire interview process. The results presented here analyze 37 long life history interviews and 14 briefer interviews on sobriety experiences. These participants were distributed across tribal group affiliation (Aleut/Alutiq-6, Athabascan-7, Inupiaq-6, Tlingit/Haida/Tsimshian-6, Yup'ik/Cup'ik-26), and the three sobriety types: LA - 10, NP - 19, and 5+ - 22, with proportional representation of the long life histories by gender and age in each sobriety category. In addition to over-sampling from the Yup'ik cultural group for life history interviews, 14 Yup'ik briefer interviews are included in this analysis in order to maximize the generalizeability of the findings to this cultural group, as the next phases of PA involve the development of measurement instruments and preventative interventions in regions of Alaska that include a Yup'ik majority.

Sixty-two percent of participants spoke English as a first language and 48% their indigenous language. Eighty-two percent had been married at one time, with the average length of marriage being 10 years. At the time of the interviews 57% remained married. Participants' immediate families averaged 3 children. Participant incomes ranged from below $10,000 to over $100,000 per annum with the mean at $46,800. Most participants had graduated from high school (84%) and education ranged from no school to doctoral degrees. Of those who had recovered from alcohol abuse/dependence, mean years of sobriety was 17.5 years.

Procedures

PA was approved by the Institutional Review Board at the University of Alaska Fairbanks prior to participant enrollment. Nominees were contacted initially by phone, the purpose and structure of the interviews was described, and participation invited. Preference for location of interview, gender of interviewer, indigenous language or English interviewer, and interviewer that they knew or did not know was established. Interviewers were trained in the interview protocol, including protection of human participant procedures, prior to this contact.

Life history interviews followed an open-ended for long life histories (LLH) or semi-structured format for brief life stories (BLS). The mean for LLH was 173.5 minutes (SD =

87.5), median was 159.5, and mode was 141.9. For BLS the mean was 119.5 minutes (SD = 49.5), median was 110, and mode was 106.5. Range for LLH were 20 to 452 minutes and for BLS were 45 to 272 minutes. The interview protocol elicited lifespan information with a focus on what the person considered most important in their process of sobriety. The intent was to garner rich detail about each person's life story. Briefer interviews were semi-structured. Questions addressed specific issues including the role of culture, spirituality, role models, parenting, and the methods of coping that individuals utilized to either not abuse alcohol or to recover. However, it is important to note that Alaska Native narrative patterns [32] at times overrode the distinction between these interview types and participants often responded to both formats similarly in time duration and style of discourse. Many participants tended to respond to either question format with a narrative, and did not distinguish more structured questions from less structured ones, e.g. "When did you first drink and what was your experience like?" in contrast to, "Tell me about your life in as much detail as possible from whatever point that you wish?" would often be answered in the same way and expanded upon equally. Our sense was that older participants in particular would often respond to either type of question by telling their entire life story. Additionally, we noted the length of the interviews also often varied by the experience of the interviewer and/or how the interviewer responded to the content of the interviews. For example, some interviewers felt it was best to close off interviews that began to bring out too much emotional material, whereas others with more clinical experience were more comfortable in moving through emotional material, framing and containing it, and then move on to other material. Interviews were recorded digitally using mini-disk recorders. At interview conclusion, participants completed a demographic questionnaire and the DrInC-AN,

Analysis

Our analytic approach combined elements of grounded theory analysis [31] with recent methodological advances in team-based coding and analysis [33] and consensual qualitative data analysis [34]. Interviews were verbatim transcribed, reviewed by the interviewer, then, in the case of the life history interviews, the transcript was mailed to and reviewed by the participant for accuracy, additions, or changes. The following describes the analytic process from which a heuristic model of protective factors in Alaska Native sobriety emerged. Although the analytic structure is presented in stages for exposition of its elements, the analysis in practice functioned in an iterative process through multiple passes through stages, involving continual reassessment of inferences and analyses.

Step 1: Memoing

Each analysis team member memoed the recordings of assigned interviews while also making additions and corrections to the transcripts for fidelity to the recorded interview. Memoing entailed three steps: (1) open coding identify possible codes, (2) connecting codes through overarching themes, and (3) documenting how codes and themes fit possible theories of protection. Team members then read all memos. Additionally, some of the team members shared their memos with the participant to gather feedback on the accuracy of their perceptions. Changes to the coding and analysis were made to reflect the perceptions of the participant. Most participants made no changes to the transcripts or small changes to the transcripts. A small number made changes by adding material or deciding to delete material, e.g. a number of individuals dropped names of people that were in the interview. A few added material that they had remembered. We gave the participants their verbatim transcripts (with all pauses, false starts, "ahs", etc.) and discovered participants were often embarrassed by their unedited nature. We learned immediately we needed to explain the nature of the transcription process and its intent, and that their interviews would not be published in such a form (participants' interview transcripts were confidential, but several participants expressed a cultural value in their desire to have their interviews made available to others who may be struggling with alcohol themselves and find them helpful). An initial set of codes and overarching themes or domains under which the codes clustered was identified and then systematized in an initial draft coding manual.

Step 2: Open coding and coding manual development

Two research team members continued to read and open-code interviews. The team met periodically with Gerald V. Mohatt, Principal Investigator, who also coded a number of transcripts, to discuss coding discrepancies and refine coding rules. The goal at this stage was inclusive not exclusive, and to add as many codes as possible; therefore, we did not limit ideas. We spent much time operationalizing definitions in order to ensure that each code was clearly distinguished from others and could be reliably scored using the codebook criteria. This was done through hours of discussion, with final agreement regarding the definition of each code arrived at between the PI, the research Project Director, and at least one of the Co-Investigators or research assistants. This process resulted in 220 separate codes organized under 25 hierarchical domains. Coding reliability was enhanced in the revised coding manual through development of definitions for each code, along with examples of the code in use and decision rules where appropriate.

Step 3: Coding/content analysis and codebook refinement

The research team trained coders to code using AnSWR software [35] and content analyze the remaining transcripts. Inter-coder reliability between coders was assessed on every seventh transcript. What represents adequate inter-coder reliability in qualitative research continues to provoke divergent viewpoints in the literature. Miles and Huberman [36](p. 64) suggest that final inter-coder agreement in qualitative data analysis should approach or exceed 90%, though Stein[37] recently published a study where she used less than 80% agreement. Moreover, simple proportions do not account for the possibility that coders might agree due to chance, which is a function of the frequency or infrequency with which a code appears [38] and therefore provide a biased over-estimate of the true level of agreement. To correct for this, we used the *kappa* statistic [39]. Carey, Morgan, & Oxtoby [40] judged that a *kappa* less than .90 indicated a problem with agreement in the way a code was being used in qualitative research. However, insistence upon very high levels of reliability can also have the effect of diminishing validity [41], and this is a particular concern in discovery-based research such as that of the present study. Therefore, we adopted minimum criteria for the 25 hierarchical categories of *kappa* .90 or greater, and coding of the 220 lower level categories of no less than .60. *Kappas* ranged from .60 to .81 for all lower level categories, and all hierarchical categories were at .90 or above. The team continued to reconcile divergences in coding, refine coding categories, open code, and revise the codebook. Previously coded transcripts were recoded, using the revised codebook.

Step 4: Cultural auditing

The team submitted a sample of transcripts to the PA Coordinating Council as part of a cultural auditing procedure. The co-researcher role of this Council, which included members of all five Alaska Native tribal groups interviewed by the project is described elsewhere [5]. The Council collectively open-coded five transcripts from participants selected from all three sobriety groups. Council members coded the transcript of a participant from their own cultural group. The Council convened to discuss their coding and address specific research team questions; such as, have we identified and labelled the codes appropriately. This cultural auditing process moved the team forward in understanding the narratives from a more culturally grounded perspective.

For example, Council members understood "being a role model" within the context of the cultural value of contributing to the good of the family or community, and not merely in terms of individual achievement. The Council also indicated that we should add codes such as shame, praise, and pride to our coding system, and elaborated on their definitions. An overall comparison of the coding and domains generated by the Council with those of the research team displayed high levels of consistency, along with selected important divergences which were discussed to mutual understanding, then adopted by the research coding team.

Step 5: Generating theories through a consensual analytic process

Team members next identified how coded segments clustered and interacted, generating potential theories on protective factors through comparison of the life histories of LAs and NPs to 5+ individuals. The team discussed multiple theories, and reconciled potential theories to case histories of non-agreement through revision or abandonment of the theory.

Step 6: Developing and refining a theoretical pathway to sobriety

Team discussions were summarized and synthesized by the principal investigator into competing models. The team reread transcripts, discussed and refined models, converging on one model that best fit the majority of transcripts, which was then presented to the PA Coordinating Council. The Council added refinements and culturally grounded elaborations to this model.

Step 7: Doubling back

The team re-read transcripts and reassessed the model, refining and elaborating elements until consensus that the full set of transcripts supported the model. As part of this process the team enlisted the Cuiliat Group of Yup'ik speakers, who were our cultural consultants, and would also assist us in the Phase II measurement development. Translating each of the protective factors into Yup'ik forced us to clarify definitions and ensured that they differentiated culturally specific dimensions of each protective factor. For example, from this process the importance of collective group factors became clearer.

Methods for Verification

In qualitative research, the analogue for validity in quantitative research is often termed *credibility*, which can be defined through (1) the confidence that can be placed in the data and analysis [42,43], (2) how well the conclusions from the data analysis are grounded and supported in the data [44], and (3) the degree to which the descriptions and analyses provide an understanding of the experience studied [45]. In this study, several methods [36] were used to enhance the credibility of the findings: prolonged engagement with the participants resulting in rich, thick description; initial memoing of each narrative prior to coding; confirmation of the narrative and its transcription, and of the memoing, through checks with the study participants; team data coding with ongoing reliability checks and refinement of the coding system; triangulation through the use of multiple data sources and multiple co-researcher perspectives; negative case analysis, or the

examination of events and perceptions that did not fit emerging themes; cultural auditing of the coding and interpretative process; and team-based consensual analytic processes. Examples of triangulation included sending transcripts and memoing to the participant,, discussion of the memoing and transcripts with the Council, and the parallel discussions within the research team, which provided three typically converging perspectives on the analysis, along with recognition and discussion of discrepancies whenever they occurred, to the point of mutual understanding, and resolution and agreement. Depending upon the specific theme that was divergent, action could involve reworking of the coding theme to make it more congruent, dropping the theme as an unreliable code,, or addition of a new theme that was not seen by the research coding team, but was identified by others who analyzed the transcripts. Given the multiple cultural perspectives, this provided rich, deep, and inclusive coding categories allowing for the generation of multiple hypotheses regarding themes and the connections between them in the life stories.

Generalizability

The research aim of the PA study was discovery-based, and not proof through hypothesis testing and falsification. Our objective was to characterize the types of protective factors utilized within this purposive sample, and not to generalize to all Alaska Natives or American Indians. Our goal was to generate a heuristic theory that would suggest testable hypotheses that could later be investigated in a larger, population based study, using measures developed in Phase II. We also hoped to offer ideas to services programs regarding variables that they could test for effectiveness in prevention or treatment.

Results

Using the above process we first identified a set of factors protective from alcohol abuse. We use the direct words of participants to illustrate each to allow the reader to move through the process in a manner similar to the research team. Each protective factor in the model is translated into Yup'ik, the indigenous language of the group we plan to collaborate with on an intervention program. The complete Heuristic Model of Alaska Native Protective Pathways can be found in Figure 1. The mode represents a culture specific mapping of protective processes and as such, is presented in a format that allows for hypothesis testing using quantitative methods. The model is theoretical and heuristic in nature, and shows postulated relationships between factors consistent with Triadic Influence Theory, rather than empirically supported causal factors. We describe below each protective factor, along with its relationship to the model and function.

Community Characteristics (CC)

Yuut cayarait. Participants described the context of the community that protected them during childhood and provided a sense of security. As one participant indicated, "I guess, my life as a child was pretty much sheltered...so, as the expression goes, the village was my oyster then." Protective communities possessed *role models* for the proactive caring of others that exemplified a sense of a collective responsibility for the care of children, or, as another participant described this, "That's also what I remember is people taking care of us even if we're not their children, they looked after us, and they corrected us." Participants described how protective communities provided both opportunities to learn and alternatives to drinking. One young man described how the community school gave *opportunities* to travel, engage in sports, debate, and engage in student leadership that gave him ideas about college and careers. *Opportunities* were also often contextualized in ways the community helped children through important culturally defined transitional rites in the development of adult roles: "They still do this community sponsored moose hunt. They go out and they go hunting for the moose and for a lot of young men that is the time that they have the rite of passage. This is their first moose. And in the beginning when it started out it was just the men, just boys were allowed to go. And it evolved into a community wide project and it does include girls. And the whole community is involved because they'll go and they'll come back in and they'll have a big potluck and it's the rite of passage for he who caught his first moose. Everybody gets to participate. He gets to provide for his community, you know for the first time and that is something that he can do."

One of the most important community protective factors related to how the community established limits. While some individuals discussed the local option laws that allow some communities to vote to regulate or ban alcohol, a larger number discussed how significant individuals in the community took a personal stand to protect children from alcohol-related harm. What was fascinating was in which community characteristics were frequently embedded within the context of the family, and occurred within the interface between the family and the community. A vivid instance of this is described by a middle-aged woman recalling her childhood: "When I first was aware of somebody drinking, I was already nine years old. And I never saw anybody drunk before. ...And my father stood up, and he said no; he just let him turn around and he walked out with him. And then I heard him out there, 'Don't you ever come in my house like that.' We asked my mom, what is wrong with that man? And she would never tell us; she would say in due time you will know. In your own time, you will know." Here we see the individual actions within a family as an important component

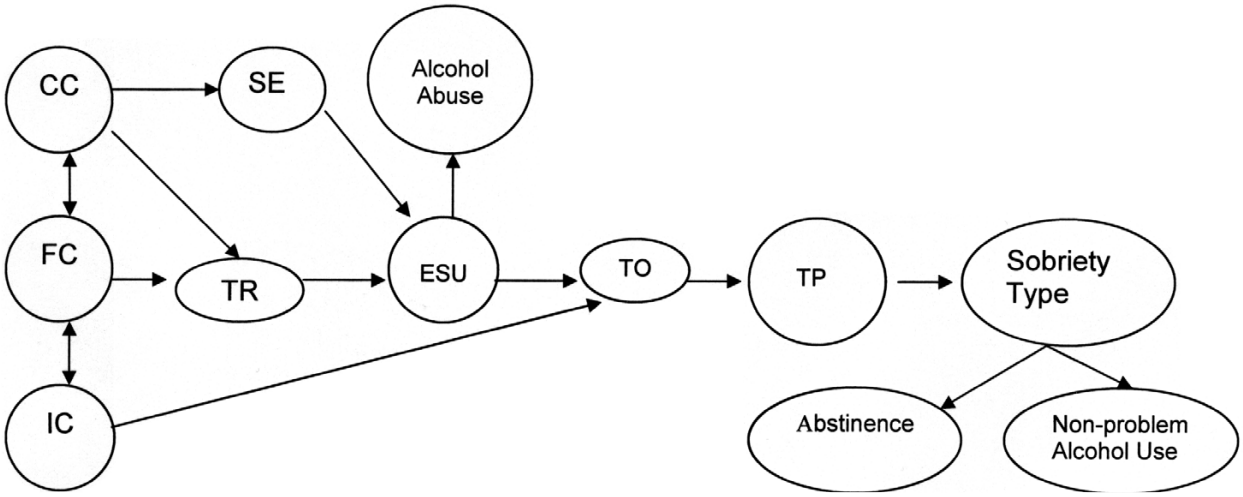

Figure 1
Heuristic Model of Alaska Native Protective Pathways ***Key.* CC (community characteristics)** *Yuut cayarait* includes the way the community organizes family, school, and community activity, and enforces alcohol policy and the drinking status of the community, CC includes role models, opportunities, limits, and safe places. **FE (family environment)** *Ilakelriit cayarait* includes family functioning in such areas as cohesion, conflict, recreation outlets, moral-spiritual focus, and home organization. Factors included parent-child relationship, affection and praise, transmission of expectations, safety and protection from harm and models of sobriety. **IC (individual characteristics)** *Yuum Ayuqucia* are belief in self (communal and self-mastery), wanting to contribute to others and *Ellanqaq* (Yup'ik mindfulness and awareness. **SE (social environment)** *Yuuyaraq* includes role models and social support from extended family, peers, and other adults outside of immediate, nuclear family. **TR (trauma)** *Akngirneq* includes sexual abuse, domestic violence, and death of loved ones. It includes being a victim and observing others being a victim. An individual's perception of trauma is critical, as is the meaning they attach to their experience and how they respond to it. **ESU (experimental substance use)** *Meqerraaryaurtellemni* are early experiences with substances, including alcohol, prior to the establishment of use patterns or abstinence. **TO (thinking it over)** *Umyuangcallemni* involves reflecting on one's experience and developing a personal life narrative. **TP (turning point)** *Ayuqucinellemni* comes out of this reflective process and leads to a decision about how the person will use alcohol.

within a community-wide expectation regarding the setting of limits upon alcoholic behavior, reciprocally mirroring and contributing to a community standard.

Participants reported how they were exposed in childhood to adults that abused alcohol. Protective communities had *safe places* children could go to that prevented them from becoming victims of alcohol-related violence. Most often the safe place was with a close relative, but it could include a friend, teacher, or member of the clergy. As one participant described: "I like the way my grandma took care of me when I was small. Her house was always clean, everything smelled good. It was always a safe place to go to. And I have realized after I got my own place and became an adult, that my home, to other people, was always a safe place to go to."

Family Characteristics (FC), Ilakelriit Cayarat. In the words of one participant: "In the Native community families are tied together in a certain way that they're close. And it doesn't matter who you are, we're tied together like a woven hat." This interdependence of family and community highlights both the kinship and collectivist [46] nature of Alaska Native communities. The most fundamental of the protective family factors described by participants was the nature of the caregiver relationship: An *affection and praise* that included important culture specific elements providing children a sense of being valued appears in the following narrative: "And I remember my grandparents bringing us to other elders' homes, just to introduce us to them, because our grandparents were proud of us, and they wanted to share us with the elders in the community. So they brought us to the elders and let

us visit with them. I remember when we started hunting and fishing, we got a lot of praise, and even more praise than today, from our relatives and elders. You know, if an elder found out that you caught your first rabbit or your first moose, everybody praised you for that. And it helped to build up the esteem."

Another quality of the caregiver relationship was a sense of being treated as *special*, as very important to the family. One participant noted: "So I grew up to be pretty special, only because I was the only girl of my family. My older brothers took very good care of me. They treated me well." Others who avoided alcohol problems in their lives recalled being told they were to become healers or shamans, or would have similar important roles in the community, and were encouraged to live in a way that prepared them for this role.

Families also provided *safety/protection from harm*. In addition to simply providing a place of safety, caregivers also established limits and enforced them for the good of children. One narrative related the importance of modeling values through the power of both words and action: "I would put the kids to bed and make, you know, put them to bed and make sure those people that were there, some of them I would kick them out and other ones, a lot of times I would let them go, say 'Go drink somewhere else. This is not the place to drink."'

Participants who never developed a drinking problem also described *models of sobriety* in the family who taught them explicitly about how to deal with alcohol: "So my Dad was a non-drinker. And he said when I was eight year old he say, he sat me down, and he told me he said, my son being the oldest in the family, he said, there is something that I want you to do for me. And he said, I want you to carry a torch for me, a torch that you would say that all of my life I wouldn't drink and I wouldn't smoke. He say I took his word for it and he say, I want you to do the same for me. Carry that torch for me. And I guess that's the biggest thing you know that right there and then I thought okay."

Protective families also actively engaged in *transmission* of the expectations they had for their children: "We were a poor family as any village people. But things were happy when we were growing up, and our Mom very seldom went out to work so she was home with us a lot. And my dad would talk to the boys about what's expected of them when they grew up, and how to take their place in the community or in their tribal relatives, how everything worked together. So that's how we all grew up." Many of these protective factors mirror each as interdependent community/family systems that protected children from exposure to alcohol abuse and alcohol related violence.

Individual Characteristics (IC)

Yuum Ayuqucia. Protected individuals displayed a set of characteristics that included a preference towards a cognitive style of thinking through reflectively about what one will or will not do. This reflective style allowed self-control around alcohol use and decisions to immerse oneself in activities that avoid or are incompatible with alcohol use: "But, like I said, it hasn't bothered me – drinking hasn't bothered me. I don't know if it will. In my head – in my mind, it never will. I'm – I'm a positive person and that's the way I like to live my life, is live positively and things go smoother that way. But, living a Yup'ik life, just in general, doing all the traditional activities that we do on a daily – day-to-day basis here in the village, this keeps me away, makes me not think about it."

Participants describe this reflective process as part of a collectivist, other-centered orientation specific to Alaska Native cultures. One participant talked about *wanting to be a role model*: "And I had made a choice when I was ten or eleven to not drink alcohol, to remain sober and to show my brother, my sister that there is something different to do besides drinking and alcohol." The sense of responsibility within a kinship network led to a desire to *give to others – contribute*: "I think he [father] meant that I was going to help people sort out their lives, help them to understand, that you know, be a good listener for them, and counsel them when they need it, or at least let them know they have tools to help themselves.

In order to give and contribute one must have a fundamental sense of one's own capacity, a *belief in self*, as a competent individual. One participant describes: "Like I mentioned, my parents, from as far back as even both of us can remember, I have always been an adult to them. I have always talked to them. Even like when I was ten years old, I talked to them like I was an adult, meaning I listened to them, I didn't talk about silly things. But we were able to converse, and so they treated me like an adult...that gave me the choice to do what I wanted and also to make the decision not to drink."

Some participants described a sense of mastery as knowing and caring for oneself and one's capacity to endure. In the words of one Alaska Native person: "My mother taught me too much to love myself. I've always felt I was a very strong person. I have been able to put up with a lot of shit." However, important differences in mastery emerged between NPs and LAs. NPs often described a sense of efficacy and self-actualization focused more on self-confidence and independence than responsibility to the family and community. One traditional Yup'ik elder NP described how he took the initiative in his socio-cultural education. "Yes I learned on my own. Whenever I am going to construct something I would look at it from all

sides and memorize it. When I was about to construct a large boat fashioned after one that is manufactured, I looked at a finished one from all sides and then I constructed it without anyone guiding me. I was not given a lot of advice by anyone." In contrast, for LAs, efficacy was described in more socially embedded terms better labeled as communal mastery [18,47], or a sense that one masters situations best by joining with others.

In this way, several of the life stories describe a socialization process within interconnected collectivist community and family structures that foster becoming aware of how one's actions affect others, described as an *awareness of consequences*: *ellangneq*. *Ellangneq* is a Yup'ik concept, but similar elements appeared throughout many of the narratives across all the Alaska Native cultural groups. The child learns that reciprocity exists between individual actions, and the good of the community and family: control over one's own actions can affect others positively. *Ellangneq* is this culturally valued awareness of the consequences of one's individual actions upon the whole. This special type of awareness is incompatible with intoxication; intoxication only reduces awareness and the ability to control oneself and one's own life, thereby engendering potentially negative reciprocal effects on family, community, and others. In the words of a Yup'ik LA, "But at that time I had already decided for myself that I wasn't going to drink. Part of that had to do with getting out into the woods. And that was part of my reason for refusal. Why would you want to go out and drink and kind of get out of your mind, loose mental control? You know I had so much fun doing the things I wanted to so I wanted to be aware of what I was doing."

Elaborating the Protective Process

Community and family protective characteristics lowered exposure to alcohol and alcohol-related trauma, or moderated the negative impact of traumatic experiences. They also fostered individual protective characteristics such as sense of mastery, awareness (*Ellangneq*), and a sense of responsibility to family and community.

Nearly half who never drank abusively describe directly experiencing or frequently observing significant trauma during childhood. *Trauma* and/or trauma exposure (TR), *Akngirenq*, included the death of loved ones or other unexpected and intense loss, witnessing domestic violence, or the experience of child abuse including sexual abuse. The pathway of participants who did not use alcohol as a coping response to trauma was facilitated by the protective community, family, and individual characteristics identified in the model, along with the youth's *social environment*, (SE) *Yuuyaraq*, including the presence of healthy, non-alcohol abusing *role models* and *social support* for lifestyles free of alcohol abuse from extended family, peers, and other adults outside of the immediate, nuclear family. Social environment is a subset of community characteristics specific to the time in youth when *experimental substance use* (ESU), *Meqerraaryaurtellemni*, begins, that functions as a support during periods of ESU or in times of crisis such as the experience of trauma. A male who had experienced significant family trauma described this:

"I have a Russian Orthodox priest who's going to wed us in a civil ceremony. And I asked him when I was 15, 'If I ever get married, will you marry me?' He is also somebody who was a mentor for me as a kid.... I think that he was there for me at the right time. Especially, I think, and I probably don't remember a lot of things that happened at that age, but I knew that there was somebody who I could look to."

A period of ESU was quite common in the narratives; a majority of NPs and several LAs engaged in ESU. This typically occurred in early or mid-adolescence, after which the decision to drink responsibly or not drink was made. Consistent with a worldview imbued with concepts allied with that of *Ellangneq*, NPs and in particular many LAs who tried alcohol decided in youth after ESU, or after the experience of significant alcohol-related trauma, that the consequences of alcohol did not fit with how they wanted to affect others. Though even in the presence of multiple family, community, and individual protective factors, children would often still engage in a period of ESU, the outcome among NPs and LAs who experienced these protective factors was a conscious decision, a *turning point* (TP) *Ayuqucinellemn*, that virtually all identified as a pivotal event in their narratives, to either not continue to use alcohol or not use it in a manner that led to abuse. This turning point typically occurred as part of a reflective process of *thinking over* (TO), *Umyuangcallemni*, one's personal experience with alcohol. As one NP described:

"Later on after I graduated from high school I still knew I didn't want to be a drunk or you know, get drunk or look all ugly and do stupid stuff. (...) I didn't want to not know what I was going through. I wanted to be totally aware of my every live moment and I wanted to be in control of everything that I was doing. And so I think that's when my responsible drinking started." Through this process of thinking over and turning point, LAs and NPs composed a personal life narrative in which they were in charge of their lives.

Figure 1 shows community, family, and individual characteristics reciprocally influencing each other. Strong, cohesive communities support the development of healthy families; together these institutions provide the networks of social support that develop a set of individual characteristics that enhance resilience. Strong and positive

communities and familial relationships also decrease the likelihood of alcohol-related trauma exposure. They additionally are part of the development of a social environment from which individuals can seek support or resources if trauma is experienced. This occurs in part through development of individual characteristics that enhance the likelihood of a response to trauma or ESU experience that involves thinking over (TO) the experience and the broad and reciprocal consequences of one's actions. This reflective process (TO) facilitates a turning point (TP) in LA and NP outcomes, resulting in a decision to not abuse alcohol, in affirmation of a life goal of contribution to family and community.

Discussion

We present here a multifactorial and multilevel model for the understanding of the sobriety process of Alaska Natives that lead a life free of alcohol abuse. The model was generated through a participatory action research process, elements of which can be adapted for work with American Indian and other ethnic minority communities. Cultural factors emerged central to an understanding of the sobriety process of Alaska Natives demonstrating the importance of culture as proximal variable [48] in research that seeks to understand sobriety and alcohol abuse with American Indians and Alaska Natives.

The resulting heuristic model for Alaska Native protective pathways is an indigenous explanatory model [49] describing how culturally mediated protective factors interact in complex ways. However, it is also consistent with Triadic Theory of Influence [23] assertions that substance abuse in adolescents is best explained by the interaction of community, family, and individual level variables. The model suggests that community and family build a wider social environment that both supports the youth and interacts with individual factors in the decision to not abuse alcohol following a period of ESU. The mechanism that appears to facilitate the turning point of a sobriety decision is *Ellangneq*, a sense of awareness, mindfulness, and the reciprocity of action developed through the teaching of parents, extended family, and community. *Ellangneq* can be understood as a manifestation of an interdependent [50], constitutive [51], or expanded sense of self [52] found among many Alaska Native and other non-western people that links the individual to a collective, tribal context [46]. Individuals who are socialized within such a context are allocentric [46], with a heightened sensitivity to the effects of their behavior on the whole, and drawing strength from the whole.

Ellangneq becomes operative through the actions of family and community. Many researchers have found that a significant relationship with at least one parent is a critical variable in protective outcomes [53], though substitute caregivers can also be of great importance early in the child's life [9,11,54]. This emerged as an important factor in this Alaska Native sample as well; however, the mutual influences of a supportive extended family and community also contributed importantly to resilience. Also important were ways in which security, safety, pride, and affection were experienced through the parent-child interaction, and how the family related to other caregivers to enhance the community network of caregiving.

One important difference distinguished the NP and LA sobriety groups in this sample. For NPs, the resilience process drew from personal stores of self-confidence, self-efficacy, and self-mastery that derived from ability to successfully maneuver within stressful or potentially traumatizing environments [55]. In contrast, for many LAs, efficacy was described in more socially embedded terms of communal mastery [18,47]. One style of mastery is more associated with individualistic orientations, the other with more collectivistic. Future research is needed regarding the generalizability of the group difference in this finding. Nonetheless, the finding highlights important differences between Alaska Native individuals regarding the processes underlying the decision to not abuse alcohol. This finding is of importance both for future research, and in planning interventions for Alaska Native people. The fact that this important difference reflects culturally mediated processes also suggests the decision is itself mediated by variables such as acculturation and cultural identity.

Indeed, cultural factors surfaced repeatedly as important components in an understanding of how social influences within a community and family context functioned as salient protective factors in sobriety for Alaska Natives. As Triandis [46] remarked, "Culture is to society what memory is to the person" (p. 511). In our Alaska Native participants' narratives, cultural processes emerged as much more than immersion in activities, social grouping, or self-perception, imbuing structure and meaning to all aspects of their thoughts and behavior. Even basic components of cultural processes, such as a person's identification with their Alaska Native culture, emerged as complex, situational, and multidimensional, echoing previous critiques of cultural identity research with American Indians and Alaska Natives [56].

Conclusions

This study presents a heuristic model of Alaska Native pathways to sobriety. What is significant about the model is that it emerged from in-depth study of the experience of Alaska Natives, rather than that of other groups. The model moves current research in the direction of developing a culturally and contextually based explanatory model [49] or emic model [57] of Alaska Native sobriety, because

it comes out of the life histories of Alaska Natives and a collaborative analysis process that included Native and non-Native researchers, the community of concern, and the participants themselves, as co-researchers [5]. Tests of hypotheses and path analytic models generated by the heuristic model, and design and investigation of the efficacy of prevention programs based upon the model are important future steps for research. In addition, the findings of this study offer perspectives on the resilience and the sobriety process of indigenous people and more precisely contextualize elements of the Triadic Theory of Influence within one indigenous group.

This initial analysis of the PA data set provides as many questions as answers for our understanding of the sobriety process of Alaska Natives. We hope that as the answers become more clearly defined, those pathways to recovery and resilience walked by the research participants become more known to those in need. The seeds of resilience form a sense of the family and community, a desire to make a difference as one Alutiq elder acknowledges:

"We're not here tomorrow. Got to leave a few tracks around, right? I want to. So my grandkids could say, well, I remember when grandma used to – you know. You know you feel like, hey, you want to be able to leave some kind of memory."

Competing interests

The author(s) declare that they have no competing interests.

Authors' contributions

GVM is PI for the research. He led the analysis and interpretation, and completed many of the interviews. SMR completed much of the text analysis, wrote the first draft, and edited many drafts. LT interviewed most of the Tlingit participants, participated in all analysis and interpretation, and edited the paper. JA was a collaborating investigator involved in all aspects of data gathering, analysis, and interpretation. He edited each draft and significantly contributed to the final draft. KH was also a collaborating investigator and edited a number of the drafts. The People Awakening Team completed many of the interviews and assisted with the analysis and interpretation of the data. CH was research coordinator for PA and assisted in model development, analysis, interpretation of data, and editing.

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ORIGINAL ARTICLE

SUICIDE PREVENTION AS A COMMUNITY DEVELOPMENT PROCESS: UNDERSTANDING CIRCUMPOLAR YOUTH SUICIDE PREVENTION THROUGH COMMUNITY LEVEL OUTCOMES

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ABSTRACT

Objectives. Community-based models have become increasingly prominent in prevention, and have special relevance for suicide prevention in circumpolar Indigenous communities. It follows that outcomes from circumpolar suicide prevention programs might be more completely understood at the community level. We present here a methodology for analysis at this level. This paper seeks to understand a cultural prevention program for rural Yup'ik youth in Alaska targeting suicide and co-occurring alcohol abuse as a community development process through changes at the community level.

Study Design. Quasi-experimental design with assessment at pre- and post-intervention or at 4 time points. The community development process for this project began in October 2004. The first program baseline assessment began in November 2006, prior to prevention activities with youth and parents, and the post-intervention assessment concluded in March 2008.

Methods. Five key informants pre- and post-intervention completed a community readiness assessment, which is a structured procedure assessing a community's awareness of suicide as an issue and its organizational readiness for prevention programming. Forty-three adult caregivers or sponsors of youth in the prevention program completed an assessment of behaviours that contributed to community protective factors from youth suicide and alcohol abuse at 4 time points before, during and after the intervention. The 54 youth who participated in the prevention program completed an assessment of community protective factors, also at 4 time points before, during and after the intervention. The community protective factors

from suicide that were assessed included safety, enforcement of alcohol prohibitions, role models, support and opportunities for youth.

Results. Community readiness for the prevention efforts increased to new developmental stages of readiness post-intervention, and a trend in the data suggested community protective factors increased in the amount of protective behaviours performed by adults (slope estimate=0.0162, 95% CI-0.0028–0.0351, *d*=.55) and in the perceptions of youth (slope estimate=0.0148, 95% CI-0.0004–0.0291, *d*=.45), in a dose response relationship to the number of prevention program sessions attended by adults and youth.

Conclusions. Using data from a feasibility study, this paper demonstrates the feasibility and potential utility of methodological approaches that use community-level variables beyond individual level outcomes in circumpolar suicide prevention research.

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Keywords: Suicide, suicide prevention, Alaska Native, community readiness assessment, community-based participatory research

INTRODUCTION

Community-based models that seek to increase community participation and local capacity have become increasingly prominent health promotion and prevention program approaches (1). One focus of this *IJCH* special issue on suicide in the circumpolar areas is on methodology for examining/monitoring suicidal behaviour in the Arctic areas. In this paper, we describe a community-level methodological approach to examining outcomes of community-based circumpolar suicide prevention programs. We then provide an example of use of this methodological approach with data from a feasibility study of a community-based prevention program targeting suicide and alcohol abuse among Yup'ik youth living in a remote community in rural Alaska.

The unit of analysis in prevention research has been a hotly debated topic with a long tradition in the research calling for community-level measurements of outcomes (1,2). Evaluation of the workings and effectiveness of circumpolar suicide prevention programs can be improved by using recent systems sciences approaches (3), whose far-reaching recommendations refocus the analysis to include community-level outcomes over individual-level variables.

This type of refocusing on different levels of outcomes has great urgency in youth suicide prevention programs. The base rate of suicide deaths as a prevention target in these programs is so low that they defy statistical modelling and the period of vulnerability in young adulthood stretches over a decade. In remote circumpolar communities that are characterized by extended kinship relationship structures and small populations, this refocusing is especially pertinent. Small geographically dispersed populations lead to small sample

sizes that do not permit adequate statistical power, particularly given the low base rate of suicide. Additionally, among Alaska Native youth, a recent path analytic study suggested community level influences exert greater impact on reasons for life than individual level characteristics do, while family influences impacted reasons for life outcomes indirectly through their impact on attitudes towards alcohol use and abuse, as mediated by youths' peer relationships (5). Finally, tribal communities are collective in nature, and individual level models often lack the capacity to develop collective community-level interventions (6,7).

This paper is a response to recent calls in the methodological literature for ecologically based assessments in prevention work with Indigenous youth populations (8). Its purpose is to understand a cultural prevention program for Yup'ik youth in Alaska as a community-development process by using a methodological approach that focused on an analysis of outcomes at the community level. In order to explore changes at the community level, we evaluated changes in community readiness to engage in suicide and alcohol prevention activities and to build protective factors for youth. Community readiness assessment (CRA) has an extensive history of use in prevention programs (9) and in Indigenous communities (10). CRA evaluates the developmental trajectory of a community's response to an issue using a theory of change model that begins with early awareness of the issue and progresses through stages of organizational response. We also assessed caregivers' efforts to build community-level protective factors for youth, and youth perceptions of community climate regarding protective supports and opportunities for them. This is in contrast to measurement strategies that focus on change at the individual level through such variables as a decrease in youth suicidal ideation. We examine impact on community readiness assessments, and youth and adult reports of community-level protective factors, as outcome variables of our suicide and alcohol abuse prevention efforts. These variables were identified in a heuristic model of protective factors developed through a program of qualitative research with Alaska Natives (11,12), which were subsequently tested through structural equation modelling with Alaska Native youth (5).

MATERIAL AND METHODS

Setting

The suicide prevention program reported in this study was conducted in a remote Yup'ik community in south-western Alaska. The University of Alaska Fairbanks Institutional Review Board and the Yukon-Kuskokwim Health Corporation Human Studies Committee approved this research. All adult participants gave informed consent before participation in the study, and all youth participants gave assent following their parents' consent.

The geographic setting of this community is off the road system, accessible only by boat, small plane or snowmobile, and has a population of approximately 650. The community ethnicity is over 90% Yup'ik. Elders speak Yup'ik as a first language, but youth speak English as their first or only language. A mixed subsistence economy is augmented by a limited number of jobs in the tribal, state and federal government, in health care and in the local school district. Given the high costs of transportation for food, the population's diet is heavily dependent on local fish, birds and land and marine mammals.

The recent dramatic increases in fuel prices and a serious decline in salmon populations have placed economic stress on this community, which is situated within 1 of the 10 lowest per capita income counties in the United States (13). However, an enduring strength and asset of this community is its identification and pride in its cultural heritage and identity, which provided important motivation for the cultural focus of the intervention described in this study. In contrast to the reservation system elsewhere in the United States, most remote Alaska Native communities, including the setting of this study, are federally recognized tribal entities, and many residents are shareholders in regional Alaska Native Corporations that also operate regional health corporations providing medical care for tribal members. In 2004, Alaska experienced 155 suicides, the highest rate in the United States (14). In contrast to the U.S. general population suicide incidence rate of 11/100,0000, data from 2004–2006 indicate that the suicide incidence rate in Alaska was 23.4/100,000, with 28% in the 20–29 age group and 39% being Alaska Native (though they comprise only 16% of the population). The Yukon-Kuskokwim Delta region, in which this community is situated and which is over 90% Yup'ik, experienced an incidence rate of 61.3/100,0000 during 2004–2006, representing the greatest number of Alaska Native suicides in the state (14).

Participants

Key Informants

Two waves of key informants participated in the community readiness assessment (CRA) described below. Key informants were selected to represent as many different segments of the community as possible. At pre-intervention, the 3 key informants consisted of 1 school, 1 tribal, and 1 city government leader. Two additional Elder interviews that were conducted could not be scored using the CRA handbook scoring criteria (15) and are not reported. Spradley (16) describes key informant methodology as requiring individuals who can yield rich data on a particular domain. The domain of interest in this case was suicide and alcohol abuse in the community, and the 2 interviewees we ultimately dropped from analyses were unable to provide data on this domain. At post-intervention, 5 key informants were interviewed: 1 school leader, 3 tribal and city leaders, and 1 Elder. Three of these were the same people as in the first CRA interview. Consistent with the experience of other CRA researchers (17), we found assessing a few informants (e.g., 3–6 informants) was adequate for these small communities to "provide accurate information" (17, p. 832).

Youth

Sixty-one youth were recruited to participate in *Elluam Tungiinun* (Toward Wellness) prevention program from the approximately 100 12–17 year olds residing in the community. Sixty of these youth completed wave 1 assessments; 46 completed wave 2; 43, wave 3; and 61, wave 4. This resulted in 37 youth who completed all 4 assessment waves (T1–T4), 8 completed 3, and 10 completed 2. We identified multivariate outliers using hierarchical cluster analysis, a statistical method that detects homogenous clusters of cases by grouping cases together based on an iterative distance computation. Using this approach, we identified 1 multivariate outlier, a youth who was distant from others across the measures. In addition, the 5 youth who completed only the final assessment

were dropped from the analysis, resulting in 54 participants. All youth were Yup'ik. Youth demographic data are presented in Table I.

Adults

Parents or an adult sponsor were recruited for each youth who participated in the *Elluam Tungiinun* prevention program. Forty-seven adults were recruited; some families had more than 1 child in the intervention. Forty-six adults completed wave 1 assessment; 31, wave 2; 26, wave 3; and 44 completed wave 4. This resulted in 22 adults who completed all 4 waves (T1-T4); 4 who completed 3; and 16 who completed 2; There were 5 adults who completed 1 assessment and 4 who completed 2 assessments but did not attended intervention sessions and who were dropped from the analysis, resulting in 43 adult participants. All adults were Yup'ik, except for 1 parent who identified as white. Adult demographic data are presented in Table II.

Table I. Demographic characteristics of youth participating in the prevention program.

Gender	
Male	23
Female	32
Age	
M	14.29
SD	1.75
Grade	
7	24.5%
8	30.2%
9	17.0%
10	9.4%
11	9.4%
12	9.4%
Parental marital status	
Married	33.3%
Single	61.8%
Divorced	3.6%
Adults living at home	
Mother	76.4%
Father	65.5%
Grandparent	23.6%
Other relative	14.5%

Table II. Demographic characteristics of adults participating in the prevention program.

Gender	
Male	13
Female	30
Age	
Mean	48.09
SD	12.73
Education	
No high school	26.2%
Some high school	16.7%
High school degree	35.7%
Some college	14.3%
College degree	7.1%
Marital status	
Married	30.2%
Single	65.1%
Divorced	4.7%
Occupation[a]	
Subsistence	34.9%
Time Limited Grand Project Work	7.0%
Tribal Government	11.6%
State or Federal Government	2.3%
Business	9.3%
Homemaker	25.6%
School	18.6%
Other Occupation	39.5%

[a] Respondents could indicate more than one occupation; therefore, the percentages equal more the 100%.

Measures

Community readiness assessment

As part of the community-based participatory research collaboration between the community and UAF researchers, CRA was conducted (15) at pre- and post-intervention, approximately 1 year apart. In the current study, CRA over time provides both an assessment of change in community climate and an evaluation of community mobilization regarding suicide as a problem. CRA evaluates 6 dimensions of community readiness described in Table III.

CRA is conducted using key informant interview procedures described in Oetting et al (17). The CRA interview is formatted in a general way to allow adaptation of the interview to fit the community issues at hand. The issue in this community was suicide and alcohol abuse that the community understood as a co-occurring problem. In response to community cultural expert feedback and our previous work using CRA in rural Alaska, we culturally and linguistically adapted specific wording of the interview protocol for use in rural Yup'ik communities. This adaptation work used focus-group methodology. The focus groups were comprised of local community experts who revised the wording of interview questions and shortened the interview length. The goal of this adaptation of the interview was to preserve identical meaning of the questions while enhancing local undestandability, comfort level and cultural appropriateness. This interview protocol can be found in Table IV.

Table III. Dimensions of community readiness assessment (15).

Dimension A	Community efforts: To what extent are there efforts, programs and policies that address the issue?
Dimension B	Community knowledge of the efforts: To what extent do community members know about local efforts and their effectiveness and are the efforts accessible to all segments of the community?
Dimension C	Leadership: To what extent are appointed leaders and influential community members supportive of the issue?
Dimension D	Community climate: What is the prevailing attitude of the community towards the issue?
Dimension E	Community knowledge about the issue: To what extent do community members know about the causes of the problem, consequences and how it impacts the community?
Dimension F	Resources related to the issue: To what extent are local resources – people, time, money, space — available to support efforts?

Table IV. Community readiness assessment key informant interview protocol for suicide and alcohol abuse.

1. Using a scale from 1 to 10, how much of a concern is alcohol abuse among 12–18-year-olds and suicide in your community? (With 1 being "not at all" and 10 being "a very great concern.") (B)*
2. What alcohol abuse and suicide prevention programs or services for 12–18-year-olds are available in your community and schools? (A)
3. What does the community know about these efforts? (B)
4. What are the strengths of these prevention programs and services? (B)
5. What are the weaknesses of these prevention programs and services? (B)
6. How long have these efforts been going on in your community? (A)
7. Can you describe any planning in your community for youth alcohol abuse and suicide prevention programs or services? (A)
8. Can you describe efforts to include youth in the planning of prevention programs or services in your community? (A)
9. Using a scale from 1 to 10, how concerned are your leaders with providing alcohol abuse and suicide prevention services for 12–18 year olds in your community? (With 1 being "not at all" and 10 being "a very great concern.") (C)
10. How are these leaders involved in efforts regarding youth prevention efforts in your community? (C)
11. Would the leadership support additional efforts to address youth prevention planning in your community? (C)
12. What is the community's attitude about alcohol abuse and suicide prevention among 12–18-year-olds? How does the community support the efforts? (D)
13. What are the primary obstacles to obtaining or adding more prevention programs or services in your community? (D)
14. How knowledgeable are community members about these issues? (E)
15. In your community, what type of information is available about alcohol abuse and suicide prevention among 12–18-year-olds (E)
16. Is local data on Native alcohol abuse and suicide among 12–18-year-olds available in your community? If so, from where? (E)
17. Who would a youth turn to first for help if he/she was thinking about abusing alcohol or hurting her/himself? (F)
18. What is the community's attitude about getting involved (e.g., volunteering time, financial donations, providing space) in the prevention efforts? (F)
19. Are you aware of any action plans or proposals to address this issue in your community? (F)
20. Do you know if any of these prevention activities are being evaluated? (If yes, on a scale of 1 to 10, how far along is the evaluation effort; with 1 begin "not at all" and 10 being "very far along"?) (F)
21. Lastly, do you have any additional comments that you would like to share?

* Letter in parentheses indicates the community readiness dimension the question taps (see Table III).

A masters degree psychologist who had experience working in the community conducted all the CRA interviews. It was crucial to involve a person who was known and trusted by the community in order to access the interviewees. Furthermore, his/her involvement contributed to the richness, candour and depth of the data collected about the sensitive topics of suicide and alcohol abuse. Verbatim transcripts of key informant responses to the interview questions were read by the assessment raters who assigned a score from 1 to 9 for each readiness dimension using rating criteria from the CRA manual and the CRA consensus scoring method. All raters agreed upon a final score after independently scoring the interview (15). Rating scores indicate the stage of readiness for each dimension, summarized in Table V. The PhD-level psychologist who directed the cultural and linguistic adaptation also supervised the CRA scoring. Scores at pre-intervention are the consensus scores of this psychologist, the MA-level psychologist who conducted the interviews, and a second PhD-level psychologist with significant CRA experience in rural Alaska. Scoring at post-intervention was consensus scoring of the second Ph.D-level psychologist and the MA-level psychologist.

Adults

Community Protective Factors Behaviours. The Adult Community Protective Factors Behaviours Scale was adapted from the People Awakening Yup'ik Protective Factors Scale (11). The People Awakening Yup'ik Protective Factors Scale was developed from qualitative life history interviews that identified protective factors for Alaska Natives. The scale asked respondents to rate the presence and importance in their lives of the protective factors found at the individual, family and community levels. In our adaptation of the scale, the Adult Community Protective Factors Behaviours Scale instead taped behaviours that parents engaged in to foster and enhance these community-level protective factors for young people in the community that were identified in our earlier research (11,12). This 12-item scale is comprised of support, opportunities, limits and safety, and role model subscales. Administered across the intervention, the scale

Table V. Stages of community readiness.

1.	No awareness: issue not recognized as a problem
2.	Denial / resistance: issue recognized but not as occurring locally
3.	Vague awareness: local concern recognized, but no immediate motivation to confront
4.	Preplanning: recognition of concern but efforts unfocused
5.	Preparation: active planning and modest community support
6.	Initiation: effort justified by community and activities underway
7.	Stabilization: activities supported by leadership with trained and experienced staff
8.	Confirmation/expansion: efforts in place, community supports expansion, local evaluation
9.	High level of community ownership: sophisticated knowledge, evaluation, application of model to other issues

provides a measure of the adults' behaviour, in response to their participation in the prevention program, that directly contributes to community-level protective factors (in contrast to individual or family-level protective factors). In this way, it provides a direct measure of a community-level variable. We administered the scale only to those adults who participated in the prevention program with their own child or with the youth they sponsored because we were interested in direct impact of the program on community-level outcomes. Responses are on a 5-point Likert scale from 1 (not at all) to 5 (a lot), yielding a range of possible scores from 12 to 60. We used initial scores on the support subscale as a measure of pre-existing adult protective factor behaviours on the individual level, allowing us to control for pre-existing individual differences in protective behaviour. Adults were given the choice of using a Web-based computerized administration survey or a paper and pencil survey. Fifteen adults chose to use paper and pencil.

Youth

Community Protective Factors. The Youth Community Protective Factors Scale consists of 7 items adapted from the support and opportunities subscales of the People Awakening Yup'ik Protective Factors Scale, rated using a Likert rating scale identical to the adult measure, which yielded a range of possible scores from 7 to 35. The PA Yup'ik Protective Factors Scale was an adult scale, some of whose questions asked about the participants' protective factors in their youth. The Youth Community Protective Factors Scale adapted these items for youth who rated protective factors as they applied to the present time. The scale taps youth perceptions of the extent of community support and opportunities for young people as protective factors. We used initial scores on the support subscale as a measure of pre-existing protective factors at the individual level of each youth. In response to an expressed preference by youth for computer-based surveys in our pilot work, all youth completed the survey using the Web-based computerized version.

Elluam Tungiinun Suicide Prevention Program Procedures

The *Elluam Tungiinun* prevention program was developed by a local community planning group (CPG) and university researchers to build 13 protective factors identified through our earlier research (11,12) on youth, families, and communities, using a community-based participatory research framework. The intervention targeted 2 community-identified ultimate prevention goals: the prevention of suicide and alcohol abuse among youth. Activities were developed by the CPG and compiled in the *Qungasvik* (18), which is a toolbox that communities can draw on in designing modules. The *Qungasvik* is not a prescriptive intervention manual, but instead lays out a process for adapting each activity to reflect local customs and circumstances, the current season and the advice of Elders and other community members. This community-based intervention process becomes the replicable prevention program that is the focus of our ongoing research. Our community co-researchers observed that this adaptation process results in greater community ownership and intervention, as

well as an intervention process that is more ecologically representative of the local characteristics of each of the remote and distinct communities in the region.

Activities were delivered in 1 or more sessions. Each session required 1 to 3 hours. A community-level module, *Qasgiq,* introduced youth and re-oriented the community to the *Qasgiq* which, among other important functions, was traditionally a place of learning. When appropriate, module activities began in the sacred *Qasgiq* circle, designating the activity as a time of respect and learning. This type of setting permitted Elders to orient youth and families to the deeper meaning of each activity. For example, in *Murilkelluku Cikuq* (Watch the Ice), youth travel out on the river ice with their families. Elder experts teach them how to monitor the safety of the ice using visual cues and a tool called an *ayaruk,* a long, steel-tipped staff. A hook at the opposing end of the *ayaruk* allows a person to pull her/himself out of the water if the ice underneath gives way. This activity teaches the protective factor of *ellangneq*, of always being aware, in this case through specific awareness of the changing environment, one's relationship to it and actions in response. Following this activity, the group returned to the *Qasgiq*. Here Elders and parents discussed through personal narratives to discuss the connection of *ellangneq* to the lessons of ice safety, and implications regarding high-risk behaviour and valuing one's own life. In a follow-up session as part of this activity, each youth built her/his own *ayaruk*, which became a symbol of what they learned about *ellangneq* and of protection from suicide. Over the 12 months of the program, 26 prevention activities were delivered in 32 sessions. Seven of the 26 total modules were directed primarily at the community level. However, there were other activities that were part of the community development process that staff engaged in parallel to delivering modules in the *Qungasvik*. For example, staff worked with the tribal council to increase alcohol control, helped develop monthly prayer walks and assisted in facilitation of weekly meetings of the suicide-crisis response team.

Data analysis

To evaluate the intervention effects, we created mixed-effects regression models (19) to account for the clustering of observations within individuals. This method, also known as hierarchical linear modelling (HLM) (20), permitted the use of data from participants who completed 2 or more waves of assessment. The intervention effect of interest (dose) was based on individual participant number of activities attended at each time point and measured increasing levels of exposure to the intervention. The impacts of 3 potential confounding factors were evaluated in the model: pre-existing protection, the amount of time the individual participated in the intervention and the cohort of youth with whom the individual started the intervention.

Pre-existing protection was estimated through scores on the support subscale of the Community Protective Factors Scales for youth and adults at time 1. This accounted for the impact of differences in pre-existing levels of protective factors experienced by the individual. Because entry into intervention started at different times in relation to the

4 assessment times, the data were used to create a slope estimate, and time (measured in days) was centered at each individual participant's start of the intervention to model the effects of length of involvement apart from the intervention dose. We entered terms for cohort because youth tended to begin the intervention in 1 of 3 groups, and adults entered the intervention at 2 different times. Therefore, this term consisted of 2 dummy codes in youth, in which the second group was contrasted with the first group and the third group with the first, and in adults, 1 dummy code compared the first group with the second group. This allowed for the evaluation of the effect of the intervention dose, computed as the number of intervention activities attended, as distinct from time in the intervention, while also controlling for individual variation on a variety of potential confounds. Finally, the interaction of dose by time controlled for the variability in each individual participant's time in the prevention program, as it interacted with the number of activities attended, as separate from the group cohort effect of time of entry into the intervention.

Prior to analysis, multivariate outliers were excluded and all variables were standardized by range (e.g., the minimum was subtracted from each score then divided by the range, expressing each score as a proportion of the range). We used square-root transformations to normalize residual distributions whenever necessary. Models were fit using SPLUS LME (21).

At level 1, the outcome variable at T1–T4 was predicted from an individual intercept, linear time slope, linear dose slope and the interaction between dose and time. At level 2, the level 1 coefficients were predicted by the demographic variables of baseline protective factors (protection) and when the individual became involved in the intervention (cohort). In HLM notation, the model tested for youth[1] can be expressed as:

Level 1 (time):

$$Y_{ij}=B_{0j}+B_{1j}(\text{time})+B_{2j}(\text{dose})+B_{3j}(\text{time*dose})+e_{ij.}$$

Level 2 (individual):

$$B_0=G_{00}+G_{03}\,(\text{protection})+G_{04}\,(\text{cohort 1 vs. 2})+G_{05}(\text{cohort 3 vs. 1})+u_{0j}$$

$$B_{1j}= G_{10}+G_{13}\,(\text{protection})+G_{14}\,(\text{cohort 1 vs. 2})+G_{15}(\text{cohort 3 vs. 1})+u_{1j}$$

$$B_{2j}= G_{20}+G_{23}(\text{protection})+G_{24}\,(\text{cohort 1 vs. 2}) + G_{25}\,(\text{cohort 3 vs. 1}) + u_{2j}$$

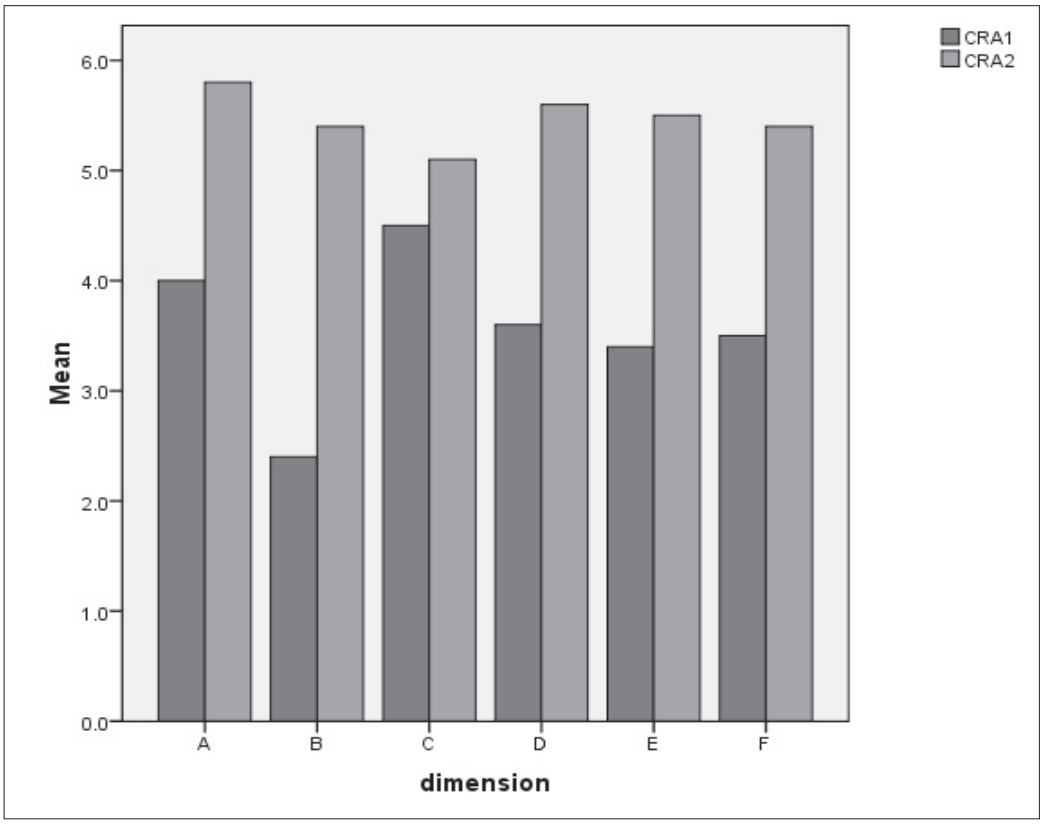
$$B_{3j}= G_{30}+G_{33}(\text{protection})+G_{34}\,(\text{cohort 1 vs. 2})+G_{35}(\text{cohort 3 vs. 1})+ u_{3j.}$$

RESULTS

Community Readiness Assessment

Means of the rater consensus scores for teach of the key informants for pre-intervention (CRA1) and post-intervention (CRA2) are presented for each CRA dimension in Figure 1. Overall, total mean community readiness scores across dimensions increased 2 points, from 3.5 to 5.6. Gains were noted in each dimension, with the largest increases in Dimension B, *Community Knowledge* of the problem, and highest scores in Dimension C, *Leadership.*

[1] For adults, because their entrance into the program roughly approximated only 2 cohorts, the G_{x5} term is not included (cohort 3 vs. 1).



Note.
CRA1 = Pre-intervention
CRA2 = Post-intervention
Dimension A = Community efforts
Dimension B = Community knowledge of the efforts
Dimension C = Leadership
Dimension D = Community climate
Dimension E = Community knowledge about the issue
Dimension F = Resources related to the issue

Figure 1. Pre- and post-intervention community readiness assessment (CRA) consensus rating mean scores across key informant interviewees for 6 CRA dimensions.

Adult Community Protective Factors Behaviour and Youth Community Protective Factors
Mean internal consistency reliabilities for T1 and T2 were α=.84 for adult community protective factors behaviour and α=.74 for youth community protective factors. Results of the HLM analysis are presented in Table VI. After controlling for cohort effects associated with the 2 different start times of participants within the year-long intervention, outcomes for adult community protective factors behaviour and youth community protective factors are reported for (1) protection, expressed as each individual's pre-existing level of community protective factors at baseline (2); time, expressed as number of days since each individual's intervention start date; and (3) dose, expressed as number of intervention sessions in which each individual participated. We report slope, standard error, *t* statistic, lower and upper bounds of the 95% confidence interval, and Cohen's *d* as a measure of effect size, which we interpret according to Cohen's criteria for small, medium and large effects (22).

Not surprisingly, pre-existing protection produced slope and medium to large effect sizes in community protective factors for youth and adults, respectively. Time since intervention produced a medium effect size for youth, but a medium negative effect size for adults. However, after partialling out the effects of confounding variables, dose, defined as number of activities attended, produced a slope and moderate effect size in growth of community protective factors in both

Table VI. Hierarchical linear model analysis of adult community protective factors behaviours (n=43) and youth community protective factors (n=54) for protection, time, dose, and time by dose.[a]

Outcome variable	Slope estimate	SE	df	t	95% CI Lower	95% CI Upper	p-value	Effect size (Cohen's *d*)
Adult Community Protective Factors Behaviours								
Protection	0.0975	0.0726	28	1.34	-0.0380	0.2330	0.19	0.49
Time	-0.0003	0.0003	31	-0.89	-0.0009	0.0003	0.38	-0.31
Dose	0.0162	0.0102	31	1.59	-0.0028	0.0351	0.12	0.55
TimeXDose	-0.00002	0.00003	31	-0.58	-0.0001	0.00004	-0.57	-0.21
Youth Community Protective Factors								
Protection	0.1205	0.0411	47	2.93	0.0429	0.1981	0.01	0.79
Time	0.0001	0.0001	70	0.47	-0.0002	0.0003	0.64	0.11
Dose	0.0148	0.0077	70	1.92	0.0004	0.0291	0.06	0.45
TimeXDose	-0.00004	0.00002	70	-1.91	-0.0001	0.000001	0.04	-0.45

[a]To account for 3 waves of youth cohorts participating, the model included a term for cohort 1,2,3. To account for 2 waves of adult cohorts participating, the model included a term for cohort 1,2. To partial out the effects of differing time periods of intervention within each dose effect, the model included an interaction term for Dose X Time. The model is based on data from T2, T3 and T4, as the T1 support subscale comprised the protection moderator in the analysis.

adults and youth across the 4 time points of assessment. The 95% confidence intervals suggest upper and lower limits for the true effects of intervention dose. Although these intervals include zero in both cases, the large amount of the interval lying above zero suggests effects that might have been statistically significant had a larger sample size been possible. Figure 2 displays growth in adult protective factors behaviours and youth perceptions of community protective factors in response to increasing dose of intervention, expressed as least squares means estimates of range standardized scores adjusted for all the covariates in the model (cohort, protection, time). We also report in Table VI the time by dose interaction, which is interpreted in the conventional manner and which suggests a decreasing level of impact of dose over time.

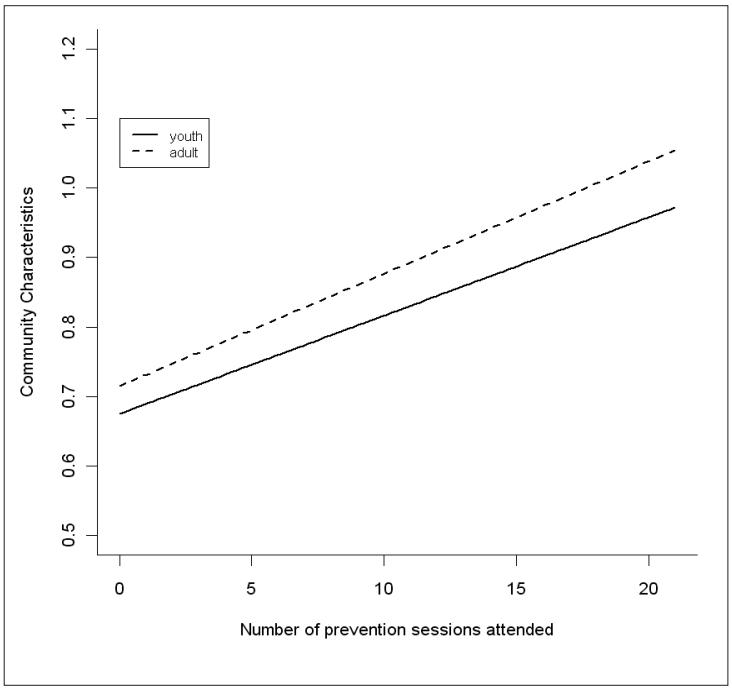


Figure 2. Plot of growth of adult ratings of community protective factors behaviours and youth ratings of community protective factors with increasing number of prevention activity sessions attended, controlling for individual youth's time in intervention, cohort of entry into program and pre-existing level of protective factors.

DISCUSSION

The primary findings of this study suggest that community readiness and community protective factors increased in response to intervention. As an outcome of the *Elluam Tungiinun* prevention intervention, community readiness scores increased in a way suggesting the community had moved to a more advanced stage of readiness regarding programming to address the issue of suicide. Community variables identified in previous research with Alaska Natives (11,12) as protective factors for youth and as protective behaviours for adults also increased by a moderate effect size, in a dose response relationship, to the number of *Elluam Tungiinun* prevention program activities attended. Though the small sample of this feasibility study did not provide sufficient power to obtain statistical significance, the confidence intervals and effect sizes suggest the methodological approach we describe here is feasible to use as part of a larger sample size, full-prevention trial. The aim of this paper was to demonstrate the feasibility and potential utility of this community-level methodology in assessing the outcomes of suicide prevention programs in small, remote, circumpolar communities. Community variables in this study were evaluated by 2 waves of key informants, and 4 assessments of youth and parent self-reports. Results from all data sources converged, providing triangulation of community-level findings through multiple methods and informants.

Overall, community readiness increased by 2 full stages of readiness, advancing from the developmental stage of *Vague Awareness* of the problem, where there is a local concern but limited activities to address the problem, to the stage of *Preparation*, where planning has begun and there is support for the efforts. The final total score trends to be near the upper end of the range for the *Preparation* stage, suggesting that the community is close to entering the *Initiation* stage, where the community has justified efforts to address the problem and activities are underway. Large gains are noted particularly in Dimension B, *Community Knowledge* of the problem, which increased by 3 full stages of readiness, from *Resistance* to the problem to *Preparation*. Dimension C, *Leadership,* is a particular strength of the community, and is currently at the *Initiation* stage, which describes the community as prepared to implement programs to address youth suicide. The small number of observations in our feasibility study would have resulted in an underpowered analysis, so statistical analysis of the CRA data would not have yielded meaningful results. Therefore, we instead provide a descriptive, qualitative report of outcomes in CRA through movement to more advanced developmental stages of readiness.

However, Slater et al. (23) conducted a large RCT prevention trial using CRA as an outcome. The study, which used an HLM analytic approach, provides a model for how CRA can be used as an outcome in larger prevention trials of suicide-prevention program research. Slater et al. also tested as a fixed effect the impact of post-test interviewees being either repeat interviewees (also interviewed at baseline) or not. The effects of this repeat/non-repeat interviewer variable were non-significant for every one of the 6 community readiness dimensions tests. This suggests that key informant methodology and the CRA scoring system for interviews are able to obtain reliable results when different key informants are interviewed, as long as the new key informant occupies the same domain as the interviewee they are replacing.

Associated variables measured through similar methods using different informant sources (youth and their parents or adult sponsors) showed similar growth in response to participation in the intervention. Our research was interested in changes in adult behaviour in response to the prevention program. The adult scale measured activities that build specific community-level protective factors through behaviors with youth outside the adult's immediate family. These behaviours included activities such as talking to youth about how alcohol can lead to loss of control, providing advice for a young person, providing a youth activity to keep them busy and prevent their boredom, and volunteering for a community youth activity like basketball or outdoor activities. We dropped adults from the analysis who did not attend family-prevention modules because we were interested in whether the intervention affected behaviour that would improve the community environment. The more activities parents attended, the more parents reported growth in their behaviour that provided youth with support, opportunities, limits and safety, and role modelling. Concomitantly, the more prevention activities the youth attended, the more growth youth reported in support and opportunities to them in their community. One way of interpreting these findings is that as parents increased their level of protective factor behaviours, youth responded to these adult behaviours, and perceived growth in these protective factors in their community.

In conducting this study, we also learned the importance of carefully assessing sources of individual and community variations that can affect implementation of community-based interventions and including terms to model such sources of variation in our statistical models. When we found that the length of time individuals were involved and the number of activities they attended were not strongly correlated, we included time and dose in the analyses. Anecdotal reports combined with statistical evidence of substantial individual variation in pre-existing community protective factors led us to include pre-existing protection in the analyses, and anecdotal reports of groups of friends entering the program together at different times led us to examine the distribution of entry dates. When we found evidence for the existence of cohorts, we included terms for cohorts in the analyses.

Two limitations to this study include the statistical power of its design and the lack of direct assessment of the prevention outcome of interest. The small sample size in this feasibility study led to an analysis of prevention program impact with low statistical power. Though the effect sizes reported in this study are quite substantial for prevention outcomes, which typically yield small, not moderate effect sizes, the HLM analyses were only sufficiently powered to detect quite large effect sizes, a magnitude that is unreasonable to expect in universal or selective prevention program outcomes. As the current study's sample size did not allow for meaningful conventional significance testing for a prevention project, to evaluate the strength of these effects, we have included estimates of the confidence intervals, which provide reasonable evidence to support the replicability of these effects. To more fully address this concern, on the basis of these findings, we are currently conducting a 5-year, multisite prevention trial of the *Elluam Tungiinun* intervention to allow adequately powered testing of outcomes on these and other protective factor variables using conventional significance testing.

The community-level outcomes reported here provide no direct assessment of reduction in suicide deaths, or of reduction in suicide risk, typically studied through individual assessment of a variable such as suicidal ideation. We instead assessed growth in variables associated with protection from suicide in past research as evidence of impact. These variables included support and opportunities in the community as perceived by youth, and adult behaviours fostering support and opportunities for youth, including setting limits, creating safe environments in the community and role modelling.

In conclusion, small samples are typical in circumpolar research within small, remote, Arctic communities. In suicide prevention research, this can result in research designs with low statistical power. The low base rate problem associated with suicide death as an outcome variable in circumpolar suicide prevention research compounds the difficulties associated with low-powered designs. At the same time, in one study with Alaska Native youth, community-level variables, in contrast to characteristics of the individual, emerged as the strongest predictor of protection from suicide, and family climate emerged as another important predictor (5). This research report uses data from a feasibility study of an Arctic suicide prevention program to demonstrate the feasibility and potential utility of methodological approaches that study variables beyond the individual level of outcome. This study suggests ways community-level variables in circumpolar suicide prevention research can advance our understanding of suicide and its prevention in the Arctic. As a larger issue, our work stresses the importance of community change in circumpolar Indigenous communities to explain the outcome of prevention activities that address suicide.

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Conflict of interest statement

The authors have no financial or personal relationships with other people or organizations that could potentially influence the results or interpretation of the work being submitted for consideration.

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YUKON-KUSKOKWIM HEALTH CORPORATION
"Working Together to Achieve Excellent Health"

February 23, 2011

The Honorable Donny Olson

DELIVERED VIA EMAIL

State Capitol Room 508

Juneau, Alaska 99801

Tel: 907-465-3707

Fax: 907-465-4821

Senator_Donny_Olson@legis.state.ak.us

Re: **Qungasvik Projects: Promoting Youth Sobriety and Reasons for Living in Yup'ik/Cup'ik Communities**

Dear Senator Olson:

The Yukon-Kuskokwim Health Corporation (YKHC) met with Jim Allen, Stacy Rasmus and Billy Charles of the University of Alaska Fairbanks regarding the University's Qungasvik Projects request of $1,485,713.00. In partnership with the University, it was agreed that YKHC should be the named-recipient for this Alaska Department of Commerce, Community & Economic Development grant request.

As you will recall, the Qungasvik Projects scope is as follows:

1) create a regional training center on the Lower Yukon for the Qungasvik Projects, 2) maintain and enhance active projects in the communities of Alakanuk, Emmonak, Mountain Village and Hooper Bay, and 3) add a new prevention community (Scammon Bay) to the prevention trial. The long-term goal of this project is to establish an evidence-base and reduce the most

significant health disparities experienced among Alaska Natives, suicide and substance abuse.

It was agreed that YKHC will work with the University and YKHC's service area villages to deploy the University's Qungasvik model. If YKHC receives this request, it is anticipated that YKHC will issue the University a Memorandum of Agreement whereby the University would receive these grant funds and be responsible for achieving the grant's objectives.

Attached is a Resolution of the YKHC Executive Board of Directors authorizing the Qungasvik Projects request.

If you have any further questions, do not hesitate to contact me or Dan Winkelman at 907-543-6020 or James Allen or Stacy Rasmus at the University at 907-474-5528.

Respectfully Submitted,

YUKON-KUSKOKWIM HEALTH CORPORATION

Gene Peltola, President & CEO

Cc: Rep. Neal Foster

Sen. Lyman Hoffman

Rep. Bob Herron

James Allen, PhD, Professor, Department of Psychology

PI, Qungasvik Projects

Stacy Rasmus, PhD, Assistant Research Professor, Institute of Arctic Biology

Project Director, Qungasvik Projects

Resolution 11-02-01

A RESOLUTION OF THE YUKON-KUSKOKWIM HEALTH CORPORATION (YKHC) EXECUTIVE BOARD OF DIRECTORS IN SUPPORT OF THE QUNGASVIK PROJECTS AND AUTHORIZING PARTICIPATION WITH THE UNIVERSITY OF ALASKA FAIRBANKS CENTER FOR ALASKA NATIVE HEALTH RESEARCH

WHEREAS: The Yukon-Kuskokwim Health Corporation Mission is "Working Together to Achieve Excellent Health"; and

WHEREAS: A continuing policy focus for YKHC is eliminating health disparities affecting the Alaska Native people of the Yukon- Kuskokwim Delta; and

WHEREAS: The Alaska Native population of the Yukon-Kuskokwim Delta has been suffering from a high rate of youth suicide for many years; and

WHEREAS: The University of Alaska Fairbanks Center for Alaska Native Health Research (CANHR), in cooperation with several communities on the Y-K Delta is developing the Qungasvik ("Toolkit") Project as part of a suicide prevention trial; and

WHEREAS: YKHC has determined that the Qungasvik Project is a promising practice that can be duplicated across the YKHC Service Area of 58 Alaska Native communities; and

WHEREAS: The YKHC Board of Directors has identified suicide prevention as a priority of the Corporation; and

WHEREAS: The University of Alaska Fairbanks is seeking funding from the Alaska State Legislature in 2011 to expand the Qungasvik Project into a number of communities in the YKHC Service Area; and

WHEREAS: The University of Alaska has agreed that YKHC should be the named recipient of these funds, when appropriated, and has further agreed to enter into a Memorandum of Agreement with YKHC for fiscal and program management of this appropriation; and

WHEREAS: The Yukon-Kuskokwim Health Corporation is in agreement with the University of Alaska in this arrangement,

NOW THEREFORE BE IT RESOLVED by the Executive Board of Directors of the Yukon-Kuskokwim Health Corporation that YKHC may accept an appropriation from the Alaska State Legislature for the purposes of expanding the CANHR Qungasvik Project into additional communities in the YKHC Service Area in cooperation with the University of Alaska Fairbanks Center for Alaska Native Health Research through a Memorandum of Agreement between UA and YKHC; and

BE IT FURTHER RESOLVED that the Yukon-Kuskokwim Health Corporation Executive Board of Directors hereby authorize Gene Peltola, President and Chief Executive Officer, or his designee, to submit any and all proposals and to execute any and all agreements related to this project.

Certification

Duly adopted by the Yukon-Kuskokwim Health Corporation Executive Board of Directors, by poll, this _____ day of February, 2011 with _____ members polled and ____ voting in favor, _____ opposed, _____ abstaining and _____ not contacted.

Signed: _____
Ray Alstrom, Chairman
YKHC Executive Board of Directors

Signed: _____
James Charlie, Sr. , Secretary
YKHC Executive Board of Directors

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