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Developing Capacity, Skills, and Tobacco Control Networks to address Tobacco-related Disparities: Leadership and Advocacy Institute to Advance Minnesota's Parity for Priority Populations (LAAMPP)

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ABSTRACT
Priority populations disproportionately experience tobacco-related disparities, despite population level declines in tobacco use. The Leadership and Advocacy Institute to Advance Minnesota's Parity for Priority Populations (LAAMPP) recruits and trains African immigrants/African Americans, Asian Americans/Pacific Islanders, American Indians, Chicano/Latinos, and LGBTQ community members to develop leaders to address tobacco harms in their communities. This paper describes and evaluates the LAAMPP Institute, and discusses lessons learned through the Institute and future directions for community-based tobacco-control efforts. The mixed-methods evaluation included qualitative key informant interviews with LAAMPP Fellows and community and project contacts, a Skills Assessment Tool, project case studies, and a social network analysis of the Fellows' tobacco-control social networks at baseline and follow-up. At follow-up, Fellows' tobacco control networks were larger, more extensive and diverse, and included more actors perceived to be influential in tobacco control. Fellows' skills increased in core competencies (tobacco control, advocacy, facilitation, collaboration, cultural/community competence) and Fellows used tobacco, advocacy and cultural/community competencies more frequently. Four of five cohorts successfully passed policies. The results of LAAMPP suggest that a cross-cultural leadership institute contributes to the successful development of capacity and leadership skills among priority populations and may be a useful model for others working toward health equity.

INTRODUCTION

The Leadership and Advocacy Institute to Advance Minnesota's Parity for Priority Populations (LAAMPP) is a cross-cultural leadership development institute that intentionally recruits potential leaders from Minnesota's priority populations to develop cadres of tobacco control leaders within Minnesota communities that experience disproportionate harm from commercial tobacco. LAAMPP aims to develop skills and capacity of the fellows who participate and support them in developing relationships and networks in the tobacco control movement in order to enact policies and systems change. This paper evaluates the third implementation of the LAAMPP Institute.

Recent progress in advancing tobacco control policies in Minnesota has contributed to a significant reduction in statewide adult smoking. A combination of tobacco tax increases, anti-tobacco media, indoor smoking bans, and tobacco regulation has been associated with a reduction in adult smoking prevalence to 14.4% (ClearWay Minnesota[SM] & Minnesota Department of Health, 2015). Despite these accomplishments, the success has not been experienced by all Minnesotans. Compared to the statewide rate, the most recent data available on subgroups show elevated prevalence rates were found among the state's American Indians (59%) (American Indian Community Tobacco Projects, 2013); African American men (23%) and women (28%) (American Cancer Society, 2011); Hispanic men (26%) (American Cancer Society, 2011); lesbian, gay, bisexual, transgender, and queer (LGBTQ) (30%) and LGBTQ people of color (36%) (Rainbow Health Initiative, 2012); and Cambodian, Lao and Vietnamese men (31%) (Blue Cross and Blue Shield, 2009). These populations are defined as priority populations, because they "use commercial tobacco at higher rates than the general population, have higher rates of tobacco-related morbidity/mortality, may not use traditional cessation services, and/or are targeted by the tobacco industry" (Ericson et al., 2013).

Disparities in tobacco use rates and tobacco-related harms among priority populations are no accident. Tobacco companies undertook sophisticated techniques to develop campaigns to recruit smokers from priority populations, including studying Hispanics' psychographics, cultural values, and attitudes (Iglesias-Rios & Parascandola, 2013); researching countries of origin of Asians immigrating to the U.S. (Muggli, Pollay, Lew, & Joseph, 2002); saturating African American neighborhoods with tobacco advertising (Primack, Bost, Land, & Fine, 2007); sponsoring community events, paying retail stores to provide space for cigarettes, and giving retailers gifts and incentives (Yerger, Przewoznik, & Malone, 2007; Balbach, Gasior, & Barbeau, 2003). Project SCUM (Sub-Culture Urban Marketing) targeted ads and sponsorships to the LGBTQ community (Stevens, Carlson, & Hinman, 2004). Tobacco industry targeting of American Indians has included inappropriate use of important cultural and sacred images such as pipes, feathers, and regalia in marketing and packaging (Legacy Tobacco Industry Documents, 2015). Partly as a result of these campaigns, tobacco outlets are more densely concentrated and more readily available in predominantly priority population communities, as documented in several studies (Loomis, Kim, Goetz, & Juster, 2013; Rodriguez, Carlos, Adachi-Mejia, Berke, & Sargent, 2014; Rodriguez, Carlos, Adachi-Mejia, Berke, & Sargent, 2013; Siahpush, Jones, Singh, Timsina, & Martin, 2010). In the LGBTQ community in particular, focus group

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participants viewed tobacco marketing to the LGBTQ community as a sign of legitimacy, visibility, and economic viability (Smith, Thomson, Offen, & Malone, 2008). Finally, long before corporate America hired African Americans or openly gay executives, tobacco companies hired members of priority populations and put them on their boards of directors—ensuring access to communities while enhancing credibility and establishing themselves as an "ally" to the community (Washington, 2002).

Despite industry targeting of priority populations, it is a matter of historical record that dedicated state funds for tobacco control and prevention resources to support priority populations have been relatively low (Báezconde-Garbanati, 2004). For example, few Master Settlement Agreement funds were devoted specifically to priority populations (Themba-Nixon, Sutton, Shorty, Lew, & Báezconde-Garbanati, 2004) and a 2012 study of State Tobacco Control Plans found only 34 addressed minority populations and even fewer (16) addressed LGBT populations (Rexing & Ibrahim, 2012).

The need for more research on tobacco-related health disparities in the areas of epidemiology, surveillance, psychosocial research, basic biology, harm reduction, marketing, and policy, as well as community and state prevention, treatment, and research capacity has been identified by academic institutions, funding agencies, and community-based organizations (Fagan et al., 2004) as well as the need to translate research evidence into practice (Koh et al., 2010).Calls for more focus on regulating and restricting exposure to commercial tobacco products to reduce health disparities (Olden, Ramos, & Freudenberg, 2009; Freudenberg, Galea, & Fahs, 2008) emphasize the importance of developing leaders with cultural and community competence and strong tobacco control and advocacy skills. While leaders have been developed in mainstream efforts for decades, their efforts most frequently focus broadly on the general population. Numerous studies have detailed the need to develop community leaders who are knowledgeable of community history and values and are culturally appropriate (Báezconde-Garbanati, Beebe, & Pérez-Stable, 2007; Jones, Waters, Oka, & McGhee, 2010), yet few leadership development programs have a priority population focus based on cultural competence, and few of those have published evaluations (Ericson et al., 2013; Rewey, Zimmerman, & Spencer, 2009). The purpose of this paper is to address this gap in the literature.

ClearWay Minnesota[SM], is a nonprofit organization established when the tobacco industry settled a lawsuit with the State of Minnesota. Its mission is to correct the harms caused by the tobacco industry. To that end, the Leadership and Advocacy Institute to Advance Minnesota's Parity for Priority Populations (LAAMPP) was created to support the development of tobacco control leadership within priority population communities. Three cohorts of leaders have been trained through the LAAMPP Institute since 2005 (23 fellows in LAAMPP III, the focus of this paper, 32 fellows in LAAMPP I, and 29 fellows in LAAMPP II).

The first Institute found that fellows increased skills in the core competencies of tobacco control, advocacy, facilitation, collaboration, and cultural/community competency and that most fellows continued to apply those skills 16 months after the completion of the Institute (Ericson et al., 2013). These results were confirmed in the second cohort of fellows who completed the Institute (ClearWay Minnesota, 2010). Confident that participation in LAAMPP develops skills and capacity, as well as increases use of those skills, ClearWay Minnesota expanded the focus of the evaluation of LAAMPP III.   The current evaluation examines the relationships and personal tobacco control networks LAAMPP III Fellows developed, that are crucial to using the skills

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they learned in order to effectively undertake policy work. This paper evaluates LAAMPP III, providing an examination of the extent to which fellows developed skills and capacity in tobacco control advocacy, increased and diversified their networks of tobacco control relationships, and engaged in creating community level systems change.

Description of LAAMPP

ClearWay Minnesota contracts with Asian Pacific Partners for Empowerment, Advocacy and Leadership (APPEAL) to implement LAAMPP. LAAMPP is adapted from the APPEAL Leadership Model (Lew, 2009; Tong & Lew, 2013). LAAMPP is an innovative, cross-cultural leadership institute that aims to eliminate commercial tobacco and other health-related disparities among priority populations through culturally-tailored training, capacity building, advocacy and leadership development. LAAMPP's mission is to build capacity for effective tobacco control within priority populations. Lew and colleagues (2011) have described the key elements of LAAMPP:

> *"Based on an integrative model using the comprehensive community initiative approach, social ecological and empowerment models of change, the LAAMPP Institute was designed as an interactive, experiential-based learning model and focused on the core competencies of tobacco control, facilitation, advocacy, collaboration, and cultural or community competency." (Lew, Martinez, Soto, & Báezconde-Garbanati, 2011).*

LAAMPP III was implemented over 18 months, from September 2012 through March 2014. Fellows participated in a total of 18 days of training, including the Core Leadership Summit (an intensive, interactive four-day retreat); Tobacco Control; Community Organizing and Policy; Fund Development; Communications and Media Advocacy; a Tobacco Disparities Conference; Special Topics; and the Capstone Leadership Summit. Trainings are concentrated in the first half of LAAMPP to prepare fellows for undertaking policy projects during the second half. Trainings were conducted in a fluid, flexible, and adaptable model based on the need of participants. In addition to trainings, each priority population cohort of fellows developed and implemented a policy project to address a specific tobacco control need in their community.

Participants—the LAAMPP III Fellows

Fellows are recruited through extensive outreach and publicizing by key staff, past LAAMPP Fellows, and organizational partners. Twenty-three fellows completed LAAMPP III.   They self-identified in the following cohorts: African/African American (AAA) (n=6), American Indian (AI) (n=3), Asian American Pacific Islander (AAPI) (n=5), Chicano/Latino (n=6), and Lesbian Gay Bisexual Transgender Queer (LGBTQ) (n=3). Fellows ranged in age from the mid-20s to 60s. All were working and one was a full-time student. Two-thirds of the fellows had families with children. Fellows came from county government, the non-profit service sector, business, tobacco control, postsecondary education, and public health.

METHODS

Evaluation Goals

ClearWay Minnesota identified three goals for the evaluation of LAAMPP III:

- Evaluate the extent to which LAAMPP III Fellows developed knowledge and increased use of LAAMPP competencies;

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- Analyze the social relationships and networks LAAMPP III Fellows developed within their own and other priority populations and the mainstream tobacco control movement; and
- Determine what changes happen at the systems and community levels as a result of actions taken by LAAMPP III Fellows using skills learned in the Institute through the policy projects.

Evaluation design and methods

The evaluation employed a mixed methods design utilizing qualitative and quantitative methods, including social network analysis (Wasserman & Faust, 1994). Multiple methods were used to ensure validity and allow for triangulation findings. Methods included:

- Key Informant Interviews were conducted with LAAMPP III Fellows, with community contacts, and with project contacts. Interviews with LAAMPP III Fellows were conducted in person at baseline (n=23) and after completion of the Institute (n=22, as one fellow was unavailable at follow-up) to collect qualitative data on fellows' perceptions of the value of participating in activities within their own priority populations, across priority populations, and with the mainstream tobacco control movement. Fellows received $50 cash upon completion of the interview as an incentive. Interviews with key community contacts were conducted by telephone after completion of the Institute; the community contacts (n=22) were individuals identified by fellows as someone who was familiar with their tobacco control work over the duration of the Institute who could speak to fellows' leadership skills. Interviews with project contacts (n=17) were conducted at follow-up by telephone; project contacts were individuals who had interacted with the five cohorts' policy projects. All interviews were conducted by the evaluator.
- Fellows completed a Skills Assessment Tool at baseline (n=23) and follow up (n=23). The Assessment was administered as a paper questionnaire to assess capacity development by self-reporting knowledge and frequency of use of the core competencies (tobacco, advocacy, community/cultural competency, collaboration, and facilitation). Fellows received a $10 gift card as an incentive for completing the Assessment.
- Social network analysis (SNA) interviews were conducted with each LAAMPP III Fellow at baseline and follow-up (n=23) to collect data for a social network analysis of fellows' personal networks in tobacco control at baseline and follow-up. The SNA interviews were conducted at the same appointment, with the SNA interview questions being asked immediately following the fellows' key informant interview questions.
- Project case studies were developed for each of the five cohort policy projects that summarized the policy work undertaken.

Analysis

Interviews were recorded and transcribed, then uploaded into *Atlas.ti* Qualitative Data Analysis (QDA) Software, Version 7.5.6 for open coding to identify common and emerging themes; primary coding was conducted by the evaluator and validated by a secondary analyst. This analysis identified fellows' perceptions related to skills and capacity, relationships within and across the priority population cohorts, and with mainstream tobacco control efforts.

Skills Assessments were analyzed to assess changes in levels of knowledge of and frequency applying the core competencies. A 5-point Likert scale was used to assess knowledge and frequency of

use of core competencies. At follow-up, fellows were asked how often they had undertaken these activities for the period of time since LAAMPP III began. Baseline to follow-up change was assessed by conducting a paired Wilcoxon signed-rank test on each competency.

SNA methods were used to map and analyze LAAMPP III Fellows' personal tobacco control networks. A personal network approach was used since fellows' networks would be independent of each other (Wasserman & Faust, 1994). Each fellow is conceptualized as the Ego in their network, and the alters are individuals that the fellow identifies as relevant contacts in their tobacco control network. To elicit alters, fellows were asked the following name generator question at both baseline and follow-up:

> *"Think about the relationships you have in your professional life with people you collaborate with around tobacco control. An important part of developing leadership is the relationships we have and develop—people in our lives who you can turn to for advice or guidance, or to work with to make change. So I'd like you to think about and then name people you know—those who might work with you on a tobacco control effort."*

Fellows were prompted to identify alters in the following sectors: public health, community-based organizations, culturally-based organizations, governmental or tribal agency staff, elected government or tribal officials, mainstream tobacco control organizations, or other. Fellows could list a free number of alters within an upper limit of 20 alters at baseline and 30 alters at follow-up. The upper limits were different because, on the basis of evidence from previous LAAMPP cohorts, fellows were expected to increase their tobacco control networks by participating in LAAMPP III. The upper limits appeared to be sufficient for most fellows, with only 6 fellows being able to list 20 alters at baseline, and only 12 being able to list 30 alters at follow-up. Because the resulting personal networks were of different size, structural measures were adjusted for network size to be able to compare networks between baseline and follow-up.

In addition to identifying alters' sectors, fellows were asked to classify their interaction with alters, how often they interacted with each alter, and how influential they perceived that alter to be in tobacco control. To obtain information about the pattern of acquaintances in their personal networks, fellows were then asked if, to the best of their knowledge, each alter knew every other alter. A database was created using EgoNet software and used to calculate compositional and structural measures for each LAAMPP III Fellow's personal network. Compositional measures refer to alter attributes such as sector and frequency of interaction with Ego. Structural measures refer to the pattern of acquaintances in the personal network, and they include degree centrality, betweenness centrality, closeness centrality, and number of connected components in the network. Paired t-tests were conducted to assess the significance of change from baseline to follow-up of network measures.

The evaluation design, tools and processes were reviewed by the Minnesota Department of Health Institutional Review Board (MDH IRB#12-288). Written consent was obtained from each fellow; verbal consent was obtained from community contacts and project contacts prior to beginning interviews.

RESULTS
Evaluation goal #1: Increased knowledge and use of LAAMPP competencies:

Analysis of the Skills Assessment Tool shows that fellows' knowledge increased ($p <$ .01) for all five LAAMPP core competencies (tobacco control, advocacy, community/cultural competence, collaboration, and facilitation) and the other topics assessed at baseline (media, fund development, and environmental prevention), as shown in Table 1.   Of the core competencies, the greatest increases in knowledge were in tobacco control, with a mean

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Table 1: Knowledge of & Frequency Applying LAAMPP Core Competencies & Other Skills assessed by the Skills Assessment Tool

Variable	Baseline		Follow-up		Mean difference
	Mean	*SD*	*Mean*	*SD*	
Change in Knowledge of Core Competencies					
Tobacco Harm & Industry Targeting	2.8	0.7	3.8	0.3	1.0**
Advocacy	1.9	0.9	3.3	0.5	1.4**
Community/Cultural Competency	3.0	0.9	3.7	0.4	0.7**
Collaboration	3.1	0.8	3.9	0.3	0.8**
Facilitation	2.9	0.9	3.8	0.4	0.9**
Change in Knowledge of other LAAMPP topics					
Working with the media	1.9	1.3	3.2	0.6	1.3**
Fund development	1.7	1.1	3.0	0.6	1.3**
Environmental prevention	1.6	1.3	3.1	0.7	1.5**

Frequency Applying LAAMPP Core Competencies and Other Skills

Variable	Baseline		Follow-up		Mean difference
	Mean	*SD*	*Mean*	*SD*	
Change in Frequency applying Core Competencies					
Tobacco Prevention & Control Activity	2.1	0.6	3.0	0.7	0.9**
Advocacy & Policy Change Activity	1.8	0.7	2.7	0.8	0.9**
Community/Cultural Competence Activity	2.8	0.8	3.5	0.6	0.7**
Collaboration Activity	2.6	0.7	2.8	1.0	0.2
Facilitation Activity	2.6	1.1	2.9	1.1	0.3
Change in Frequency applying other LAAMPP topics					
Communications & Media	2.3	0.7	2.0	0.7	-0.3
Fund Development Activity	1.8	0.7	1.8	0.6	0
Networking/Working w/Others Activity	2.6	0.9	3.3	1.0	0.7*
Evaluation Activity	2.2	0.9	2.7	1.2	0.5*

Means, standard deviations and mean difference of LAAMPP III Fellows' knowledge and frequency using core competencies between Baseline and Follow-up. Statistical significance determined using paired Wilcoxon signed-rank tests: ** p value < .01; * p value < .05. *Choices for knowledge questions were from 0 to 4: (0) Not at all knowledgeable, (1) Somewhat NOT knowledgeable, (2) Neither Knowledgeable or Not Knowledgeable, (3) Somewhat Knowledgeable, or (4) Very Knowledgeable.* Choices for frequency of use of competencies were from 1 to 5: (1) Never, (2) 1 or 2 times, (3) Several times, (4) Frequently, (5) Very Often/Regular part of my job.

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difference of +1.0 on a scale of 0 to 4, and advocacy with a mean difference of +1.4 on a scale of 0 to 4. The knowledge increases in community/cultural competency, collaboration, and facilitation were lower, but still statistically significant ($p < .01$). Competency values in these three categories were higher at baseline, which may account for the smaller growth.

Frequency applying LAAMPP skills: Also reported in Table 1 is the frequency of application of skills. Fellows' increased use of the five core competencies was only significant for tobacco control, advocacy, and community/cultural competence ($p < .01$).   The largest increases in frequency using competencies were observed for tobacco control with a mean difference of +0.9 on a scale of 1 to 5, and advocacy with a mean difference of +0.9 on a scale of 1 to 5. Results for frequency applying other skills covered in LAAMPP were mixed. Application of communication/media and fund development activity did not change to a statistically significant extent. Networking and evaluation activity both increased ($p < .05$).

Fellows' perceptions of knowledge and use of skills: Findings from the key informant interviews with LAAMPP III Fellows (summarized in Table 2) show that fellows felt they acquired skills and developed confidence in their ability through participation in LAAMPP, specifically noting increased capacity in legislative and policy processes, cross-cultural competence, tobacco knowledge, sacred (non-commercial) tobacco, and acceptance of diversity. As one fellow explained,

> *"Before [LAAMPP] I was still behind someone, you know with somebody leading, and now I am able to lead. And my experience here, I went to the State [legislature] for the lobbying and that is one of the most powerful—I feel for the first time, I feel great. I live in Minnesota a long time, for more than 15 years, and this is the first time I met my legislator." (#101)*

Community contact interviews support these findings (Table 2), as contacts observed growth in skills and knowledge during the fellows' participation in LAAMPP and increases in connection to their own and other priority population communities, confidence, skills, tobacco activity, and influence in the community. One contact observed that a fellow "has gone from being very uncertain of <the fellow's> role in the community to seeing [how they can] empower and work with our community to create the changes we want to see." (#107)

Table 2: Summary of Findings LAAMPP III Fellows Contact Key Informant Interviews

Outcomes identified by Fellows	Quotes from Fellows
• Acquiring skills • Confidence • Understanding policy • Deeper connection to own community/priority population • Professional experience • Pride in my work and ability • Developed relationships • Cross-cultural competence • Tobacco knowledge: harms, impact on PP's, industry targeting • Public speaking • Traditional & sacred tobacco • Legislative/policy processes • Tolerance & acceptance of diversity	"Prior to [LAAMPP] I didn't really know where to go. I didn't know we had an outlet, being a constituent, to go up and speak to policy makers or anything on a legislative level. It was somewhat fearful but it made me wonder how many others don't know that there is an outlet that you can go up and speak to people (state legislators)." (103) "I feel more confident. I have learned a lot of skills that I can use in my community…you need to be really specific and be ready. Because they (legislators) don't have enough time for you…so you have to be ready for them. But also is important to get more people, not just you." (114) "Before I was still behind someone, you know with somebody leading, and now I am able to lead. And my experience here, I went to the state yesterday for the lobbying and that is one of the most powerful I feel, my first time. I feel great. I live in Minnesota a long time for more than 15 years and this is the first time I met my legislator." (101)
Outcomes identified by community contacts	Quotes from community contacts familiar with Fellows
• Community connection • Confidence building • Cross-cultural examples • Difference-growth area during LAAMPP • Improved skills • Development of new skills • Influence in community • Return On Investment of LAAMPP • Specific strengths of individual fellows (specific to each one individually) • Tobacco activity	"She is definitely more confident and willing to lead the charge on something… She just totally went full speed ahead and introduced herself to the community of people she was working with." " (103) "A lot of the people she talks to, they can relate to the things that she is saying because of the way she explains it, so that people grasp what she is trying to say. That's really powerful for her." (122) "She has been doing more community work than before. She is more involved in the community and more outgoing." (101) "I think <fellow> has gone from being very uncertain of her role in the community to seeing [how she can] empower and work with our community to create the changes we want to see." (107) "Her engagement is more, her engagement seems more thoughtful." (108) "He saw the bigger picture…and learned that with policy change, it would affect the greater community and leave a lasting impact." (120)

<u>Evaluation goal #2: Development of social relationships and networks within own and other priority populations and the mainstream tobacco control movement</u>

Fellows' Network Development: Findings from the personal network analysis are summarized in Table 3. As expected, fellows' networks increased in size—mean increase was 9.65 ($p < .01$). On the other hand, the size of individual fellows' networks varied considerably, with a standard deviation of 4.55 at baseline and 7.55 at follow-up.

Part of the analysis was concerned with the average centrality of alters (personal contacts) in each fellow's personal network. The analysis focused on three centrality measures, namely degree, closeness and betweenness centrality (Freeman, 1979). Degree centrality is a simple measure of connectedness of an alter, equal to the number of ties the alter has in the social network. Closeness centrality is a measure of the extent to which the alter is overall close to the rest of the social network, based on the reciprocal of the sum of network distances between the alter and all other network actors. Betweenness is a measure of the extent to which an alter

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brokers between separate cliques or subgroups of network alters, based on the number of times the alter falls on the shortest path between any pair of other alters. Because network size affects the distribution of centrality measures in a social network, the changes in centrality measures were analyzed after adjusting those measures to control for network size change between baseline and follow-up. The analysis found statistically significant changes in alter degree and closeness centrality from baseline to follow-up ($p < .01$), but no significant change in alter betweenness centrality. Degree centrality slightly decreased from baseline to follow-up with a mean difference -0.10 ($p < .01$). At the same time, closeness increased with a mean difference of +0.26 ($p < .01$). Betweenness centrality showed a very slight decrease (mean difference of -0.01), but this change was not statistically significant.

In addition to the patterns of alter centrality and connectivity in the personal networks, the composition of the networks was analyzed in terms of alter attributes such as alter sector, alter influence in tobacco control, interaction fellow had with alters, and frequency of communication between fellow and alters. Alters were categorized in sectors as public health, community organization, culturally-based organization, tribal/government elected official, tribal/government agency, mainstream tobacco control organization, or other. To assess change in fellows' network composition, sector diversity in the personal networks was analyzed using the generalized variance index (GV). GV is an index of diversity that simultaneously measures the number of sectors represented in the personal network, and the evenness or homogeneity of the proportions of these sectors in the network (Budescu and Budescu, 2012). Sector diversity significantly increased in the fellows' networks with a mean difference of +0.13,

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Table 3: Personal Network Measures of LAAMPP III Fellows

Variable	**Baseline**		**Follow-up**		**Mean difference**
	Mean	*SD*	*Mean*	*SD*	
Structural Measures:					
Size (number of alters)	14.48	4.55	24.13	7.55	9.65**
Degree	0.55	0.18	0.45	0.11	-0.10**
Betweenness	0.04	0.02	0.03	0.02	-0.01
Closeness	0.24	0.11	0.50	0.41	0.26**

Variable	**Baseline**		**Follow-up**		**Mean difference**
	Mean	*SD*	*Mean*	*SD*	
Compositional Measures:					
Diversity (GV)	0.58	0.18	0.71	0.14	0.13**
Alters Fellows meet with					
2-3 times/year or *once a year*	0.43	0.22	0.58	0.24	0.15**
Alters very influential in					
tobacco control	0.40	0.26	0.58	0.21	0.18**
Alters Fellows communicate					
with primarily at meetings	0.34	0.23	0.40	0.21	0.06
Alters are strongly influenced					
by Fellow's opinion	0.12	0.10	0.24	0.17	0.12**

Means, standard deviations and mean difference of structural and compositional measures of LAAMPP III Fellows' networks between Baseline and Follow-up. Statistical significance determined using paired t-tests: ** p value < .01; * p value < .05.

Choices for interaction with alters were the following: (1) Communicate at meetings, (2) Alter would respond to phone/email/Facebook contact, (3) Alter is somewhat influenced by fellow's opinion, (4) Alter is strongly influenced by fellow's opinion. Choices for how often fellow interacted with alter were the following: (1) Weekly, (2) Monthly, (3) Once or twice a year, (4) Yearly or less. Choices for how influential the fellow perceives alter to be in tobacco control were the following: (1) Not at all, (2) A little bit, (3) Somewhat, (4) Very influential.

shifting from an average of 0.58 at baseline to an average of 0.71 at follow-up ($p < .01$).

Fellows' networks at follow-up included more alters who were very influential in tobacco control, who fellows communicated with on a less regular/frequent basis, and who were influenced by fellow's opinions. Fellows perceived that more members of their networks were "very influential in tobacco control" at follow-up, with the proportion of alters in this category increasing by 18 percentage points (40% to 58%, $p <.01$). Networks contained more alters that fellows saw "two to three times a year" or "yearly", with a mean difference increase of 15 percentage points (43% to 58%, $p <.01$) in the proportion of these alters in the personal networks. Fellows also perceived that more alters would be "strongly influenced" by the fellow's opinion at follow-up, with a mean difference of 12 percentage points (12% to 24%, $p <.01$).

Fellows' value of working within and across priority populations and with mainstream tobacco: Findings from the key informant interviews with fellows demonstrate that they found value working within their own priority population networks, through cross-cultural networks, and within the broader mainstream tobacco control movement (Table 4). Fellows identified several elements that were valuable about working within their own priority population cohort. They gained support from others in their community, while also being able to provide support to others in their cohort. Being from the community gave them a knowledge base and credibility that supported their efforts, and gave them the opportunity to break down barriers within their own priority population. Shared norms, understandings, and language facilitated efforts in their own communities. At the same time, fellows noted that each LAAMPP cohort was diverse, which could present challenges, but also provided broader support and capacity for community efforts. As one fellow described it, "I think it was valuable that we were able to acknowledge the cultural differences in each population instead of making it a one-size-fits-all." (#102)

Fellows believed it was more valuable to have a diverse, cross-cultural institute than if LAAMPP III had focused on just one priority population. Fellows valued that the Institute provided a safe space to learn about other cultures, where they could raise questions and share with people from other priority populations. Even though from different priority populations, Fellows frequently observed that they had similar experiences or challenges as other groups. Many noted the power of working cross-culturally, including working together with mainstream efforts. One fellow described this collective power,

> *"I don't think it happens overnight. People start to realize, 'Hey, we do have collective power, if we do come together, look what we can do.'" (#122)*

Cross-cultural engagement was valuable not only in the Institute, but also when meeting with elected officials, to show a broader base of support for initiatives. The AAA, AAPI, AI, and Latino

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Table 4: Summary of LAAMPP III Fellows Key Informant Interview Findings on Networks

Value of working within own priority population group	Value of working cross-culturally with other priority population groups	Value of working with mainstream tobacco control efforts
• Fellows gained **support** from and gave support to each other. • **Credibility & Knowledge** that fellows bring to work in their own community • Opportunity to **break down barriers in own community** • Competence working with the **diversity within own priority population** • Value of **shared understanding, norms, language** • **Teamwork**	• Value of **learning about other cultures in a safe space** • **Power working cross-culturally** • **Power working together** to impact mainstream efforts • Cross-cultural team is **valuable when meeting with Legislators or elected officials** • Valuable to learn that other priority populations have **similar experiences & challenges** • AAPI, AI, AAA, and Latino fellows **valued learning about LGBTQ** issues and developing relationships • Felt it **was more valuable to work cross-culturally** than if LAAMPP had only focused on own priority population	• **Skill development** • **Confidence** • **Help others in own community** learn to work with Legislature • **Partnering** with a mainstream tobacco control organization • Value of mainstream **having the experience of working with priority populations** • Realizing **own experience is valuable** • Knowledgeable about **commercial tobacco, strategies & industry tactics** • Greater interest in **policy** • More engaged in & connected to communities • **Understanding tobacco** *control* and moving beyond *education* • **People look to the LAAMPP III Fellows for leadership**
"Breaking down that barrier between the African and African American community was huge." (115) "Being aware of the diversity in our Latino community…because we had people from Chile, Venezuela, Mexico." (120) "I think it was valuable that we were able to acknowledge the cultural differences in each population instead of making it a one-size-fits-all." (102)	"I think it's really, really important to have this kind of set-up …So we have a space where we are all doing things in our own communities, yet seeing what everyone else is doing in their communities and developing a mutual understanding and respect for each other and forming partnerships with one another—that is really valuable." (130) "I don't think it happens overnight. People start to realize, hey, we do have collective power, if we do come together, look what we can do." (122) "I really liked learning the impact on [other] priority populations. I like the fact that there was a comfortable space [with] regard to the LGBTQ community, where they could teach us about their community, like preferred pronouns, cultural norms, in order to know how to work with that community in the future, because the LGBTQ community transcends all cultures." (102)	"I grew up in a smoking home myself. I didn't realize that my experience could be valuable to others and helpful in the process, but it turned out it was…We went to meet with one of the commissioners who was a little difficult…So I gave my perspective as someone who grew up in a home where smoking was the norm, so that just worked out perfectly…I think it really brought it to life what we're talking about and the relevance of our being there. (123) "The most valuable would be for them to see that there are people in priority populations who are doing this work and be cognizant of including us in the work." (130)

fellows found it valuable to have the LGBTQ fellows in the Institute, deepening their respect for and understanding of the LGBTQ community and its issues. One fellow summed it up this way:

> *"I really liked learning the impact on [other] priority populations. I like the fact that there was a comfortable space [with] regard to the LGBTQ community, where they could teach us about their community, like preferred pronouns, cultural norms, in order to know how to work with that community in the future, because the LGBTQ community transcends all cultures."* (#102)

The experience LAAMPP III Fellows gained working with people from the mainstream tobacco control movement helped them develop skills and confidence. They became more knowledgeable about commercial tobacco, strategies to address tobacco control, and tobacco industry tactics to resist policy restrictions. Many used the opportunity to engage others from their own communities to work on legislative and policy efforts and saw that people looked to them for experience. Policy work enabled several fellows to see that their own experiences could be valuable as they shared stories of the impact of commercial tobacco on their communities. As one fellow related,

> *"I grew up in a smoking home myself. I didn't realize that my experience could be valuable to others and helpful in the process, but it turned out it was…We went to meet with one of the commissioners who was a little difficult…So I gave my perspective as someone who grew up in a home where smoking was the norm…I think it really brought it to life what we're talking about and the relevance of our being there."* (#123)

Evaluation goal #3: Community level changes related to cohort policy projects

Successful policy change: Through their cohort policy projects, LAAMPP III Fellows successfully promoted several policy changes at the public and institutional levels. Four of the five cohorts successfully completed their projects and enacted a policy change as shown in Table 5. Policy changes passed included adoption of a smoke-free foster care policy by Ramsey County, a smoke-free policy at the Duluth-Superior Pride festival which will be implemented incrementally over three years, smoke-free policies at two organizations, smoke-free policies in two churches in outstate cities, smoke-free multi-housing policies in St. Paul, and a policy making the Hmongtown Market smoke-free. (The fifth cohort was continuing to work on their project after completion of the Institute, a research project on tobacco industry targeting of American Indians to use to develop a policy advocacy manual). Fellows successfully planned, strategized, and carried out their policy initiatives, mobilized support, collected data on the issues they were addressing, met with elected officials or decision-makers, drafted policies, and helped with implementation.

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Table 5: LAAMPP III Fellows Cohort Policy Projects

Cohort	Project	Partner Contacts Observations
African & African American	Smoke-free foster care ordinance in Ramsey County	"[The fellows] were well prepared…they always laid out concerns and backed it up with data and back it up with facts…they were always very well prepared and professional." (AAA-5) "[The fellows] provided a voice from a directly affected population. They brought a great deal of credibility." (AAA-3)
Asian American Pacific Islander	Tobacco free policy covering external and parking areas at Hmongtown Market	"It is all about smoking and your health—not just cigarettes. This is the first time I've seen that information given out…Hmong people really need that information." (AAPI-2) "The survey—when the results came in, things like damage to property owners—that's something that [the fellows] found…that makes implementing the policy easier because now you have a quantitative way to say these are the changes that you want." (AAPI-1)
American Indian	Creating an advocacy report exposing tobacco industry targeting of American Indians	"They would help guide what the content would be…develop the overall outline and subject matter to get an idea of what…should go into the report. They provided input as the draft was developing and offered their perspective on what should change, what they liked, etc." (AI-1) [The fellows] are encouraging us "to use the traditional tobacco and not commercial tobacco, to go back to our Native ways and use of tobacco, and not giving the money to the big tobacco companies." (AI-2)
Chicano/Latino	Tobacco free policies at two apartment buildings and two churches	"[The fellows] learn to contact the building manager…after that they make a survey to the tenants, a survey to the owner, and after that they put all the information in the document and give back to the managers and owners because it's very important that the people know what the community wants." (Latino-2) "I mean, [Latinos] are included in the general efforts but this is the first time I've seen a project focused on the Latino community. It really brought…a focus we never get here." (Latino-1)
LGBTQ	Tobacco free policies at Duluth-Superior Pride, Community Action Duluth, and the Clayton Jackson McGhie Memorial	"[The fellows] reached out in a professional manner. It was all very positive…they were well prepared. I thought it went well." (LGBTQ-2) "[The fellows] have done a great job, because had this been presented to the committee three years ago, I don't think it would have been well received—I know it wouldn't have." (LGBTQ-1)

Findings from interviews with project contacts were consistent with the results of the Skills Assessment Tool and social network analysis. Contacts observed that LAAMPP III Fellows were informed and had the skills necessary to drive projects and were prepared when meeting with decision-makers and community members, were professional, and were well informed about the impact of tobacco on their community.

DISCUSSION
The third implementation of LAAMPP demonstrated that participation in a cross-cultural leadership institute successfully developed confident leaders within priority populations, who developed knowledge and skills, and, more importantly, developed relationships and networks within the tobacco control movement that are necessary to undertake policy work. Policy work

cannot take place in a vacuum. A primary goal for the LAAMPP III evaluation was to examine the extent that Fellows developed tobacco control relationships and networks to undertake tobacco control and policy advocacy work. Structural measures of Fellows' networks indicate that LAAMPP III supported fellows in developing tobacco control relationships cross-culturally and in mainstream tobacco control. Fellows developed larger, more far-reaching, sparser networks composed of people who could connect them to new groups and sectors that were not strictly dependent on their circle of tobacco control acquaintances at baseline. As expected, LAAMPP III Fellows' tobacco control networks increased in size, but importantly, degree centrality—the extent to which network members know other members of a fellow's personal network—decreased, indicating that fellows' networks became more dispersed as they developed relationships beyond people they already knew and cliques to which they were already connected. In other words, new relationships that LAAMPP III Fellows developed were not redundant—they expanded fellows' networks into new social and professional circles that would better facilitate policy work.

Closeness centrality—the extent to which a network member is close to (few links away from[1]) all other personal contacts—decreased, which suggests that fellows' social networks are less concentrated in one or few tobacco control circles and more fragmented into multiple social or professional circles. Fellows' networks evolved during LAAMPP III so that they were broader and more dispersed, reaching into more professional circles, and exhibiting more of a "small world" configuration in which fellows knew multiple groups whose members were not connected to each other. In practical terms for undertaking tobacco control and policy efforts, this means fellows have access to more groups and to a broader variety of actors than they did when they started LAAMPP III, and thus can tap into larger and more diverse networks to partner in policy efforts. Consistent with these findings, at the end of LAAMPP III, fellows' networks included more contacts with whom fellows interact less frequently, indicating that LAAMPP III Fellows are developing relationships beyond their immediate circle of professional colleagues that they see on a regular basis, such as in their own workplace.

At the same time, participation in LAAMPP III also supported greater diversity of sectors in the fellows' networks, broadening the support they have access to for policy efforts. Rather than limiting their personal contacts to one or few professional sectors, LAAMPP III Fellows developed relationships in different sectors including tribal/government elected officials, tribal/government agency people, and mainstream tobacco control people—all actors necessary to facilitate tobacco policy work. Importantly, network composition changed in some powerful ways. For example, one fellow's network was heavily composed of people from culturally based organizations at baseline, but at follow-up included more elected, agency, and mainstream tobacco control people, giving that fellow access beyond their own immediate community. Another fellow reported in interviews feeling almost no connection to their own community and had no culturally-based connections in the baseline network, but had many network members from this sector by the end of the Institute, meaning this fellow had connected back to the community. Overall, the diversity of fellows' networks at completion of LAAMPP III was more

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[1] "Close" or "distant" here refers to geodesic distance; that is, the number of network ties that connect an alter to another. This could also be thought of as the "degrees of separation" between two alters in the network. Notice that, following a standard approach in personal network analysis, all analyses here exclude the node of Ego (i.e., the Fellow) from the network (McCarty and Wutich, 2005).

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suited to being able to support policy work in both mainstream and priority population communities.

Fellows also developed relationships with people they perceive as influential in tobacco control, but just as important, LAAMPP III Fellows' networks included more members that they perceived were strongly influenced by their opinions. This suggests that fellows were being perceived as leaders by others: not only did they know people who were influential, these influential people looked to fellows for their opinions on issues.

These enhanced networks mean that a greater cross-section of people engaged in tobacco control work have been exposed to the specific concerns of tobacco's disparate impact on priority population communities in Minnesota. By acquiring knowledge, competencies, and skills and expanding their networks, LAAMPP III Fellows have informed policy efforts in their communities and exposed numerous organizations to the importance of addressing tobacco issues in all communities, not just at the broad state-wide population level.

LAAMPP occupies a unique space as a leadership development model that recognizes and celebrates cross-cultural participants and supports their development as tobacco policy leaders. It is essential for people working in priority population communities to understand the history and context of communities (Robinson, 2005; Báezconde-Garbanati et al., 2007; Arndt et al., 2013; David et al., 2013; Mukherjea, Wackowski, Lee, & Delnevo, 2014; Burgess et al., 2014; Palmer et al., 2013). The development of LAAMPP III Fellows' networks suggest that they can use their newly-developed capacity to make decision makers and mainstream tobacco control practitioners more aware of the needs of their communities, applying that community wisdom both within their own and other's communities, as well as in broader mainstream efforts.

State level population-based efforts are not adequately achieving health equity, and some evidence exists that when not all groups benefit, such efforts may actually increase inequity (Hatzenbuehler, Keyes, Hamilton, & Hasin, 2014; Rexing & Ibrahim, 2012; Hill, Amos, Clifford, & Platt, 2014; Irvin-Vidrine, Reitzel, & Wetter, 2009). The outcomes of LAAMPP III suggest more resources should be put into cross-cultural leadership development programs such as LAAMPP. By bringing participants together from diverse priority populations, the fellows found they had more similarities than differences—that the tobacco industry had aggressively targeted all of their communities, that they all receive too few resources for addressing tobacco control, that programming is seldom tailored to their communities or provided in a culturally-competent context, and that insufficient data is available to help identify problems in their communities. One fellow summed it up when asked what was valuable about the Institute being cross cultural:

> *"I think it's really, really important to have this kind of [cross-cultural] set-up—especially because most of the time these populations are very insular, and I personally feel like the tactic of the mainstream is to kind of keep us divided so that we can't, like, have a revolt…there is an intention to make sure that we don't collaborate and kind of pit us against each other…So we have a space where we are all doing things in our own communities, yet seeing what everyone else is doing in their communities and developing a mutual understanding and respect for each other and forming partnerships with one another—that is really valuable."* (#130)

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Demographic trends add to the urgency for public health leaders and decision makers to resource efforts with the potential to succeed at reducing tobacco-related harms in priority populations. Minnesota's non-white and Latino population is projected to increase from 14% (in 2005) to 25% by 2035 (Minnesota State Demographic Center, 2015) and the U.S. population is expected to be 53% non-white by 2050 (Taylor & Pew Research Center, 2014). Developing capacity to develop skilled leaders who can lead policy change is essential to ensuring health equity for all Minnesotans. Thus it is critical to support and replicate programs that show promise such as LAAMPP.

<u>Limitations and recommendations for future research</u>

There are several limits to the evaluation of LAAMPP III. First, the evaluation design is not a randomized control trial and there was no comparison group. So while we see positive results among this group of fellows and learned that the cross-cultural aspect of LAAMPP is important to participants, it is not possible to know how the same (or similar) individuals would have progressed if they had participated in a more traditional leadership model. Second, the evaluation is also limited because of the small sample size—with only 23 fellows, it is not possible to generalize findings to other settings, or to conduct statistical analysis among the smaller cohorts in the Institute. Third, the evaluation is limited by its timing, as follow-up data was collected immediately after the completion of the Institute, so it is not yet possible to know what the long-term, sustained results are for the LAAMPP III Fellows. Finally, the Skills Assessment Tool was based on self-reporting by the participating fellows and may be subject to social desirability influences. However, LAAMPP III Fellows' ability to implement successful tobacco control projects, combined with corroborating information from community and project contacts, underscores their acquisition and use of new skills.

Despite these limitations, the evaluation design was comprehensive. The small sample size made it possible to collect more data and conduct a personal network analysis with each LAAMPP III Fellow at baseline and follow-up. The use of multiple methods allowed for triangulation and cross-validation of findings across methods. Additionally, the findings from the evaluation of LAAMPP III are consistent with findings from the evaluations of LAAMPP I and II, where skill development and application of skills increased.

More research is needed to continue examining how tobacco control leadership is developed in priority populations. Future research might include comparison designs using either a delayed condition design or comparing cross-cultural leadership institutes with a more traditional or majority-focused model. ClearWay Minnesota continues to follow the progress of LAAMPP I and II Fellows and now has more data on LAAMPP III Fellows. This is a valuable resource and it is important to continue to follow the progress and development of fellows who have completed LAAMPP to assess the sustainability of outcomes and continued growth.

CONCLUSION

The evaluation of LAAMPP III demonstrates that a cross-cultural leadership institute can successfully train tobacco control leaders from priority populations and support them in developing the personal tobacco control networks necessary to successfully undertake policy initiatives. LAAMPP III Fellows' personal tobacco control networks are larger, more dispersed, more extensive and more diverse, and include more people the fellows perceive are influential in tobacco control and who are influenced by the fellows' opinions. Through their participation in

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LAAMPP III, fellows had the opportunity to engage in policy work at the state, county, city, community, and institutional level. The LAAMPP Institute has been successful at developing a cadre of skilled tobacco control leaders within priority populations in Minnesota. Leadership development programs such as LAAMPP may be a useful model for other states that seek to improve health equity. Other states should consider implementing cross-cultural leadership development programs such as LAAMPP to address tobacco-related health disparities.

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