ORIGINAL ARTICLE

Assessing the influence of health on rural outmigration in Alaska

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ABSTRACT

Objectives. This formative study is intended to generate questions and hypotheses regarding the relationship between health and outmigration from Alaska’s rural communities. This study is the first to provide perspectives of rural Alaskans in the context of health concerns and health care delivery as determinants of outmigration.

Study design. The study collected secondary data through a comprehensive review of the literature and primary data through semi-structured interviews.

Methods. The research design consisted of two iterative phases: a comprehensive review of published and gray literature relevant to rural health and migration in Alaska, and in-depth interviews with rural Alaskans who had recently moved from rural to urban settings. A total of 31 Alaskans aged 18+ from communities throughout the state were interviewed about the factors influencing their decision to move to an urban centre.

Results. Three health-related determinants of outmigration from rural to urban Alaska emerged: (1) limited access to primary and specialized health care; (2) perceptions of health risks in rural communities; and (3) ripple effect migration of friends and family providing social support for rural Alaskans requiring health care. These determinants had disproportionate effects on young and female study participants.

Conclusions. We present data describing the growing influence of health concerns and health care delivery on outmigration in this underserved population, and conclude with recommendations for future avenues of research. Expanding the body of knowledge of the link between health and outmigration will provide rural Alaskans the opportunity to live and grow old in their own communities.

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INTRODUCTION

Between 1970 and 2000, thousands of rural Alaskans moved from rural communities to urban areas, and the rate of migration accelerated after 1990 (1). For example, 9 of the 24 census regions in the state experienced a rate of population loss more than twice the U.S. national average in rural areas over the last decade (2). Rural to urban migration, or “outmigration,” is particularly disruptive to the many rural Alaskan communities with fewer than 100 full-time residents (3). The regions of Southeast, Southwest and Northern Alaska are experiencing a rate of outmigration that is outpacing natural increase in rural populations (4). Southeast Alaska lost 5.6% of its population (approximately 8,000 individuals) due to outmigration between 2000 and 2008. Outmigration continues to affect rural areas in Alaska. Expanding what is known about the factors influencing this phenomenon within Alaska represents a relatively new area of study.

Studies of outmigration in Alaska have suggested that movement from rural communities to other areas is driven by opportunities for increases in income (5), education (6), and employment (7). Studies have also shown that the relationship between economics and outmigration is correlated with gender. For instance, women are more likely than men to leave their natal communities to seek education and employment in urban settings (8).

Although economic factors certainly play an important role, other conditions also influence the decision to outmigrate (9). In a descriptive study of 25 women who moved from rural to urban Alaska, 11 reported that they had moved due to factors other than education or employment, and 2 participants moved with family members who required specialized health care services at an Anchorage hospital (10). Barriers preventing access to social services such as health care diminish the quality of life of residents in rural Alaska and may motivate rural residents to seek such services elsewhere (11). For example, 4 of the 5 census areas in Alaska with the greatest difficulty in receiving health services also had the highest rate of population loss in the last decade (12). Studies conducted in other regions of the circumpolar north also indicate that health issues may influence outmigration. Results of a Canadian study suggest that individuals move from rural areas to visit hospitals or to accompany family members during their health-related move to an urban area (13).

The Institute for Circumpolar Health Studies (ICHS) at the University of Alaska Anchorage (UAA) collaborated with the Institute of Social and Economic Research (ISER) to re-examine the standard economic model of Arctic outmigration. The aim of this study was to examine the health-related factors, including access to health care, involved in Alaskan outmigration, and to develop recommendations to respond to these factors that would allow rural residents of the state to remain in their communities if they wish to do so. For the purposes of this study, rural residents of the state are those who live in regions with a population density under 2,500 people per square kilometre, not adjoining an urban region (14), and include those on the road or ferry systems. These include both Native and non-Native Alaskans.
MATERIAL AND METHODS

The study was comprised of 2 iterative phases. In the first phase of the study, an extensive literature review on outmigration and health in Alaska was collected over the spring and summer of 2009. The literature review included data related to the health status and concerns of rural Alaskans, as well as any work describing the effects of these factors on the decision to outmigrate. In the second phase of the study, semi-structured interview responses were collected over the fall and winter of 2009–2010. The in-depth qualitative data provided important contextual detail on the relationship between health and outmigration, and interviews were conducted with individuals who had recently migrated from rural Alaska to regional hubs or urban centres. Interview participants were recruited according to a purposive sampling strategy to include 3 age groups (<30, 30–54, ≥55) and 5 regions in Alaska – the Interior, Northern, Southcentral, Southeast and Southwest (see Figure 1). The regional segmentation criteria used here are employed by the Alaska Department of Labor for demographic data analysis, including migration rates (15,16). The age-related segmentation criteria differentiate between socially meaningful generational cohorts – the oldest were born prior to Alaska statehood, the youngest were born after the oil-related economic and population boom of the early 1980s when the state’s population increased by 30% over 3 years (3), and the mid-range age cohort were born in the era following ratification of the Alaska Native Claims Settlement Act (ANCSA), which established the local tribal corporations that provide the social services in place today.

Figure 1. Map of the 5 regions used for the purposive sample and the number of participants from each region.
The structured questions employed in the semi-structured interview guide were developed to follow-up on key findings from the literature review. The questions explored the health needs and concerns of study participants, how they perceived the quality of health care available in the rural community and how these services related to the outmigration from rural communities. Semi-structured interviews, consisting of open-ended structured questions and contextual probes, are particularly well-suited for the collection of formative data because the flexible and responsive format can identify and follow-up on emergent and unexpected themes that would be missed with more structured data collection procedures (17). The set of interview questions were reviewed by content experts at the UAA Alaska Native and American Indian Elder Resource Center. All data collection strategies employed in this study were reviewed and approved by the UAA Institutional Review Board.

Interview participants were recruited using flyers, newspaper advertisements and snowball methods. Advertisements were placed in several newspapers with circulation throughout rural Alaska, including north of the Arctic Circle. Participants allowed into the study had to meet the key criterion of being ≥18 years old and having recently moved (≤7 years bp) from rural Alaska to a regional hub or urban centre. When potential study participants contacted the project team, the screening criteria were reviewed to determine if the individual met the study criteria. If eligible, an interview was scheduled at a time and location convenient for the participant’s schedule. All study participants received a U.S.$25 incentive. The recruiting strategy populated all but 2 of the purposive sample categories (see Table I).

All interviewers participated in data analysis. The analytic process employed a qualitative data analytic software (18). The iterative analytic process began with the development of initial descriptive codes. Based on previous research on this issue in other circumpolar nations, the codes focused on such key analytic factors as access to quality comprehensive health care and the contextual health conditions of rural communities. Associations between outmigration and a specific constellation of health issues as well as which elements of the community-level healthcare system are most associated with the decision to migrate to rural settings were assessed. After an initial round of coding by all 3 interviewers, subsequent process codes were developed to provide detail about the pattern of rural to urban outmigration. For instance, responses to health-specific questions were coded to distinguish between those participants who moved from rural Alaska to receive treatment and those who moved due to perceptions of unhealthy conditions in their home community. Health categories that reappeared in the data repeatedly were coded and compared to the demographic variables used.

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to create the purposive sample. A coding diary was developed and interviewers met regularly to discuss the coding protocol in an effort to maintain high coding agreement. Agreement was calculated as the number of units of agreement (characters coded) divided by the total units of measure within each interview, displayed as a percentage. Final coding agreement averaged 97% for the 3 investigators.

RESULTS

Literature review
Due to the paucity of peer-reviewed literature assessing the health factors associated with outmigration in Alaska, the literature review included non-peer-reviewed reports and publications by governmental and non-governmental agencies, or grey literature. Due to the fact that many of these reports are not otherwise available to readers, the results below include a description of the study methods and data source(s), the organization responsible for the research and key findings. During this phase of the study, 3 key themes emerged: that accessing primary and specialized health care can be problematic for rural residents of the state (barriers to quality health care access), and that a single outmigration event is associated with a complex array of contextual and behavioural determinants (social dynamics).

Barriers to quality health care access
Commonwealth North, a public policy forum based in Alaska, prepared an action paper to address a host of issues affecting rural Alaskan residents. The report highlighted barriers to health care for rural residents of the state, particularly non-Native Alaskans living in communities with no health care facilities or services. The authors note that because the state has no county or state hospital system, a “patchwork quilt” of health care delivery and funding has developed in Alaska (19).

The Alaska Health Care Data Book, produced by the Alaska Department of Health and Social Services, summarizes disparities in health care access between residents of rural and urban regions of the state. Rural Alaskans are less likely than urban residents to report being able to afford a visit to the doctor, less likely to have received a routine check-up in the past year and less likely to have health care insurance coverage (20).

In 2007, the Alaska Center for Rural Health (ACRH) released a study that examined vacancies in Alaska’s health workforce. Using a purposive sample of Alaskan health service organizations, the ACRH conducted a survey to estimate the number of health-related positions and vacancies for the entire state. Results from the survey indicate that rural health clinics are more likely than those in urban areas to experience high personnel vacancy rates, and are particularly unable to retain registered nurses, behavioral health clinicians, dentists, physical therapists and physician assistants. The Northern and Southwest regions of the state ranked among the highest in terms of vacancy rates (21).

Between 1990 and 1992, the Alaska Native Commission examined the social and economic status of Alaska Natives. While emphasizing the need for increased funding for medical transport, the Commission also noted that the overall frequency of travel for health care could be reduced if primary care and prevention were improved at the village level (22).
These studies, most of which did not appear in the peer-reviewed literature, confirm that barriers to health care exist for many rural Alaskan residents, and that these barriers result in reduced utilization of preventive care and treatment for chronic health care problems, which can increase the ultimate costs of health care.

Social dynamics of outmigration

The Survey of Living Conditions in the Arctic (SLiCA) developed and assessed context-specific indicators of living conditions in a pan-arctic comparative study. The study was formalized in 1998 during the Inuit Circumpolar Conference, and included Indigenous peoples and researchers from the United States, Canada, Greenland, Norway, Sweden, Finland and Russia. Over 7,000 interviews were conducted across these nations. Based in part on previous studies of living conditions, SLiCA also assessed social, cultural and economic factors to determine the reasons for Arctic people’s decision to continue living in their home communities amid increasing urbanization. The survey found that the breakdown of social networks and subsistence lifestyles are linked to an increased risk of poor mental health for rural residents, possibly influencing decisions to outmigrate (23).

The Alaska Native Policy Center conducted a survey of 982 Alaska Native outmigrants to identify important factors associated with the decision to move. Of the 307 participants who reported that they had moved to a different community, 60% reported that they had moved from a rural area or a regional hub. Participants in the survey indicated that health and safety as well as proximity to family members were as important as the cost of living and employment in their decision to outmigrate (24).

A survey conducted by ISER sought to determine the origins and causes of a recent increase in the Anchorage School District (ASD) student population. Based on a sample of 881 newly enrolled ASD students, the study found that a majority of students moved with their family members to Anchorage from rural Alaska (25). Of the families who moved to Anchorage, 20% reported that they needed health care upon arrival to Anchorage. These results suggest that individuals who move from rural to urban Alaska to pursue health care are likely to pull family members with them along their migration trajectory creating what we refer to as “ripple effect migration.” Ripple effect migration refers to an event involving 2 or more individuals relocating from a shared rural residence to a new urban residence. Ripple effect migration includes chain migration (26), or the relocation of family and friends to a new community over an extended period of time, but in the context of Alaskan outmigration more often involves the simultaneous relocation of multiple friends and family.

These studies demonstrate the importance of family networks as a source of support for rural residents and the proximity to family members as a factor in outmigration decisions. Therefore, approaches to health and migration that probe only for the health needs of each individual respondent will miss the role of social networks in magnifying the effects of health-related outmigration, a role that is particularly important to account for when studying tightly-knit rural communities.
In-depth interviews

Based on the results of the literature review, semi-structured interviews were conducted with recent outmigrants to assess the factors associated with the decision to outmigrate and to describe the manner and process by which the outmigration had occurred. The interview guide consisted of 13 structured questions and 16 contextual semi-structured probes assessing health care needs and concerns and the role of social networks in the outmigration decision. Interview participants (31) ranged in age from 21 to 64 with an average age of 39 years. The majority of participants, 29 of 31, described themselves as Alaska Native. Results of in-depth interviews yielded several key factors, many of which were health related, associated with the decision to move from rural to urban regions of Alaska. Health-related factors included access to quality health care and health concerns. Non-health-related factors included opportunity seeking and cost of living. Both sets of factors were magnified by ripple effect migration.

Health-related factors of outmigration

Access to quality health care

Many participants reported that relatively poor access to quality health care influenced their decision to leave their rural community for an urban setting. We categorize the many issues with health care access into several subthemes: access to treatment for chronic illness and elder care, access to primary care, and access to substance abuse treatment. We describe each category below, and provide illustrative quotes from study participants.

Access to quality health care: treatment for chronic illnesses and elder care

As a consequence of the epidemiologic transition in the rural circumpolar north, a growing number of residents of rural communities require treatment for chronic illnesses such as diabetes, cardiovascular disease, cancers and arthritis. The need for treatment regimens appropriate to these health outcomes is causing increasing stress on the health care infrastructure as well as informal support networks throughout rural Alaska. Participants in all age cohorts and regions reported that access to quality health care for a chronic illness motivated a member of their family to leave their home community. A 33-year-old male from Interior Alaska said,

My uncle had to relocate to Anchorage to receive care. He had become really sick and the Community Health Aide had him transferred to ANMC (Alaska Native Medical Center). Now, he is in a care center here.

A 40-year-old female from Southwest Alaska said,

There have been several [people] that have moved to be close to a hospital – like respiratory illness, cancer patients. Since my mom died, there have been people getting cancer – our neighbour, my brother-in-laws mother got cancer. They had to move to get care.

Patients facing extensive treatment for chronic health problems can eventually relocate to Anchorage due to the logistical challenges associated with repeated travel. A 41-year-old female from Interior Alaska said,

My father moved out because of his heart, had to get medevaced out, it was complicated so he moved down here two years ago to be closer to a doctor... didn’t want to keep going back and forth.
A 24-year-old male from Southwest Alaska described the clinic in his home community:

I know that people don't like the clinic out there. It's way too slow first of all. And second of all it would be easier to walk up to a window and pick up meds, refills. I think it's the main reason – people want faster health care. It's a big hassle to get into Bethel [a community with hospital facilities].

Outmigration associated with chronic illnesses disproportionately affected females in this sample. Three of the 4 participants who had reported that they moved from rural Alaska to seek care for a chronic illness were female. These women represented the middle- and old-age cohorts and the Northern and Southwest regions of the state. A 43-year-old female from Southwest Alaska said,

I got sick and had difficulties when I was living in Bethel. And I got sent over here. And they found a tumor and I had it removed. [After] surgery they sent me out to Bethel with my daughter and they had to send me back [to Anchorage] because they had nothing to help me out there in Bethel. That's when I ended up staying in an assisted living home. And now I am living in Anchorage permanently.

A 64-year-old female from Northern Alaska said,

I have had to come here a lot for health reasons, to get treatment for osteoporosis, rheumatoid arthritis, knee surgery, laser surgery. I had to quit a $90,000 job in Barrow to come here to Anchorage for health reasons because I just didn't want to keep going back and forth for care.

Elderly rural Alaskans were an important population segment affected by health care-seeking events. Although nearly all inter-view participants indicated that elderly individuals in their home community preferred to stay in their home communities during the later years of their lives, several participants reported that access to health care may influence elder community members to leave home. A 44-year-old male from Southwest Alaska discussed the difficulties of providing care to elderly in rural communities:

If more care is needed, if the family doesn't have the means to take care, then they may have to move to a nursing home in Anchorage. The younger generation is becoming Westernized and may not be able or willing to care for the elders. If they move to Anchorage – it is tough. It is like culture shock –in the village, they rely on subsistence.

A 64-year-old female from Northern Alaska suggested that families suffer when they are forced to move to Anchorage to provide care for their elder relatives:

They have to move away from everything. I have said that it is like going from the 17th century to the 21st century. Everything changes for them it is really tough. I have seen a lot of families uprooted because of needing to come here for health care.

Although elder access to health care in rural communities is a challenge, an elder's ability to remain in their home community offers salubrious benefits such as traditional foods. For example, a 40-year-old male from Northern Alaska said,

The food they grew up on is very beneficial for them. They would rather eat the native foods than anything else.

Living in home communities also provides social support to elders. A 24-year-old male from Southwest Alaska said,
The first rule in [home community] is “respect your elders.” It is cardinal Law. It’s the highest priority … They take care of them all of the time. When you catch your first catch – bird, seal, whatever – you must give to an elder. It is bad luck for you to keep it for yourself.

In addition to participants who reported that family members relocated to gain access to specialized care in Anchorage, several others indicated that delivery of specialized care for a chronic illness was a factor in their own decision to leave their home community. Women and middle-aged participants were especially likely to outmigrate to seek specialized care in Anchorage. Participants also related information about the health care needs and challenges faced by older rural Alaskans. Although the home community offers salubrious conditions for older Alaskans, including access to subsistence foods and informal support networks, specialized health care is often unavailable. This lack forces older rural residents to leave their home communities to seek treatment.

Access to quality health care: primary care
Many participants described challenges associated with accessing primary care in rural Alaska. Concerns about the cost and availability comprised a majority of participant responses when discussing access to primary care. In one community, the primary care facility closed on weekends and individuals needing care would wait until the following weekday to seek treatment. According to a 21-year-old male from Southcentral Alaska,

There was quite a few times when I was growing up [and] if it was the weekend and [the clinic] was closed you just didn’t go in because … your only other option was the emergency room.

This participant also mentioned the high costs associated with health care in rural Alaska that limit access to care for non-Native Alaskan residents.

A lot of people don’t go to the hospital when they should ’cause it’s real expensive. And the medevac to Anchorage for anything serious that’s a big deal right there – it runs like $70,000 is a figure that I heard. So a lot of people won’t go to the hospital or they will go and get medevaced and end up with $100,000 in bills after it’s all over. It deters people from going to the hospital.

Female participants in the young and middle-age cohorts from the Southwest region of Alaska reported that increased access to primary care for them or their family members influenced their decision to move from their home communities. A 54-year-old female from Southwest Alaska who sought medical and dental treatment after moving to Anchorage said,

I came here for health services. There [are] rare dental services in the bush. They have a subregional clinic in St. Mary’s but hardly any dentists. And the closest one would be in Bethel and the airfare is too high to travel. And the appointments are filled up a few months ahead.

The adversity associated with air travel motivated a 29-year-old female from Southwest Alaska to outmigrate. She said,

I moved from [my home community] because I thought it was ridiculous having to fly so far just to get treatment for my son, when I could just go up the street [for care] and not have to worry if I’m gonna crash.

Among issues surrounding access to quality primary health care, concerns about cost and availability of local health services were mentioned most often by participants. Orga-
nizational barriers such as geographic obstacles and limited delivery of services affected participant access to quality primary care. More women than men reported that access to quality primary health care was a factor in their decision to outmigrate.

Access to quality health care: substance abuse treatment

Males represented a majority (5 of 6) of the participants who reported that they had moved from rural Alaska to seek substance abuse treatment. Participants representing the young and middle-age cohorts and the Northern, Southeast and Southwest regions of the state related personal experiences with mental health or substance abuse treatment. Several participants reported that they had moved to Anchorage to seek treatment for addiction because of the lack of resources in their home communities. For example, a 51-year-old male from Southeast Alaska who moved to Anchorage to begin treatment said,

> It was my family situation and employment that made it difficult [to leave] and [there was] no support group for my alcoholism.

A 25-year-old male from Southwest Alaska said that he had moved repeatedly to receive substance abuse treatment:

> I've been other places, treatment here in Anchorage, treatment in Texas and to Fairbanks for treatment.

Another 25-year-old male participant from Interior Alaska said that returning to his home community would allow him to continue feeding his addiction.

> I've been sober and stuff, [but] I can just quit being sober at any time and just go back to the village [and live] without a penalty [for] breaking the laws or being drunken in public.

I don't want to do that; I want to take myself to the next stage take it step by step. I want to live here because there is a lot more things to do, more opportunities.

Participants also reported that their addictions began after moving to Anchorage. For example, a 51-year-old male from Southeast Alaska said,

> When I came, I stayed with my uncle. I started drinking and I kept drinking. Everything fell apart and I was on the street. My uncle passed [and] everything fell apart.

Seeking treatment in Anchorage forced these participants to remain in the city before returning to their home communities to maintain culturally important practices such as subsistence hunting and fishing. For example, a 40-year-old male from Southwest Alaska said,

> I have to be here, but I miss being home. I’m kind of stuck here. I miss the wilderness, hunting, subsistence, everything. It’s like you have more freedom back there … But I’m in treatment now so I might have to pass on going back home and go back next year.

The move from rural communities caused separation from traditional ways of life, which also had an impact on health. When asked whether health status has improved since his move to Anchorage, a 46-year-old male from Northern Alaska said,

> Now I would say I’m less healthy because I’m not eating that traditional food.

Men were more likely than women to report that substance abuse treatment was a factor in their decision to leave their home communities. Often substance abuse treatment options were not available in or near their home communities. Seeking substance abuse treatment in Anchorage also limited participant access to healthy subsistence activities and traditional foods.
Health concerns
In addition to the limitations on needed health care, young and middle-aged interview participants from Northern and Southwest Alaska reported that they had migrated to regional hubs or urban centres in response to their concerns about conditions in their home communities. The majority (3 of 4) of the participants who mentioned health concerns as a factor in their decision to outmigrate were female. These participants reported that social factors such as the amount of drug and alcohol abuse influenced their decision to outmigrate from their home communities. For example, a 41-year-old female from Interior Alaska said that she regretted moving, but wanted to keep her children away from substance abuse within the community.

I was kind of sad, but I wanted to leave because of the drinking and drugs, I didn't want [my] kids to grow up with that.

Another participant indicated that perceived unhealthy social conditions caused her to move her children away from the home community:

I didn't feel that it was safe for them to grow up in the village. Because I know how younger kids are really mean. They'd get picked on and end up doing something stupid and one way or the other. I didn't want them growing up around that.

Concerns about health care access, rather than need for those services, played a role in the decision of a 24-year-old male from Southwest Alaska, who said,

I moved to Bethel to be closer to the Hospital. I wasn't gonna let my kids live in [home community] because I knew the standards out there. I needed something better for my kids. My son broke his femur when he was 7 months old. I couldn't get a ride out of [home community] for 3 days. I made a makeshift cast. I said to myself if this ever happens again, I want to be close to a hospital.

One participant, a 29-year-old female from Southwest Alaska, reported that exposure to environmental contaminants was a major reason that she decided to outmigrate:

I feel a lot healthier in the city because you can wake up and take a shower every day and you can buy fresh fruit ... [There are] broken down vehicles everywhere. Everywhere you go you see a rusty snowmachine or four-wheeler. Some people just leave trash outside their house. Their honey buckets sitting there. Walk by someone's house and smell their stuff. You felt gross.

Health concerns related to the perceived social and physical environment were also mentioned by participants as factors influencing their decision to outmigrate. Young and middle-aged participants from Southwest and Interior Alaska indicated that health concerns contributed to their outmigration decision. Women were more likely than men to report health concerns during interviews.

Non-health-related factors associated with outmigration
Opportunity seeking
The majority of interview participants, representing all age cohorts and every region of the state, reported that opportunities for employment or education played a role in their decision to outmigrate. Of the 27 participants who indicated that opportunity seeking was a factor in their outmigration decision, 16 were male. When describing his decision to outmigrate, a 51-year-old male from southeast Alaska said,
It was a struggle out there. We had good jobs, but there were all seasonal. It was all seasonal work...construction work. When there were no jobs, we were living on food stamps.

According to a 23-year-old female from Southcentral Alaska, who moved from her rural community to find better employment,

The main [reason] for leaving was work. You have summer jobs, like seasonal work in hotels, temporary with construction, and that's, for up here, that's it. It's all seasonal work. The rest of the time, you have to look for office work. The only job I could work is homemaker.

Several participants mentioned that education was a major factor in their decision to outmigrate. A 25-year-old male from Interior Alaska said,

Alaska Job Corps was my biggest reason for leaving. I wanted to earn a degree and change my life.

Participants in all age cohorts and regions reported that, in addition to education and employment, Anchorage offered opportunities unavailable in their home communities. A 21-year-old female from Southwest Alaska said,

I wanted to leave because of the educational opportunities for me, to further my education but also for my son. I think there are opportunities for culture and diversity here. I think he can learn about different ways people live and learn more about different people than in the village.

Opportunities for education and employment influenced many participants of all ages and regions of the state to leave their home communities. Men were slightly more likely than women to report opportunity-seeking as a factor in their outmigration decision.

Cost of living

The majority of interview participants, representing all age cohorts and regions of the state, indicated that the high cost of living in rural areas played a role in their decision to outmigrate. Of the 16 participants who mentioned cost of living as a factor in outmigration, 9 were male. A 40-year-old male from Southwest Alaska reported that high costs influenced his decision to leave his home community:

The rent down there is more spendy. Everything is more expensive. There's only one store. A pack of cigarettes is $9.

When asked what influenced her decision to leave her home community, a 61-year-old female from Interior Alaska said,

The cost of living is high, cost of oil and the food, the economy, it's just high! The cost of food is just really high, it's not like here in Anchorage where you have fresh fruit and you can't really get those things in [home community].

A 29-year-old female from Southwest Alaska compared the costs in her home community to Anchorage. She said,

It's too expensive for groceries in [home community]. And moving here everything is so much cheaper. It takes a lot more stress off of your shoulders.

Economic factors influenced participants of all ages and regions to outmigrate. A slight majority of the participants who mentioned cost of living as a factor in their outmigration decision were male. High costs associated with food and resources were mentioned most often.

Ripple effect migration

More than half of all participants representing each age cohort and region moved as a result of ripple effect migration for health- and non-health-related factors. Of the participants who
experienced ripple effect migration, more women (12 of 14) than men (5 of 17) indicated that they had moved with someone else to Anchorage. Furthermore, all participants who reported that they had moved due to ripple effect migration for health-related factors were female. During health care-seeking events participants from each age cohort reported that their family members travelled with a patient during treatment for chronic illnesses. A 64-year-old female said that she moved from Northern Alaska to Anchorage to assist her father:

*My father was sick so I came here at one point to help care for him. He died of a heart attack.*

A 23-year-old female from Southcentral Alaska reported that her family took turns moving to be with her brother during treatment:

*My brother had cancer and we moved to Seattle for 6 months while he was having treatment. Me, my brother and my uncle went there first. Then, my mom and uncle rotated coming down and then, switch off, taking turns coming down to stay.*

A 64-year-old female from Northern Alaska reported that health issues cause many rural Alaskans to migrate including her own family members:

*A lot of people have come here; a lot of them have had the same health problems. I have a son in Seward now, and my daughter recently came here from Barrow, and my oldest son is still in Barrow, but he and his family come down here for care too! Every family I know in Anchorage came for some health-related care reason. A lot of people sacrifice important things in their lives and communities to get health care.*

Another participant, a 54-year-old female from Southwest Alaska, said that she moved to Anchorage to be with her partner, who moved for education:

*I moved over in January because my spouse is attending school, so I moved over here with him.*

After arriving in Anchorage, she and her spouse sought health care that she could not receive in rural Alaska.

*My knee was really bad, plus I really need [dental] partials and they can only do that here. And we both need new glasses … so we need to take care of that.*

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**Table II.** Descriptive categories applied during analysis of in-depth interview results. The table shows the number and proportion (percentage) of participants who reported each outmigration theme (*n*=31).

<table>
<thead>
<tr>
<th>Outmigration themes</th>
<th>Description</th>
<th>Gender</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health-related*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to quality health care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic illness/ elder care</td>
<td>Specialized care for health issue unavailable</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>(16.1)</td>
</tr>
<tr>
<td>Primary care</td>
<td>Limited contact and with local health services</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>(9.6)</td>
</tr>
<tr>
<td>Substance abuse treatment</td>
<td>Treatment options unavailable</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>(19.3)</td>
</tr>
<tr>
<td>Health concerns</td>
<td>Social and/or physical conditions perceived as unhealthy by participant</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>(12.9)</td>
</tr>
<tr>
<td>Non–health-related</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunity seeking</td>
<td>Lack of education, employment or desirable living conditions</td>
<td>11</td>
<td>16</td>
<td>27</td>
<td>(87.1)</td>
</tr>
<tr>
<td>Cost of living</td>
<td>High costs of food and resources</td>
<td>7</td>
<td>9</td>
<td>16</td>
<td>(51.6)</td>
</tr>
<tr>
<td>Ripple effect migration</td>
<td>Family members “pulled” along during a migration trajectory</td>
<td>12</td>
<td>5</td>
<td>17</td>
<td>(54.8)</td>
</tr>
</tbody>
</table>

*a Mutually exclusive categories.*
The health care-seeking or opportunity-seeking event of one rural Alaskan in this study was likely to affect other rural Alaskans. More than half of all participants reported that they had moved from their home community with someone else. Ripple effect migration disproportionately affected women, especially when the ripple effect occurred as a result of a health care-seeking event, as 10 of 14 women indicated that they had moved to Anchorage with someone else seeking care.

DISCUSSION

Although previous research has identified economic factors associated with rural outmigration (5), this study is among the first to describe how health care and health concerns influence rural Alaskans’ decisions to outmigrate. Many of the participants in this study cited challenges to primary and specialized health care access as an important factor in their decision to outmigrate. Specifically, participants described the need for increased access to quality health care for chronic illnesses, primary care and substance abuse treatment as factors in their outmigration decisions.

Results of this study contribute to the understanding of the population segments within rural Alaska that are likely to outmigrate. Previous research has suggested that outmigration is a phenomenon observed among young rural Alaskans (7). In this research study, participants representing the young age cohort (<30) reported moving from rural Alaska because of several health-related issues, including access to primary care, substance abuse treatment, health concerns and ripple effect migration. In addition to the health-related factors of outmigration mentioned by young participants, middle-aged participants also said that access to health care for a chronic illness motivated their move from rural Alaska.

This study also provides evidence of health-related factors that may contribute to the gender imbalance in rural and urban areas of Alaska identified in previous research (27). Women were more likely than men to report that they had moved from their home communities because of health-related factors, including chronic illness, access to primary care and health concerns. Furthermore, all of the participants who said that they had moved to an urban area due to ripple effect migration for a health care-seeking event were women. The only health-related factor of outmigration reported by men more often than women was access to substance abuse treatment. This research thus underscores the different factors motivating specific population segments to outmigrate.

Primary and secondary data collection also revealed a ripple effect migration that occurs during health care-seeking events. Participants from each of the purposive sample’s age and region categories reported that they had moved to Anchorage with someone else. Ripple effect migration influenced a much higher proportion of women than men to leave home communities. Furthermore, ripple effect migration was observed when younger participants in this study joined older rural Alaskans during health-care seeking events such as specialty care and surgeries for critical conditions.
that must, at present, be performed in urban areas. These results support earlier circumpolar health research demonstrating ripple effect migration of family members accompanying sick relatives during the move to urban centres (13).

This study revealed the role of health concerns rather than health care needs as factors associated with rural to urban outmigration in Alaska. Several interview participants from the young and middle-age cohorts in this study left their home communities because of concerns about potential health risks in those communities. Environmental factors such as exposure to contaminants and the distance required to reach adequate health care, if a need were to arise, compelled other participants to outmigrate. When discussing motivations for outmigration, most of the participants who mentioned the influence of social factors such as the high rates of drug and alcohol abuse and adverse social conditions were women. Although similar to earlier research that has suggested a link between outmigration, drug and alcohol abuse and violence (13), perceived contextual factors have not been identified in earlier outmigration research and warrant further study with a larger population.

The primary data collection phase of the study had several limitations. The sample size was small and recruitment efforts did not fill all of the purposive sample categories. The low number of participants in the oldest-age cohort may have skewed results to focus on the issues faced by younger and middle-aged rural Alaskans. In an effort to control for this last limitation, all participants were asked to comment on health issues affecting elders in rural communities.

Conclusions

When rural Alaskans are forced to leave their home communities to receive treatment they are precluded from participating in traditional activities that have been shown to maintain healthy habits and social ties. Many Alaska Native elders wish to remain in their home communities unless it absolutely necessary to leave. Being removed from communities is not only a physical displacement but also removes elders from their social networks and places them in an alien bio-medical culture. This rupture can lead to diminished physical health over time (28). The key themes identified in this study provide the basis for future research to further understand the health-related issues influencing the decision to outmigrate.

The health concerns identified by participants in this study represent a relatively unknown challenge that adversely affects the health of rural Alaskans. Unlike health care-seeking events, perceptions of unhealthy conditions require alternative solutions to reduce their influence in outmigration. The concerns voiced by participants who left their home communities because of perceived unhealthy social and physical conditions reveal the need for primary health promotion programs in rural community settings to provide support for rural residents who are concerned about their exposure to health risks in their natal villages. Development of such programs will require community support as well as further investigation into the specific health promotion needs of rural communities.

A larger, representative study exploring the current health practices, barriers to health care access and responses to barriers
among residents of rural communities in Alaska would improve understanding of the health issues surrounding outmigration. Specifically, investigating 3 major research questions would provide valuable information about the contextual factors surrounding health and migration decisions. First, what practices (social, cultural, biomedical) are currently being used to maintain health in rural Alaskan communities? Second, what are the primary health-related needs of community members in rural Alaska? Third, if these needs are related to barriers to health service access, do communities and individuals respond to barriers to access by outmigrating? Expanding the body of knowledge that helps us to better understand the link between health and outmigration will provide rural Alaskans the opportunity to live and grow old in their own communities.

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