ORIGINAL ARTICLE

What makes a healthy rural community?

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Abstract

Introduction: Health outcomes in rural populations are known to be generally worse than in urban populations but there are some exceptions to this trend. Most research evaluating these disparities has focused on rural communities with poor health outcomes. The current study set out to explore the factors that make some rural communities healthier than others.

Methods: Semi-structured interviews were conducted with a purposive sample of 12 key informants in a rural community within a healthy outlier region. The interview guide was based on the Social-Ecological Model of health and the focus was on community – as opposed to facility-based health. Interview data were analysed using directed content analysis.

Results: Five main themes were identified: (1) availability of amenities, (2) healthy lifestyle as a shared value, (3) transition from a mining community, (4) geographic location and (5) challenges.

Conclusion: Many of the findings challenge traditional assumptions about determinants of health in rural communities. The phenomenon of 'amenity migration' from urban to rural areas which may increase in coming years, is one that can have important implications for health.

Keywords: Community, health, rural

Résumé

Introduction: On sait que les résultats de santé dans les populations rurales sont en général moins favorables que dans les populations urbaines, mais il y a des exceptions. La plupart des recherches s'étant penchées sur ces disparités se sont concentrées sur les communautés rurales ayant de piètres résultats de santé. L'étude actuelle explore les facteurs qui font que certaines communautés sont en meilleure santé que d'autres.

Méthodologie: Des entrevues semi-structurées ont été réalisées auprès d'un échantillon intentionnel de 12 principaux intervenants dans une communauté rurale d'une région banlieusarde en bonne santé. Le guide d'entrevue, basé sur le modèle socio-écologique de la santé, se concentrait sur la santé en communauté – plutôt qu'en établissement. Les données de l'entrevue ont été analysées à l'aide d'une analyse du contenu dirigé.

Résultats: Cinq thèmes principaux sont ressortis : 1) disponibilité des services, 2) valeur partagée de mode de vie sain, 3) transition d'une communauté minière, 4) emplacement géographique et 5) défis.

Conclusion: Nombreuses sont les observations qui remettent en question les suppositions traditionnelles sur les déterminants de la santé dans les communautés

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rurales. Le phénomène de « migration des services » des régions urbaines aux régions rurales, qui pourrait s'intensifier dans les prochaines années, pourrait avoir des répercussions importantes sur la santé.

Mots-clés : rural, communauté, santé

INTRODUCTION

Rural population health outcomes have repeatedly been shown to be worse than outcomes for populations in urban settings. [1-5] The reasons for these persistent disparities are unclear. Differences in social determinants of health (Socioeconomic status, education level), health behaviours (smoking, diet, physical fitness) and risk exposure (rural work and recreational activities) are some of the potential contributors.

In Canada, this is an important issue given that 19% to 38% of the population is defined as rural. [6,7] However, there are some rural areas that do not follow this trend. The target community for this study, Kimberley, BC, lies within one of these relatively healthy rural regions of British Columbia (BC), Canada (the Kootenays, in the southeast corner of the province). The health outcomes for this population are comparable to urban outcomes. [8] Most research looking at rural/urban health disparities has focused on examining the many challenges faced by communities with very poor health outcomes. Examining a community within a 'healthy outlier' region may provide additional insight into the relationship between rurality and health. In this study, we aim to answer the question: 'What do key community leaders in Kimberley BC believe are the factors that support or undermine the health of the individuals in their community and what do they feel are some opportunities for improvement?'

METHODS

Design and setting

This is a qualitative study using individual key informant interviews. We conducted the study in the target community of Kimberley, BC.

Population

Members of the research team and the community partner, the Healthy Kimberley Society, identified a purposive sample of key informants and used snowball sampling techniques to expand the pool of potential participants. To ensure the greatest representation of views from all sectors of the community we made efforts to enrol key informants representing different age groups, professions, socioeconomic and special interest groups. Our particular focus was on individuals representing disadvantaged or hard-to-reach groups that may be under-represented during usual engagement processes. We anticipated that a sample size of 8-12 interviewees would be adequate.

Data collection

The interviews were conducted in person by members of the research team which included 2 family physicians (IH and SG) and a research assistant employed by Healthy Kimberley (ZR). Two of the interviewers (IH, ZR) are long-term residents of the target community.

We developed the semi-structured interview guide using the Social-Ecological Model (SEM) of health, a 'theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviours and for identifying behavioural and organizational leverage points and intermediaries for health promotion'.[9] We focused the interviews on community-as opposed to facility-based health issues. Interviews lasted 30–60 min and were audio-recorded. The interview team made field notes during and after each interview to capture key points and important reflections to assist in analysis. Each participant received an honorarium of a $50 gift card.

Data management and analysis

We assigned each participant a unique study number. As the interviews were completed and transcribed, they were reviewed by 2 team members (IH, ZR) using directed content analysis with key concepts from the SEM as initial codes. Each reviewer read through

several initial transcripts identifying specific concepts that aligned with the initial code list and new ideas that emerged from the text. The coders met to discuss their findings and to agree upon a number of codes, themes and sub-themes that were used to code the remainder of the transcripts, while maintaining some flexibility to introduce new codes if needed. We used Nvivo12 software to assist with the analysis. Reporting of the results follows Consolidated Criteria for Reporting Qualitative Research guidelines.[10]

Ethics

This study has received ethical approval through a joint review from the University of British Columbia Research Ethics Board and the BC Interior Health Research Ethics Board.

RESULTS

The participants included 12 community leaders representing different groups [Table 1]. Participants identified four major themes: (1) the many amenities available that support recreation, (2) health as a shared community value among residents; (3) the transition from mining to tourism economy and (4) geographic location.

Table 1: Participant demographics

Characteristic	*n* (%)
Gender	
Female	7 (58)
Male	5 (42)
Age (years)	
31-40	1 (8)
41-50	2 (17)
51-60	7 (58)
>60	2 (17)
Education	
Grade 12	1 (8)
College	3 (25)
University	8 (67)
Occupation*	
Private business	3 (25)
Not for profit	4 (33)
Government	2 (17)
Government-health	5 (25)
Government-education	5 (42)
Government-law enforcement	1 (8)
Other	1 (8)

*Some participants had more than one occupation

Despite the generally positive responses, some challenges were identified, particularly in relation to certain vulnerable populations. Representative quotes are included in Table 2.

Availability of amenities

Most participants began with descriptions of the many outstanding recreational amenities and programs available in the community. Some challenges were also identified such as costs of activities, under-utilisation and lack of coordination of existing facilities and activities [Table 2].

Healthy lifestyle as a shared community value

Without exception, participants described what they felt was an unusually healthy population and culture in Kimberley [Table 2]. They reported a welcoming atmosphere that reflects people's desire to simply be active and a sense of pride in this aspect of the community. Participants reported that this attitude promotes inclusion and reduces barriers to participation with residents being happy to share the town they love with like-minded newcomers.

Several participants recognised the positive feedback loop that happens when enough people in a community share healthy values. This influences the development and maintenance of infrastructure and programs through fundraising, volunteering, supporting businesses that cater to health-conscious consumers and election of like-minded local officials. This in turn attracts more similar people who contribute to maintaining the culture. The active, healthy mindset has become part of the community brand which brings more businesses and newcomers who are attracted to the image.

Transition from a mining community

With the closure of the 100-year-old mine in 2001, there was a deliberate decision to transition to a tourism economy, laying the foundation for the current lifestyle community. Interviewees who were here during the mining era reported that there were many unhealthy activities and values associated with being a mining town: more of a 'drinking culture' (P11), more motorised and less active recreation, more pollution and less concern for the environment [Table 2].

There have also been some negative aspects associated with this transition [Table 2]. The

Table 2: Quotes from participants	
Theme	Participant quote
Availability of amenities	'Things are accessible. Like athletic trails, pools, safe streets, safe community' (P1)
	'Open space in parks and having facilities available for our population, encouraging biking, walking around town and having a focus on nonmotorized ways of moving' (P4)
	'Having all of those hundreds and hundreds, thousands of acres of land available for humans to use allows us to have peace of mind. That's a mental health issue, I think' (P7)
1. Healthy lifestyle as a shared community value	'People seem to have that mental attitude. This is the healthiest most active community that I've been in and I think the whole culture, it's got that vibe' (P9)
	'Nobody's out there just sitting around talking about doing stuff. They're actually outside doing it' (P2)
	'I found the people who grew up here to be the most welcoming of people - the new people in town, are learning. I think that they want to share those same values. I think, there are great values that the people who have created this legacy of Kimberley, have created for us' (P11)
	'The role models, it's pretty inspiring to live in this community' (P2)
	'People move here for the lifestyle and then it just builds' (P9)
	'We've got to the stage where it almost kind a just runs itself'(P9)
	'When I go to other communities, I can't find healthy places to eat. It's easy to find it here. It's everywhere you go' (P5)
	'The focus just seems more on healthy lifestyle than it does about economy and industry. I think that's reflected in stuff that comes down from local leaders' (P3)
	'Why are you coming here? We have no housing, we have no jobs' They're all saying lifestyle, lifestyle, lifestyle'
2.Transition from mining community	'It's not, drinking-your-face-off-till-three-in-the-morning-mentality, anymore' (P9)
	'I would say it was the mine closing. Alcohol was a lot more predominant (and) we had a huge forest industry and I think, they came home and they drank. They didn't go for a bike ride. They just finished working 12 h on the end of a chainsaw, what do they want to go for a bike ride for? They want a beer' (P9)
	When I grew up here we had four bars and two pubs, we had the Legion and the Elks and then the bars where people can go out. So there was a lot more drinking. We've had more drugs and everything than we do now' (P1)
	'Kimberley doesn't have a bar' (P11)
	'When I was a kid, we were not allowed to go within a hundred feet of Mark Creek: it was considered very dangerous and toxic. Now kids are fishing in Mark Creek' (P7)
	'We have service industry jobs here. They're $15 an hour jobs. You can't raise kids on 40 grand a year' (P10)
3.Geographic location	'We're not on a major highway and that has a tremendous impact on the number of people and the type of person that in fact comes here. Nobody comes to Kimberley by accident' (P10)
	We don't have the homeless problem, because not being on the highway, so we don't tend to get that type of clientele'(P9)
	'You don't get 100 trucks going through an hour like you do in (other communities)' (P10)
	We only have two chain franchises, for restaurants (P11)
	Those that are transient, don't land here because it's not on the main road. We don't have that in Kimberley' (P9)
	'What happens is that segment of the population doesn't stay here because they don't have (the government social service offices) and so typically, they don't have a car. Two or three hundred of them migrate to Cranbrook because they can't manage up here. That brings our healthy average up' (P9)
	'We've got this symbiotic relationship going on with Cranbrook in many, many ways' (P10)
	'We are here 30 km away from Cranbrook - our fastest growing part of the population is people working in Cranbrook that want to live in Kimberley' (P10)
4. Challenges	'It's a huge stressor right now. There are so many families moving to our community' (P8)
	'There is becoming a huge gap, between those that can and those that cannot to do all that kind of stuff. Then those that don't do anything in the last couple of years I've noticed that' (P8)
	'They're struggling financially, or they need a support system because they struggle with parenting skills' (P9)
	'If moms are feeling overburdened and overworked, and they wanna get back to work but they can't that stress gets on them' (P8)
	'Even though Kimberley is growing we're losing lots too because (they) could not afford it here. And I think that's a quiet, invisible caravan that no one's seeing, or reporting, or talking about. They just go' (P10)

Contd...

Table 2: Contd...	
Theme	Participant quote
	'If you have a shut-in elderly man still living at home they don't know how to shop, cook and then there's two feet of snow on the ground they're having a hard time getting around' (P7)
	'They (seniors) are losing that connection with their churches because there's no transportation on a Sunday' (P1)

switch from secure, high-paying industry jobs to a tourism economy which provides mostly low-paying, seasonal and out-of-town or contract jobs has been a challenge for many people. The growing recognition of Kimberley as a 'good place to be' is attracting people from larger centres all over the country and even from other resort towns, driving house prices up and making it increasingly difficult for local families or lower income would-be residents to find affordable housing. The large influx of young families has also created a childcare crisis, preventing many parents from returning to work.

The loss of the major industry has also had a major impact on the municipal tax base leaving the city with far less money available for 'extras' like recreation programs.

Some people expressed a concern that newcomers, especially tourists and temporary residents, may not feel as connected and invested in the community and may want to just take what the community has to offer and not 'give back' in the same way that long-time local or permanent residents may do.

Geographic location

The unique geographic location of the community was mentioned by several participants as an important factor that has implications for the health of the community [Table 2].

Its location on a trunk road rather than a major thoroughfare results in little through traffic, few fast food outlets and few transients; people arrive here deliberately, creating a community of people who are here by choice.

Its proximity to a relatively major population centre (Cranbrook –30 km away) provides easy access to important amenities like jobs, which allows people to work in the city but continue to enjoy the recreational amenities and slower-paced, quiet life of the small town. Also available in the city, for those who want them, are the big box stores and fast food outlets, again, obviating the need for these services to be available in the target community. Many government offices and services, a regional hospital, homeless shelters and support for people who require social services are located in Cranbrook so people who require those services, because of the limited transportation options between the two communities, frequently relocate from Kimberley to Cranbrook 'making our healthy average go up'. (P9)

At the same time, the distance from the nearest very large metropolitan centre (Calgary – 5 h away through the mountains), is just slightly too far to make it a convenient weekend getaway place for second homes. This appears to have resulted in relatively few second home owners compared to other neighbouring towns. The proximity to mountains, lakes and rivers, although not unique, certainly has an impact on the amenities available.

Finally, Kimberley is situated where it is because of the historical location of the mine, not because 'the rivers join here' (P7) and consequently the indigenous population is relatively small.

Challenges

There were a number of observations made by participants about the needs of vulnerable populations in the community [Table 2].

Children and youth

Many of the challenges reported to be emerging for children and youth are not unique to this community or the transition economy but rather a reflection of larger societal changes such as increasing mental health problems, use of 'vapes', more screen time, less unstructured physical activity, less healthy eating habits, more focus on expensive, structured, competitive activities.

People with disabilities/elderly

Several participants mentioned the lack of adequate transportation options for those

relying on public transport, particularly during winter, evenings and weekends. One participant reported that there was previously a well-functioning volunteer committee to address accessibility issues. Social isolation was reported to be a problem for many seniors, particularly in winter.

Food security/healthy food

Although there are several programs to increase food security such as the food bank and school food programs, concerns were raised about their ability to meet the nutritional needs of users and not following current best practices and guidelines. The new food recovery depot is addressing some of these gaps.

DISCUSSION

Several key factors appear to contribute to health in Kimberley: an abundance of recreational amenities, a health-oriented culture, a shift from resource-extraction to tourism and its geographical location. Several findings in this study challenged widely held assumptions about health in rural communities.

Contrary to the traditional understanding that rural communities are less healthy than urban communities, many of our findings suggested that it is specifically the characteristics of this small rural community that contribute to a sense of greater health and that people deliberately choose to move from urban areas with the intention of becoming healthier.

Models that attempt to describe community factors influencing health such as the Social-Ecological Model or the Public Health Agency of Canada Health Determinants model typically emphasise how the many different layers of external influence can impact the health of the individual. Participants in this study frequently reported that in this community, it appears to be the inherent qualities of the individuals who choose to live in the community that lead them to be active and healthy. These individuals appear to drive the demand for increased availability of healthy programs, services and facilities, which in turn attracts more like-minded people to the community and consequently influences the direction of local political decisions, investments and community branding, all contributing to a culture of healthy living. This results in a self-perpetuating process with the healthy community image attracting more and more newcomers who share the same values and also influences others in the community who come to accept this healthy culture as the norm while decreasing the availability/ease of access to unhealthy options such as fast food. This model suggests that, although the relationships between levels of influence are necessarily reciprocal, the mindset of the individual community members is a key determinant of the health of the community. It helps explain the common observation that implementing programs and building recreational infrastructure in some communities often fails to have the desired result in terms of both uptake and sustainability. If citizens do not value healthy lifestyles, even 'if you build it', they will not necessarily come and even if they do, programs will not be sustainable without perpetual external input.

The importance of individual community members' existing mindset in influencing the health of a community as observed in Kimberley might suggest that it would be difficult to replicate many of the healthy aspects of this community elsewhere. If another community worked to generate a healthy image or brand to attract more healthy people it might only serve to shift healthy people from one place and concentrate them in another, leaving the overall balance of 'health' in the province or region unchanged. But the factors that influence the development of a healthy mindset are complex and although it may appear that these attitudes are relatively fixed, strongly influenced by early life exposures and primarily found in certain socioeconomic or cultural groups, it is important to continue to explore which factors might foster the development of healthier mindsets even at later stages in life among people of all different backgrounds.

Although 'culture' is frequently mentioned as a determinant of health, this community appears to be essentially defined by its culture of health. The relative homogeneity of Kimberley, with respect to the shared healthy values, socioeconomic levels and the racial and ethnic composition may be significant.

Comparison of the situation before and after the closure of the mine acts as a sort of unique comparison in this study with a change in one key

variable over time, from resource extraction to tourism community. Many of the participants were present both before and after the mine closure and were able to report on the differences. This provides an interesting opportunity to better understand the association between different factors influencing health with the geographic location as a constant. Before the mine closure, wages were reported to be higher, recreational facilities were freely available, provided by the mining company or the City, many families were single income with one parent at home and yet residents who were here at the time report that the lifestyle was less healthy. This challenges the common assumption that over time, we are all becoming less healthy with more fast food, more stress, more modern conveniences, screen time and less activity. It also contrasts with the commonly held assumption that higher wages result in improved health and supports the theory that it is the mindset or values of the residents that plays the greatest role in the overall health of a community.

Research examining the community-level health impacts of resource extraction industries has identified a number of important factors including both direct occupational and environmental effects on workers as well as negative influences on social determinants of health such as large wage disparities, gender inequality, inadequate housing and job insecurity due to the boom and bust cycle of resource commodities. [11,12] When workers come to a community for the sole purpose of work, particularly when their true 'home' is elsewhere, it can result in a lack of sense of community and social connectedness, boredom, increased crime, sexually transmitted disease and substance use. When the community's economy is based solely on extracting the natural resources from an area the relationship between residents and their environment is one of 'mastering' or 'taking from' their environment. The natural resources are perceived to exist solely to be exploited and the community is sustained only until the resource has been depleted.

The transition from a resource extraction community to a lifestyle community has been well-described in the literature on 'amenity migration' for many years, especially in the American West, dating back to the 1970s. Many of the observations in our study are consistent with this phenomenon. Amenity migration is defined as the movement of people based on the natural and/or cultural amenities of a place. Rural areas previously valued for natural resources become increasingly valued for aesthetic and recreational amenities. [13] There is little mention in the literature about the impacts of this trend on health but in our study, people emphasised that improved health was one of the primary 'commodities' being sought out by migrants. The tensions that have been described elsewhere that arise as a result of conflicting cultures or values between locals and migrants were mentioned as a potential concern; however, as yet they have not manifested as serious problems, in part due to the fact that many of the locals who have chosen to remain share the same healthy values as the migrants and that this migration is happening by design, as part of the community's plan. However, the community may be nearing the tipping point - the increasing pressure from the cost of housing and cost of living, if it continues, could gradually lead to more tension and a shift in the demographics of the community with unknown but potentially unhealthy consequences as a result of widening wage disparities between affluent newcomers and the population of workers needed to service them.

Future research

Our research team plans to conduct similar qualitative studies in other rural communities to develop a broader understanding of the factors that influence health in different types of rural communities. We also plan to quantitatively evaluate health indicators in these communities to assess the correlation between perceived and actual health. A better understanding of the health of different types of rural communities may allow us to develop a more sophisticated model to more appropriately allocate services to communities based on need rather than size or rurality.

It is interesting to note that many of the factors that contribute to the health of individuals in a lifestyle community also appear to foster economic and environmental sustainability when compared to resource extraction communities. Examining the correlation between these factors may provide useful insights into how some attributes of communities at the more sustainable end of this spectrum can simultaneously influence health and potentially help

address and mitigate the effects of climate change by creating more resilient communities.

Limitations

This study has several limitations. It was conducted in only one community and this limits its applicability to others, even those that may appear similar. Like all qualitative research, the data are based on the subjective opinions of a purposefully selected group of participants. Their views may not be transferable to others in the town and their perceptions of the health problems may or may not be supported by objective measurements. The participants, having been selected as representatives of different demographic groups, were themselves a fairly homogenous group of almost exclusively middle-aged, middle-income Caucasians. There was little direct representation from low income or vulnerable members of the population. The two main interviewers (IH and ZR) are long-term residents of the community, known to most of the participants and this may have influenced the collection or the interpretation of the data.

Access to health services is another frequently mentioned contributor to health and although this study was focused on community-as opposed to facility-based health, the primary reference to health services suggested that it is the *absence* of many services that prevents those with health or social challenges from living here.

The late management consultant and educator, Peter Drucker, once famously said, 'Culture eats strategy for breakfast' which might be one of the limitations of trying to strategically apply the findings of this study to another community where the culture is different.

CONCLUSION

Amenity migration is likely to increase as urban housing prices increase, more urbanites recognise the many advantages of settling in smaller centres, baby boomers retire and younger people realise that, with modern telecommunication and transportation infrastructure, they no longer need to actually live in urban centres for work. There is an important opportunity for Kimberley and other rural communities to look at the health implications of this migration pattern and consider how best to support the transition while ensuring that both locals and migrants optimise the potential health benefits of these lifestyle communities.[12]

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REFERENCES

1. DesMeules M, Pong RW, Lagacé C, Heng* D, Manuel D, Pitblado JR, *et al*. How Healthy are Rural Canadians? An Assessment of their Health Status and Health Determinants. Ottawa, ON: Canadian Institute for Health Information; 2006.
2. James WL. All rural places are not created equal: Revisiting the rural mortality penalty in the United States. Am J Public Health 2014;104:2122-9.
3. Singh GK, Siahpush M. Widening rural-urban disparities in all-cause mortality and mortality from major causes of death in the USA, 1969-2009. J Urban Health 2014;91:272-92.
4. Melvin CL, Corbie-Smith G, Kumanyika SK, Pratt CA, Nelson C, Walker ER, *et al*. Developing a research agenda for cardiovascular disease prevention in high-risk rural communities. Am J Public Health 2013;103:1011-21.
5. Umstattd Meyer MR, Perry CK, Sumrall JC, Patterson MS, Walsh SM, Clendennen SC, *et al*. Physical activity-related policy and environmental strategies to prevent obesity in rural communities: A systematic review of the literature, 2002-2013. Prev Chronic Dis 2016;13:E03.
6. Coghill CL. Exploring the built environment and physical activity in rural Ontario health units.[thesis]. Hamilton (ON) McMaster University 2013.
7. Caldwell W, Kraeling P, Huff J, Kaptur S. Healthy rural communities: Strategies and models of practice. Guelph (ON) 2013. Sponsored by Chatham-Kent and Elgin St.Thomas Public Health Units.
8. Filipp JG, Gallinger Z, Motskin A. Do you live in one of the unhealthiest places in Canada? 2015, Sept 23. In: the10and3. Available from: http://www.the10and3.com/do-you-live-in-one-of-the-unhealthiest-places-in-canada/.
9. Bronfenbrenner, U. Ecological systems theory. Annals of child development 1989;6; 187-249.
10. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. Int J Qual Health Care 2007;19:349-57.
11. Aalhus M, Oke B. Fumerton R. The social determinants of health impacts of resource extraction and development in rural and northern communities: A summary of impacts and promising practices for assessment and monitoring. Prince George (BC). Jan 2018. Prepared for Northern Health and the Provincial Health Services Authority. Supported by the BC Observatory for Population and Public Health and the BC Centre for Disease Control.
12. Reschny JB, Parkes MW, Harder H. Towards a better understanding of health in relation to mining and oil & gas extraction: A scoping review. Prince George (BC). Univeristy of Northern British Columbia and Northern Health. 2018.
13. Gosnell HA. Amenity migration: Diverse conceptualizations of drivers, socioeconomic dimensions, and emerging challenges. Geo J. Published online Jul 8, 2009. Available from: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.716.1022&rep=rep1&type=pdf.