BMJ Open is committed to open peer review. As part of this commitment we make the peer review history of every article we publish publicly available.

When an article is published we post the peer reviewers’ comments and the authors’ responses online. We also post the versions of the paper that were used during peer review. These are the versions that the peer review comments apply to.

The versions of the paper that follow are the versions that were submitted during the peer review process. They are not the versions of record or the final published versions. They should not be cited or distributed as the published version of this manuscript.

BMJ Open is an open access journal and the full, final, typeset and author-corrected version of record of the manuscript is available on our site with no access controls, subscription charges or pay-per-view fees (http://bmjopen.bmj.com).

If you have any questions on BMJ Open’s open peer review process please email info.bmjopen@bmj.com
How Primary Care Physicians were engaged in system change - a qualitative study in a remote and rural health authority

<table>
<thead>
<tr>
<th>Journal</th>
<th>BMJ Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuscript ID</td>
<td>bmjopen-2018-028395</td>
</tr>
<tr>
<td>Article Type</td>
<td>Research</td>
</tr>
<tr>
<td>Date Submitted by the Author</td>
<td>07-Dec-2018</td>
</tr>
<tr>
<td>Complete List of Authors</td>
<td>Snadden, David; University of British Columbia, Family Practice Reay, Trish; University of Alberta, School of Business Hanlon, Neil; University of Northern British Columbia, Geography MacLeod, Martha; University of Northern British Columbia, Nursing</td>
</tr>
<tr>
<td>Keywords</td>
<td>Rural Health Services, PRIMARY CARE, Community Health Planning/Methods, Community-Institutional Relations, Qualitative Methods, Physician Engagement</td>
</tr>
</tbody>
</table>
Title Page

How primary care physicians were engaged in system change – a qualitative study in a remote and rural health authority

MeSh terms:

- Community Health Planning/methods*
- Community-Institutional Relations*
- Family Practice/organization & administration*
- Models, Organizational
- Rural Health Services/organization & administration*

Authors

David Snadden MBChB, MCISc, MD, FRCGP, CCFP, Professor in the Department of Family Practice at the University of British Columbia, and the Rural Doctors’ UBC Chair in Rural Health.
david.snadden@ubc.ca

Trish Reay MBA, PhD, Professor in Strategic Management and Organization at the University of Alberta School of Business.
preay@ualberta.ca
Neil Hanlon MA, PhD, Professor of Geography at the University of Northern British Columbia.

neil.hanlon@unbc.ca

Martha MacLeod MA, PhD, Professor in the Schools of Nursing and Health Sciences at the University of Northern British Columbia, the Northern Health – UNBC Knowledge Mobilization Research Chair and Co-Lead of UNBC’s Health Research Institute.

martha.macleod@unbc.ca

Corresponding Author

David Snadden
Professor, Rural Doctors' UBC Chair in Rural Health
Faculty of Medicine
The University of British Columbia | Northern Medical Program
9-386 Northern Health Sciences Centre
3333 University Way | Prince George BC | V2N 4Z9 Canada
Telephone +1-250-613-8476
Email: david.snadden@ubc.ca
How primary care physicians were engaged in system change – a qualitative study in a remote and rural health authority

ABSTRACT

Objectives

To describe how physicians were engaged in primary healthcare system change in a remote and rural Canadian health authority.

Design

A qualitative interpretive study based on a hermeneutic approach.

Methods

34 transcribed in-depth interviews with physicians and administrators relevant to physician engagement were purposively sampled from a larger data set of 224 interviews gathered over a three-year period from seven communities engaged in primary health care transformation. Interviews were coded and analysed interpretively to develop common themes.

Setting

This research is part of a larger study, partnering for change 1, which investigated the efforts of Northern Health, a rural regional health authority in British Columbia to transform its health care system to one grounded in primary care with a focus on interdisciplinary team-based working. It reports how physician engagement was accomplished during the first three-year phase of the study.
Participants

Interviews from across the region were purposively selected to include those directly involved in the processes of physician engagement. These included 10 with physicians, 3 with Regional Executives, 18 with Primary Health Care coordinators and three with Division of Family Practice leads.

Results

Three major interconnected themes emerged from the data analysis: working through tensions constructively, drawing on structures for engagement and facilitating relationships.

Conclusions

Physician engagement was recognized as a priority by Northern Health in its efforts to create system change. This was facilitated by the creation of Divisions of Family Practice in BC. This provided a structure for dialogue and facilitated a common voice for physicians, helping build trust between various groups through allowing constructive conversations to surface and deal with tensions. Local context matters and flexibility in developing local priorities was a critical part of developing relationships that facilitated the design of system reform.
Summary

Strengths

This study over a three-year period analysed interviews in depth with those involved in primary care reform at the community level who were either physicians, or responsible for engaging with physicians as partners in change.

The longitudinal nature of the study enhanced the rigour of the findings.

A hermeneutic approach was taken which valued the knowledge and understandings of an experienced research team and helped develop an interpretive analysis to create new understandings and insights in the area of physician engagement in a remote and rural area.

Limitations

As in all qualitative approaches the findings are related to the context of the communities researched and while such findings are not generalizable, they do have transferable elements that may be of relevance to not only rural, but also urban areas.

This study reports findings from the initial three-year phase of a process of health care reform that will take many years to reach completion.
How primary care physicians were engaged in system change – a qualitative study in a remote
and rural health authority

Introduction

Northern British Columbia covers over 500,000 km² of wild, varied and challenging Canadian
landscape beset by, at times, harsh weather and natural hazards such as avalanches, floods and
wildfires. It is home to many remote communities. Approximately 300,000 people live in this
area. The main centre is Prince George, population around 75,000 (1), the regional referral
centre for most medical services with links to tertiary care services in the lower mainland of
British Columbia. This area is served by a single health authority, Northern Health (NH), that
works in collaboration with the Province-wide First Nations Health Authority (FNHA) and the
Provincial Health Services Authority (PHSA). In 2009 Northern Health, supported by a federal
Primary Health Care Transition Fund, began a process of primary care reform encompassing
whole system changes with a focus on developing multidisciplinary primary care teams across
multiple communities utilising the concepts of the primary care home(2, 3), patient centred
team based care and community and physician partnerships(4). The long-term vision was to
integrate care in each community so that physicians and other health professions worked
together with patients being supported by team members relevant to their needs, where
patient information was shared across the teams and with acute care, and where there was
substantive local decision making in terms of addressing health priorities.
Attempts to reform health care systems have met with varied success with contemporary thinking moving away from top down managed approaches to ones that focus on health care partnerships and community engagement(5). There remain challenges in terms of how to effectively create partnerships within systems that have focused on institutions and health administration rather than on primary care, which is seen as the foundation of an efficient and effective health care system(6, 7). Central to any question of creating system change is the role of physicians and how to engage them as partners in change. Successful system change has been linked to gaining full engagement of health care teams, including physicians, enticing people to try new practices, encouraging structured disagreement and staying focused on overall goals(8). While physician leadership and engagement have been seen as a critical part of health care organisations(9, 10), efforts to involve physicians within healthcare systems have focused on elements such as developing relationships between practicing physicians and health authorities(11, 12), engaging physicians working within hospital facilities(13) and on inter-group dynamics(14).

In 2010, the BC government and the Doctors of BC, the physician representative association, created Divisions of Family Practice. The Divisions are organized on a geographical basis to provide physicians with a common voice in advocating for family medicine and resources designed to enhance patient care through providing patient, practice and physician supports (https://www.divisionsbc.ca/provincial/home). In northern BC, there are four Divisions that encompass most, but not all, physician practices. They include physicians, who are remunerated by a variety of provincial mechanisms including fee for service billings, sessional payments, and quality and income guarantee arrangements. Most other health professionals
such as hospital and community nurses are employed by health authorities. Working in some cases with the health authorities, the Divisions of Family Practice have developed several initiatives such as new clinics to support patients not attached to family physicians and rapid access by patients to their family physicians. Family Physicians in Rural Canada have broad practices that can include working in clinics and in hospitals, staffing emergency rooms and developing enhanced skills such as surgical skills for procedures such as Caesarean sections, anaesthesia skills and oncology and mental health skills.

In spite of ongoing efforts by health authorities, there are few examples of physicians partnering in system change based in primary health care, especially in rural areas. This is particularly significant for rural Canada which, like many countries, struggles to deliver equitable access to healthcare for its rural populations, resulting in poorer health outcomes for those living in rural areas compared to their urban counterparts (15). One of the reasons for this is a continuing maldistribution of physicians to rural areas (16, 17) and while there are many ways of trying to provide supports to enhance recruitment and retention in rural areas (18) there remains little evidence on how to engage physicians in developing ways of creating and improving sustainable rural health services.

This article examines how a rural health authority and physicians have developed, and continue to engage in the development of, a partnership for the purposes of delivering health care and improving population health.

Methods
This analysis is a component of an overall study, Partnering for Change I, designed to study how a health authority and its physician and community partners undertook the transformation of primary health care\(^\text{(19)}\). An interpretive approach was taken with the collection and interpretation of qualitative data from in-depth interviews from participants in seven communities and at the regional level, utilising a philosophical approach based on hermeneutics\(^\text{(20)}\). Seven communities were selected because they represented a diversity of population size and economic, geographical, cultural and social contexts. Both purposive and snowball sampling\(^\text{(21)}\) were used to identify health administrators and health care workers within NH, along with general medical practitioners, municipal leaders and community based organizations outside of NH. A minimum of 10 participants per community were sought. In-depth one on one semi-structured interviews lasting 45-60 minutes using an interview guide were carried out between 2012 and 2015 by the principal investigator and a trained research associate both experienced in qualitative methods. Interviews were carried out in person at participants’ place of work and those participants who remained in their original or related roles were interviewed yearly over the three-year data collection period. Questions were related to participants’ experiences of the change processes, including the impacts of changes on relationships and ways of working. Interviews were audio recorded and transcribed verbatim. Written informed consent was obtained prior to initial interviews and verbal consent obtained for subsequent ones. The overall data set was comprised of 239 interviews with 122 key informants.
This paper is based on the analysis of 34 interviews purposively selected to reflect those with direct experience of engagement with physicians. Ten interviews were with family physicians, three in separate years with Division non-physician leads, and 18 with primary care co-ordinators. The primary care co-ordinators were hired to support the transition by working in communities with physicians and the developing interprofessional teams, communicating with community groups, and liaising with regional managers and executives. They came from administrative or clinical backgrounds (including Public Health and Community Nursing, Mental Health Nursing and Occupational Therapy). Also included were three interviews with regional health authority leaders conducted towards the end of Phase 1 of the project which contained reflections on the first few years of primary care reform and were relevant to relationships with physicians.

Patient and Public Involvement

Patients and Public were not involved in the interviews that informed the research reported here. The public were, however, involved through municipal leaders and community consultation by Northern Health in the discussion of the primary care reforms and were key informants in the Partnering for Change 1 study. All study findings, including those reported here, have been fed back to Northern Health Executive and Board through regular discussion and engagement with the research team and used to inform next steps in the processes of reform.

Analysis
The first author analyzed all interviews by reading them in depth and developing codes relevant to physician engagement using NVivo11 (QSR International). He is a rural physician and experienced doctoral trained qualitative researcher who is familiar with the region and its communities, hence the use of a hermeneutic approach. Hermeneutics accepts that the investigator brings to the research field prior experiences and knowledge which allows an interpretation of the research data that builds on and deepens that knowledge and understanding to provide new interpretive insights (20, 22). The initial coding approach, analysis and preliminary interpretation were discussed with the other authors who were all familiar with the transcripts and was refined based on further analysis and debate. Data saturation occurred before all transcripts were analysed, but analysis continued to include all 34 interviews in order to ensure there was no disconfirming evidence. The emergent themes based on the interpretation were shared with selected interviewees and found to resonate with their experience, thus further increasing the authenticity of the analysis.

Results

Three interconnected themes emerged from the analysis of the 34 interviews in relationship to challenges in engaging physicians in system change and what supported that engagement.

Quotes given in the text are representative of the relevant data under each theme:

**Working through tensions constructively**
At the beginning of the initiative physicians were seen by themselves and NH administrators as working independently from NH and the strategic direction of PHC transformation. They were also seen as having significant positional power.

“You know our physicians do wield a fair bit of influence and power within the system and have the ability to move things forward or send them to a standstill if they want to……….physicians are still practically in many ways outside of the system. And I’m talking about family physicians, like primary care practitioners in particular. They are their own unique businesses and so there isn’t necessarily a bridge always between those two worlds or a process to work on those issues” (PHC Co-ordinator E)

While the initiative saw successes in terms of building bridges and agreeing on new ways of working together, tensions were observed between administrators and physicians.

Interviewees pointed to concerns regarding who was having conversations with whom, and the historical mistrust between professionals and health authorities.

“cause I kind of sit in the middle, right, so I was sitting at a Northern Health table where we didn’t have Divisions at the tables and the conversations were a lot about us and them” (PHC co-ordinator J).

Honest conversations and structures for communication were necessary in order to surface and work through tensions that developed when changes were made to how services were
designed and delivered. Local administrators and the primary care coordinators could be caught between the organizational goals and the autonomy of physicians in their communities and had to find ways of building relationships in both directions. They also had to find ways of translating language and intent from NH leadership to physicians and vice versa. These efforts have not been easy or straightforward. They have taken a long period of time, building on foundations of agreeing on common and deliberately purposeful actions to take together. This required an understanding of others’ contexts:

“This changed relationship with primary care and partnership between the physicians, that’s a big change in how we deliver care. Primary care physicians we think of as within their private business purview. We really respect and they highly prize their autonomy so another thing that keeps me up at night is thinking about how we get those initial critical conversations off to a good start so that we grow those teams and primary care homes together”. (Regional leader 3)

Approaches like this allowed NH and physicians to develop working relationships focussed on improving care for the people they served, which allowed tensions to be identified, managed and worked through. Actions were focussed on what could be done together to improve patient care, such as the creation of an unattached patient clinic, the development of a family practice clinical teaching unit and in helping people learn about others’ working contexts, such as nurses job shadowing GPs and GPs doing joint home visits with nurses. Not all physicians interviewed were involved in Divisions of Family Practice, which was also a source of tension.
“So, there’s a tension there and different communities have different structures in place to support this work. So here we don’t have a Division of Family Practice and the Primary Health Care language. In a lot of work they keep talking about using the Division of Family Practice to move this work forward..... We don’t have that here, so you kind of find yourself in this defensive position where you’re saying all the time, but we don’t have a Division of Family Practice, we have this.” (PHC co-ordinator D).

Tensions are inevitable in whole system change and the key for administrators based in the communities was to be able to act as a go-between for physicians on the ground and the leaders at various levels of the health authority. Engaging physicians effectively required good listening, flexibility at the local level and support from NH leadership to allow discussion of local solutions to local problems within a framework of integrated primary care teams.

**Drawing on structures for engagement.**

Divisions of Family Practice allowed for a structured dialogue and for a way of recognizing and dealing with tensions between different elements of the health care system and communities.

NH attempted to create a bridge by partnering with the physicians through the Divisions to develop common plans. NH openly shared their initial goals and ideas and ensured that local administrators were aware of the need to allow some flexibility in local communities in terms of determining health care priorities. NH’s approach of sharing what they were trying to do at the community level was noted by a family practitioner:
“the health authority has come to the table and they’ve been good partners with openness and transparency and they have allowed us to, you know, look inside their organization, you know, they’ve shared, they’ve shared freely a lot of the things that they’re doing.” (Physician G).

The Divisions of Family Practice allowed physicians to have a common voice, as within the Divisions the physicians developed their own priorities and vision. The same family physician said:

“I think it was with the formation of the Division that family doctors have a voice as a collective group in partnering with Northern Health to have input into how we might deal with and spend resources that were available”.

The Divisions encouraged physicians to have collective conversations about priorities which were then shared with NH. One of the outcomes was that NH and physicians found they shared common ground in terms of improving the health of their populations, which had some interesting impacts on how family physicians felt about their work:

“You start to enjoy your work. That’s the thing. That’s the main thing for me. You do a lot of stuff which actually just becomes a ritual, do prescriptions every day for diabetics and hypertension patients. Now suddenly, you’re seeing other possibilities”. (Physician J)
Working with structures that were designed to give physicians a collective voice helped build relationships, find common ground and encourage dialogue.

**Facilitating relationships**

Trusting relationships were critical to the process and finding effective ways of engagement helped build these. Engagement facilitated the development of trust and flexibility on all sides in forming common goals, as well as flexibility at the local community level to set appropriate priorities that were agreed upon in each community. The effort required to build relationships was considerable, and in a remote and rural area this also meant finding time for physician leaders to engage with communities:

“I need to do way more travel, way more communication and relationship building out in the peripheral areas and sure it takes more time, but without it you can’t move.”

(Physician A)

The whole process of engagement and development of common goals was sensitive to the varied community contexts. This meant approaches to reforming how health care was delivered were allowed to be influenced by individual community priorities, with the overall aim of providing better health services for communities with all members of the health care team working together and sharing responsibilities.

The data indicated that where physicians, local administrators, community leaders and the
other health professionals could agree on common goals there was a better sharing of skills and
integrating of care amongst different team members.

“So, I think there’s more trust because we share more. It’s not silos. Even to trust the
specialist. If you see a specialist here and he talks to you about patients, and have the
conversation, it’s even more trust than phoning that guy, see what he thinks about stuff.
It opens doors and breaks down silos. It is just funny how trust is very core”. (Physician K).

Trust was at the heart of this sharing and took time to build through learning about the visions,
goals and abilities of team members. Trust, however, could also be eroded if there were not
practical actions that followed:

“I think that there’s still, there’s always that element of wanting to see results and so I
think right now we have the commitment and trust that they will come and we’re
working towards it, but it’s always there in the back of my mind that we need to be
demonstrating progress and to continue to build trust. I struggle with that sometimes,
how we define progress, how we evaluate the work that we’re doing and make
improvements.” (PHC coordinator E)

Once trust was developed it was just as important to find some early wins to show progress
was being made. Investing time in local relationship building despite the strain this can create in
an underserved rural area, served as a means to work through tensions.
“I’d have to say overall that the local administrator I feel I can sit down and talk to and while I may not agree on everything, I feel heard.” (Physician F).

Only through sound relationships and constructive conversations was sufficient trust developed to create an environment ready for major system change:

“people are developing completely different relationships and when you think that so much of our past and some of our current system, so much of what works well is because of the relationships” (Regional Leader 2). “

Key messages

- Recognizing the inevitable tensions between professional groups and dealing with these through honest conversations is a foundation for better engagement.
- Structures for engagement such as the creation of Divisions of Family Practice facilitate dialogue, sharing of goals, and build trust leading to collective system re-design.
- A focus on relationship building at the community level which values physician input is essential

Interpretation.
Trying to change the health care system in any setting can be an elusive and frustrating goal. Physicians are critical players in any attempt to reform a health care system as they hold considerable power and influence in their communities (23) and have the ability to exercise often unaware “wrecking power” (24), which can derail any attempts at changing a health care system. In northern British Columbia, physician engagement was helped by the creation of the Divisions of Family Practice which allowed Northern Health a structure to engage with physicians on the development of shared visions, goals and collective actions. In addition, an emphasis on building relationships, particularly those at the community level, were important in establishing partnerships between physicians, administrators and healthcare teams. This allowed the identification of community priorities, which, in turn, enhanced the journey towards a system of primary care interdisciplinary team-based care focused on patient needs.

Tensions between various groups are inevitable in times of large-scale change and finding ways to allow these to surface and be dealt with are important. These tensions are particularly noticeable amongst professional groups, particularly between physicians and administrators and in working with these it is important to find ways to identify and deal with often hidden traditional hierarchies and professional power (19). One step in working through such tensions is in the co-creation of changed identities (25) through purposeful attention to ongoing relationships that can help people to work together collaboratively. A second key step is to ensure small incremental changes are successful (26). In this study physicians were able to shift their professional stance from being autonomous to being team players when aided by frequent conversations, which have led to a mutual understanding of potential roles of the healthcare team. These shifts were helped by the Divisions of Family Practice which built
cohesion amongst physicians to provide a common voice and make it possible for Northern Health and physicians to create shared visions and joint actions. Such processes take time and there may be no such thing as implementing wholesale system change quickly. Building and maintaining relationships, working with tensions and listening to communities is an iterative process that takes many years. System change is a journey with many twists and turns in the route and it is important to look for signs of change and progress over time and not expect quick fixes.

This is a qualitative study in one health authority in a northern and rural area of Canada. While research like this is highly sensitive to local contexts, such as geography and climate, and to national contexts, like remuneration and employment models, there may still be elements which are transferable to other settings contemplating system change. For example, the concepts of relationship building, surfacing tensions and working with structures for engagement may be relevant to those contemplating large-scale change in primary care and which may help them consider how to best engage physicians in their contexts. While this research was carried out in a rural area the concepts identified also hold lessons for urban settings.

Limitations.

This interpretive study is based on in-depth analysis of the experiences of physicians and health care administrators directly engaged in a primary care change initiative, drawing on principles of partnership. The analysis was carried out by the first author who is familiar in, and with, the communities researched. Although the research provides a picture of how physicians were
engaged in the early years of a process, that process is continuing and will take several more years.

Conclusions

This study suggests that when a health authority attempts to achieve whole system change in a rural primary care context, approaches based on relations of trust, flexibility, adaptability and compromise appear to have been effective in engaging physicians as partners in reform. These approaches have been aided by structures to engage physicians, approaches that allow tensions to surface and a commitment to honest conversations. As in all qualitative studies the interpretation is related to the unique context of the regions examined, but there may be elements of relevance to others contemplating wide spread health services system change in other settings. System change takes effort, commitment and takes a long time. There are no quick fixes.

Funding

This work was supported by a Canadian Institutes of Health Research Health Services and Policy operating grant number MOP 114987

Ethical Approval

The study received Ethical Approval from the Research Ethics Boards of the University of Northern British Columbia, certificate E2011.0920.104.06, and from the University of Alberta certificate Pro00027360_REN5
Competing Interests

The Authors have no competing interests to declare

Contributions

Martha MacLeod is the Principal Investigator of the Partnering for Change Study and interviewed many of the respondents. All authors were involved in the study design, analysis of interviews and in developing coding frameworks. David Snadden analysed all the interviews in the study reported here, developed the initial coding framework and refined the themes based on input from all authors. He wrote the first draft of the paper; all authors contributed to subsequent versions and agreed the final version.

Acknowledgements

The authors would like to acknowledge, as well as thank, the study knowledge users, particularly Cathy Ulrich of the Northern Health Authority, the study participants and Leana Garraway Research Associate. The Rural Doctors’ UBC Chair in Rural Health is supported by an endowment from the BC Joint Standing Committee on Rural Issues. The Northern Health UNBC Knowledge Mobilization Chair is supported by Northern Health and the University of Northern British Columbia.
References.


<table>
<thead>
<tr>
<th>Domain 1: Research team and reflexivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Characteristics</td>
</tr>
<tr>
<td>1. Interviewer / facilitator</td>
</tr>
<tr>
<td>2. Credentials</td>
</tr>
<tr>
<td>3. Occupation</td>
</tr>
<tr>
<td>4. Gender</td>
</tr>
<tr>
<td>5. Experience and Training</td>
</tr>
<tr>
<td>Relationship with Participants</td>
</tr>
<tr>
<td>6. Relationships established</td>
</tr>
<tr>
<td>7. Participant knowledge of interviewer</td>
</tr>
<tr>
<td>8. Interviewer characteristics</td>
</tr>
<tr>
<td>9. Methodological orientation</td>
</tr>
<tr>
<td>10. Sampling</td>
</tr>
<tr>
<td>11. Method of approach</td>
</tr>
<tr>
<td>12. Sample size</td>
</tr>
<tr>
<td>13. Non-participation</td>
</tr>
<tr>
<td>Setting</td>
</tr>
<tr>
<td>14. Setting of data collection</td>
</tr>
<tr>
<td>15. Presence of non-participants</td>
</tr>
<tr>
<td>Data Collection</td>
</tr>
<tr>
<td>16. Description of sample</td>
</tr>
<tr>
<td>17. Interview guide</td>
</tr>
<tr>
<td>18. Repeat interviews</td>
</tr>
<tr>
<td>19. Audio/visual recording</td>
</tr>
<tr>
<td>20. Field notes</td>
</tr>
<tr>
<td>21. Duration</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>22. Data saturation</td>
</tr>
<tr>
<td>23. Transcripts returned</td>
</tr>
<tr>
<td>Domain 3</td>
</tr>
<tr>
<td>24. Number of data coders</td>
</tr>
<tr>
<td>25. Description of coding tree</td>
</tr>
<tr>
<td>26. Derivation of themes</td>
</tr>
<tr>
<td>27. Description of software</td>
</tr>
<tr>
<td>28. Participant checking</td>
</tr>
<tr>
<td>Reporting</td>
</tr>
<tr>
<td>29. Quotations presented</td>
</tr>
<tr>
<td>30. Data and findings consistent</td>
</tr>
<tr>
<td>31. Clarity of major themes</td>
</tr>
<tr>
<td>32. Clarity of minor themes</td>
</tr>
</tbody>
</table>
Engaging primary care physicians in system change – an interpretive qualitative study in a remote and rural health region in Northern British Columbia, Canada.
Engaging primary care physicians in system change – an interpretive qualitative study in a remote and rural health region in Northern British Columbia, Canada.

MeSh terms:

- Community Health Planning/methods*
- Community-Institutional Relations*
- Family Practice/organization & administration*
- Models, Organizational
- Rural Health Services/organization & administration*

Authors

David Snadden MBChB, MCIsC, MD, FRCGP, CCFP, Professor in the Department of Family Practice at the University of British Columbia, and the Rural Doctors’ UBC Chair in Rural Health.
david.snadden@ubc.ca

Trish Reay MBA, PhD, Professor in Strategic Management and Organization at the University of Alberta School of Business.
preay@ualberta.ca
For peer review only - http://bmjopen.bmj.com/site/about/guidelines.xhtml
Engaging primary care physicians in system change – an interpretive qualitative study in a remote and rural health region in Northern British Columbia, Canada.

ABSTRACT

Objectives

To describe how physicians were engaged in primary healthcare system change in a remote and rural Canadian health authority.

Design

A qualitative interpretive study based on a hermeneutic approach.

Methods

34 transcribed in-depth interviews with physicians and administrators relevant to physician engagement were purposively sampled from a larger data set of 239 interviews gathered over a three-year period from seven communities engaged in primary health care transformation. Interviews were coded and analysed interpretively to develop common themes.

Setting

This research is part of a larger study, Partnering for Change 1, which investigated the efforts of Northern Health, a rural regional health authority in British Columbia to transform its health care system to one grounded in primary care with a focus on interdisciplinary teams. It reports how physician engagement was accomplished during the first three-years of the study.

Participants
Interviews with 34 individuals with direct involvement and experience in the processes of physician engagement. These included 10 physicians, three Regional Executives, 18 Primary Health Care coordinators and three Division of Family Practice leads.

Results

Three major interconnected themes that depicted the process of engagement were identified: working through tensions constructively, drawing on structures for engagement, and facilitating relationships.

Conclusions

Physician engagement was recognized as a priority by Northern Health in its efforts to create system change. This was facilitated by the creation of Divisions of Family Practice that provided a structure for dialogue and facilitated a common voice for physicians. Divisions helped to build trust between various groups through allowing constructive conversations to surface and deal with tensions. Local context mattered. Flexibility in working from local priorities was a critical part of developing relationships that facilitated the design and implementation of system reform.
Summary

Strengths and Limitations

- This study drew on in-depth insights of those involved in primary care reform at the community level who were either physicians, or responsible for engaging with physicians as partners in change.

- The findings resonated with both physicians and health authority planners.

- A hermeneutic approach, based on dialogue and respect of the participants’ and researchers’ experience, enabled the creation of understandings and insights in the area of physician engagement in a remote and rural area.

- As in all qualitative studies the interpretation is related to the unique context of the communities examined, including geography, climate, and provincial and national remuneration systems.

- Qualitative studies are not generalisable, but they do have transferable elements that may be of relevance to not only rural, but also urban areas.
Engaging primary care physicians in system change – an interpretive qualitative study in a remote and rural health region in Northern British Columbia, Canada.

Introduction

Context

Northern British Columbia covers over 500,000 km² of wild, varied and challenging Canadian landscape beset by, at times, harsh weather and natural hazards such as avalanches, floods and wildfires. It is home to many remote communities. Approximately 300,000 people live in this area. The main centre is Prince George, population around 75,000 (1), the regional referral centre for most medical services with links to tertiary care services in the lower mainland of British Columbia. This area is served by a single health authority, Northern Health (NH), that works in collaboration with the Province-wide First Nations Health Authority (FNHA) and the Provincial Health Services Authority (PHSA). In 2009 Northern Health, supported by a federal Primary Health Care Transition Fund, began a process of primary care reform encompassing whole system changes with a focus on developing multidisciplinary primary care teams across several communities utilising the concepts of the primary care home (2, 3), patient centred team-based care and community and physician partnerships (4). The long-term vision was to integrate care in each community so that physicians and other health professions worked together with patients being supported by team members relevant to their needs, where patient information was shared across the teams and with acute care, and where there was substantive local decision making in terms of addressing health priorities.
In 2010, the BC government and the Doctors of BC, the physician representative association, created Divisions of Family Practice. The Divisions are organized on a geographical basis to provide physicians with a common voice in advocating for family medicine and resources designed to enhance patient care through providing patient, practice and physician supports (https://www.divisionsbc.ca/provincial/home). In northern BC, there are six Divisions that encompass most, but not all, physician practices. Physicians are remunerated by a variety of provincial mechanisms including fee for service billings, sessional payments, and quality and income guarantee arrangements. Most other health professionals such as hospital and community nurses are employed by the health authority. Family Physicians in rural Canada have broad, generalist practices that can include working in clinics and in hospitals, staffing emergency rooms and developing enhanced skills such as surgical skills for procedures such as Caesarean sections, anaesthesia skills and oncology, and mental health skills.

Background

Previous research on health system reform consistently points to the critical importance of physician engagement (5). However, research also highlights the great difficulty in engaging physicians, particularly in primary care, where physicians often work more independently from the rest of the health system (6). This lack of engagement is critical to address because developing new ways to provide primary care, such as collaborative team approaches, is essential to sustaining an efficient and effective health care system (7-10). Physician relationships with health care organisations or health authorities provides a fundamental platform to support all other change initiatives (11-13). In a synthesis of the literature and
expert panel report on physician engagement and leadership. Denis et al. (14) identified that much of the literature on engagement was based on managed care models in the US and that gaps in knowledge existed about how different strategies, aimed at creating environments that support physician engagement, work on the ground in different contexts. Using a social identity approach that emphasised the differences between physicians and managers, Kreindler et al. (15) described the importance of intergroup dynamics as part of any attempt to engage physicians. This research also emphasised how different contexts needed approaches that varied depending on local relationships particularly within the power dynamics that are in play between physicians and administrators. In general, the literature focuses on how health care organisations engage with physicians as individuals and leaders in order to try to facilitate system change and health improvement within those specific organisations. Engaging physicians in primary care settings, and in particular remote and rural ones, to bring about health system change, remains relatively unexplored in the literature. This gap is particularly significant for rural Canada which, like many countries, struggles to deliver equitable access to healthcare for its rural populations, resulting in poorer health outcomes for those living in rural areas compared to their urban counterparts (16). One of the reasons for this is a continuing maldistribution of physicians to rural areas (17, 18) and while there are many ways of trying to provide supports to enhance recruitment and retention in rural areas (19) there remains little evidence on how to engage physicians in isolated rural areas to develop ways of creating and improving sustainable rural health services.

This article examines how a rural health authority and physicians have developed, and continue to engage in the development of, a partnership for the purposes of delivering health care and
improving population health. Specifically, it aims to deepen understanding of the subtleties and complexity of engaging in system change within remote and rural areas.

Methods

Setting

This analysis is a component of an overall study, Partnering for Change I, designed to study how Northern Health and its physician and community partners undertook the transformation of primary health care (20). An interpretive approach was taken with the collection and interpretation of qualitative data from in-depth interviews from participants in seven communities and at the regional level, utilising a philosophical hermeneutics approach (21).

Seven communities across Northern BC were selected because they represented a diversity of population size and economic, geographical, cultural and social contexts. Both purposive and snowball sampling (22) were used to identify health administrators and health care workers within NH, along with general medical practitioners, municipal leaders and community based organizations outside of NH. A minimum of 10 participants per community were sought.

Data Collection

In-depth, one-on-one, semi-structured interviews lasting 45-60 minutes using an interview guide were carried out between 2012 and 2015 by the principal investigator and a trained research associate both experienced in qualitative methods. Interviews were carried out in person at participants’ place of work. Those participants who remained in their original or related roles were interviewed yearly over the three-year data collection period. Questions
were related to participants’ experiences of the change processes, including the impacts of
to seek data saturation from within a large sample, but to explore in depth what physician
towards the end of Phase 1 of the project which contained reflections on the first few years of
were hired to support the transition by working in communities with physicians and
(10,11,13) and, in addition, the developing interprofessional teams, communicating with community groups, and liaising
also included were three interviews with regional health authority leaders conducted
Changes on relationships and ways of working. Interviews were audio recorded and transcribed
changes on relationships and ways of working. Interviews were audio recorded and transcribed
obtained for subsequent ones. The overall data set was comprised of 239 interviews with 122
were all those who were physicians or who expressed direct experience of engagement with
their communities at any time during the data collection period. The intent was not
to seek data saturation from within a large sample, but to explore in depth what physician
engagement meant to those who actually spoke about it in the interviews about primary health
care transformation. Ten interviews were with family physicians, three in separate years with
Division non-physician leads, and 18 with primary care co-ordinators. The primary care co-
ordinators were hired to support the transition by working in communities with physicians and
the developing interprofessional teams, communicating with community groups, and liaising
with regional managers and executives. They came from administrative or clinical backgrounds
(including Public Health and Community Nursing, Mental Health Nursing and Occupational
Therapy). Also included were three interviews with regional health authority leaders conducted

Participants

This paper is based on the analysis of 34 interviews from the main data set. Participants were
all those who were physicians or who expressed direct experience of engagement with
physicians in the communities at any time during the data collection period. The intent was not
Patient and Public Involvement

Patients and Public were not involved in the interviews that informed the research reported here. The public were, however, involved through municipal leaders and community consultation by Northern Health in the discussion of the primary care reforms and were key informants in the Partnering for Change 1 study. All study findings, including those reported here, have been fed back to Northern Health Executive and Board through regular discussion and engagement with the research team and used to inform next steps in the processes of reform.

Analysis

The qualitative approach taken was based on hermeneutics (21, 23). Hermeneutics is the study and interpretation of texts and, in contemporary research, this includes the texts generated from interviews. In this study, the area of interest was that of physician engagement and the analysis gave insights into the varied direct experiences of those interviewed in order to better understand the phenomenon of physician engagement in the context of the communities of northern BC. This approach also recognises that researchers bring to the field, and to the interpretations, their own experiences and understandings. Instead of bracketing or setting those experiences aside, the researchers constantly keep their assumptions in question. The analytic process itself is one of dialogue where the researchers’ own understandings and assumptions are questioned as the researchers engage with the participants’ transcripts. Through that process of questioning, the researchers gain a deeper understanding and new insights about the experiences expressed by the participants creating a plausible interpretation.
(21, 24). Hermeneutics is seen as a way of better understanding interventions in complex systems (25) as well as recognising the diversity of historical and cultural contexts that typify rural communities.

The first author analyzed all interviews by reading them in depth and developing codes relevant to physician engagement using NVivo11 (QSR International). He is a rural physician and experienced doctoral trained qualitative researcher who is familiar with the region and its communities having held educational leadership roles in the region. All authors had previously analysed all transcripts in the study and had identified physician engagement as an important area for further analysis.

The initial coding approach, analysis and preliminary interpretation were discussed with the other authors, the coding agreed, and the interpretation refined based on further analysis and debate. The emergent themes based on the interpretation were shared with selected interviewees and found to resonate with their experience, thus further increasing the authenticity of the analysis.

Results

The analysis of the interviews revealed a complex set of circumstances related to physician engagement. These included issues such as inter-group dynamics, historical differences between professional groups and descriptions of individual aspirations of what local health care change and priorities should be. Weaving the threads of the interviews to find patterns and themes related to the phenomenon of physician engagement resulted in three interconnected
themes related to challenges in engaging physicians in system change and what supported that engagement.

248 Working through tensions constructively

249 At the beginning of the initiative physicians were seen by themselves and NH administrators as working independently from NH and the strategic direction of PHC transformation. They were also seen as having significant positional power.

252 You know our physicians do wield a fair bit of influence and power within the system and have the ability to move things forward or send them to a standstill if they want to.........physicians are still practically in many ways outside of the system. And I’m talking about family physicians, like primary care practitioners in particular. They are their own unique businesses and so there isn’t necessarily a bridge always between those two worlds or a process to work on those issues. (PHC Co-ordinator E)

259 This sense of professional power in the health system, while physicians were not actually within the system itself, created challenges for all in terms of working together.

The data described successes in terms of building bridges and agreeing on new ways of working together but tensions were evident between administrators and physicians. Participants pointed to concerns regarding who was having conversations with whom, and the historical mistrust between professionals and health authorities. They spoke of how those trying to facilitate engagement could get caught “in the middle”.
... cause I kind of sit in the middle, right, so I was sitting at a Northern Health table where we didn’t have Divisions at the tables and the conversations were a lot about us and them. (PHC co-ordinator J)

The tensions identified in the interviews were often recalled as hidden and unacknowledged in the interactions between partners, but participants also recalled efforts to bring these tensions to the surface. Local administrators and the primary care coordinators could be caught between the organizational goals and the autonomy of physicians in their communities and needed to find ways of building relationships in both directions. They also had to find ways of translating language and intent from NH leadership to physicians and vice versa. Honest conversations and structures for communication were necessary. Through conscious dialogue, they could surface and work through tensions that developed when changes were made to how services were designed and delivered. These efforts have not been easy or straightforward.

They have taken a long period of time, as the foundations of commonly agreed-upon and deliberately purposeful actions have required an understanding of others’ contexts.

This changed relationship with primary care and partnership between the physicians, that’s a big change in how we deliver care. Primary care physicians we think of as within their private business purview. We really respect and they highly prize their autonomy so another thing that keeps me up at night is thinking about how we get those initial critical
conversations off to a good start so that we grow those teams and primary care homes together. (Regional leader 3)

In addition, co-ordinators had to be able to have difficult conversations in order to surface tensions:

So, I spent a lot of time a year ago calling people on the “us and them” in order for us to move the work forward and highlighting that we can’t move if we’re in this, “us and them”. So, trying to shut those conversations down at both of those sides. Whereas now there’s absolutely none of that at all going on in relationship [between] the health authority and Division. (PHC Co-ordinator J)

Approaches like this allowed NH and physicians to develop working relationships focussed on improving care for the people they served, which allowed tensions to be identified, managed and worked through. Actions were focussed on what could be done together to improve patient care, such as the creation of an unattached patient clinic, the development of a family practice clinical teaching unit and actively helping people learn about others’ working contexts, such as nurses job shadowing GPs and GPs doing joint home visits with nurses. Not all physicians interviewed were involved in Divisions of Family Practice, which was also a source of tension.
So, there’s a tension there and different communities have different structures in place to support this work. So here we don’t have a Division of Family Practice and the Primary Health Care language. In a lot of work they keep talking about using the Division of Family Practice to move this work forward..... We don’t have that here, so you kind of find yourself in this defensive position where you’re saying all the time, “but we don’t have a Division of Family Practice, we have this”. (PHC co-ordinator D)

Tensions are inevitable in whole system change and the key for those NH administrators based in the communities was to be able to act as a go-between for physicians on the ground and the leaders at various levels of NH. Engaging physicians effectively required good listening, flexibility at the local level and support from NH leadership to allow discussion of local solutions to local problems within a framework of integrated primary care teams. Underpinning this coordinated action was the need to find ways to surface tensions in order to deal with them.

**Drawing on structures for engagement.**

Divisions of Family Practice allowed for a structured dialogue and for a way of recognizing and dealing with tensions between different elements of the health care system and communities.

NH attempted to partner with the physicians through the Divisions to develop common plans.

NH openly shared their initial goals and ideas and ensured that local administrators were aware of the need to allow some flexibility in local communities in terms of determining health care priorities. NH’s approach of sharing what they were trying to do at the community level was noted by a family practitioner.
the health authority has come to the table and they've been good partners with openness and transparency and they have allowed us to, you know, look inside their organization, you know, they've shared, they've shared freely a lot of the things that they're doing. (Physician G)

The Divisions of Family Practice allowed physicians to have a common voice, as within the Divisions the physicians developed their own priorities and vision. The same family physician said.

I think it was with the formation of the Division that family doctors have a voice as a collective group in partnering with Northern Health, to have input into how we might deal with and spend resources that were available. (Physician G)

A sentiment echoed by a physician colleague from another community also described how the Divisions provided some continuity which, in turn, provided an environment that supported and encourage partnering.

... it’s the organization of physicians so that there’s one voice to talk about the aspirations or the needs in primary care. So that there’s somebody that the health authority can communicate with, rather than picking the champion who might be the champion this year but has moved away next year. Or is over-extended in his practice
and now has kind of lost interest. Now there’s this more durable entity that you can actually talk with and partner with and that’s accelerated us in ways that I wouldn’t have expected. (Physician A)

The Divisions encouraged physicians to have collective conversations about priorities which were then shared with NH. One of the outcomes was that NH and physicians found they shared common ground in terms of improving the health of their populations, which had some interesting impacts on how family physicians felt about their work.

You start to enjoy your work. That’s the thing. That’s the main thing for me. You do a lot of stuff which actually just becomes a ritual, do prescriptions every day for diabetics and hypertension patients. Now suddenly, you’re seeing other possibilities. (Physician J)

Working with structures that were designed to give physicians a collective voice helped build relationships, find common ground, encourage dialogue and enhance continuity. They enabled the physicians and NH alike to better withstand the inevitable changes of personnel that are a feature of small rural communities.

Facilitating relationships

Trusting relationships were critical to the process. Finding effective ways of engagement helped build trust and flexibility on all sides. Physicians and NH were able to form common goals as well as act flexibly at the local community level to set appropriate priorities that were agreed
upon in each community. The effort required to build relationships was considerable, and in a remote and rural area this also meant finding time for physician leaders to engage with communities and to have time to be involved in planning, as the process of change took time:

I need to do way more travel, way more communication and relationship building out in the peripheral areas and sure it takes more time, but without it you can’t move.... the first two years we didn’t actually achieve a lot except a lot of careful planning and strategic thinking but now it’s led to a place where we actually are acting on that strategic thinking and maybe this is the year that we’re all going to do it. (Physician A)

Where physicians, local administrators, community leaders and the other health professionals could agree on common goals they spoke of a better sharing of skills and integrating of care amongst different team members.

The whole process of engagement and development of common goals, however, was sensitive to the varied community contexts. This meant that approaches to reforming how health care was delivered were influenced by individual community priorities.

...we’re being told to and rightly so I think, that from community to community this may look different and maybe realized in different ways because of different practical realities so I’m encouraged to hear that. (PHC co-ordinator E)

Trust was at the heart of this sharing and took time to build through learning about the visions,
goals and abilities of team members. Trust, however, only came with practical actions.

So, I think there’s more trust because we share more. It’s not silos. Even to trust the specialist. If you see a specialist here and he talks to you about patients, and have the conversation, it’s even more trust than phoning that guy, see what he thinks about stuff. It opens doors and breaks down silos. It is just funny how trust is very core. (Physician K)

The maintenance of trust could not be assumed. For some, the worry of demonstrating results was always in the background.

I think that there’s still, there’s always that element of wanting to see results and so I think right now we have the commitment and trust that they will come and we’re working towards it, but it’s always there in the back of my mind that we need to be demonstrating progress and to continue to build trust. I struggle with that sometimes, how we define progress, how we evaluate the work that we’re doing and make improvements. (PHC coordinator E)

Once trust was developed it was just as important to find some early wins to show progress was being made as described by one physician talking about improving how quickly patients could be seen in their primary care clinic.

Advanced access is a great example. It was an idea that was around when we started
talking about [primary care reform]. And I started talking about it with the office
manager and I don’t know who mentioned it first, but it just kind of came and everyone
was on board and it was total collaboration. (Physician A)

Investing time in local relationship-building, despite the strain of the required time
commitment in an underserved rural area, served as a means to work through tensions.

I’d have to say overall that I feel I can sit down and talk to the local administrator and
while I may not agree on everything, I feel heard. (Physician F)

Only through sound relationships and constructive conversations was sufficient trust developed
to create an environment ready for major system change.

... people are developing completely different relationships and when you think that so
much of our past and some of our current system, so much of what works well is because
of the relationships. (Regional Leader 2)
Interpretation.

Trying to change the health care system in any setting can be an elusive and frustrating goal. Physicians are critical players in any attempt to reform a health care system as they hold considerable power and influence in their communities (14) and have the ability to exercise often unaware “wrecking power” (26), which can derail any attempts at changing a health care system. While existing literature emphasises engaging physicians through developing relationships and providing leadership training (14), much of the focus is on the engagement of physicians with institutions like health authorities and health care facilities. The context of rural and remote areas presents a different challenge where physicians are a powerful voice in their communities. Emerging from this study were different ways of approaching physician engagement that worked in the very different contexts of several widely scattered rural communities. One important facet was that physician engagement was helped by the creation of the Divisions of Family Practice which provided a structure for the health authority to engage with physicians on the development of shared visions, goals, and collective actions. The Divisions are physician-led and were created through the provincial physician representative association. There appears little in the literature on the existence of physician led groupings beyond financial ones. The presence of the Divisions provided physicians in scattered communities a common and local voice to develop agreed local priorities in partnership with the Health Authority. In addition, an emphasis on building relationships, particularly those at the community level, was important in establishing partnerships between physicians, administrators and healthcare teams. The relationships enhanced the journey towards a system of primary care interdisciplinary team-based care focused on patient needs.
While relationship building also appears as critical in the literature on physician engagement (15), there is a paucity of description on what is effective within on-the-ground relationships in primary care. Tensions between various groups are inevitable in times of large-scale change. In northern BC finding the tensions, describing, and confronting them allowed them to be worked through. Ways of surfacing tensions through conversation with primary care co-ordinators as the facilitators of conversations were an important finding in this study. Literature on physician engagement notes that tensions are particularly evident amongst professional groups, particularly between physicians and administrators (15). It is important to find ways to identify and deal with, often hidden, traditional hierarchies and professional power (20). One step in working through such tensions is in the co-creation of changed identities (27) through purposeful attention to ongoing relationships that can help people to work together collaboratively. A second key step is to ensure that small incremental changes are successful (28). In this study physicians were able to shift their professional stance from being autonomous to being team players when aided by frequent conversations, which have led to a mutual understanding of goals and potential roles of the healthcare team. These shifts were helped by the Divisions of Family Practice which built cohesion amongst physicians to provide a common voice and make it possible for Northern Health and physicians to create shared visions and joint actions. Such processes take time and there may be no such thing as implementing wholesale system change quickly. Building and maintaining relationships, working with tensions, and listening to communities is an iterative process that takes many years. System change is a journey with many twists and turns in the route and it is important to look for signs of change and progress over time and not expect quick fixes.
Conclusions

This study suggests that when a health authority attempts to achieve whole system change in a rural primary care context, approaches based on relations of trust, flexibility, adaptability and compromise appear to have been effective in engaging physicians as partners in reform. These approaches have been aided by structures to engage physicians, approaches that allow tensions to be surfaced and a commitment to honest conversations.

This is a qualitative study in one health authority in a northern and rural area of Canada. While research like this is highly sensitive to local contexts, such as geography and climate, and to national contexts, like remuneration and employment models, there may still be elements which are transferable to other settings contemplating system change. For example, the concepts of relationship building, surfacing tensions and working with structures for engagement may be relevant to those contemplating large-scale change in primary care, including larger urban settings.

Funding

This work was supported by a Canadian Institutes of Health Research Health Services and Policy operating grant number MOP 114987

Ethical Approval
The study received Ethical Approval from the Research Ethics Boards of the University of Northern British Columbia, certificate E2011.0920.104.06, and from the University of Alberta certificate Pro00027360_RENS

Competing Interests

The Authors have no competing interests to declare

Contributions

Martha MacLeod (MM) and Neil Hanlon (NH) are Principal Investigators, and Trish Reay (TR) and David Snadden (DS) Co-Investigators, of the Partnering for Change I study. MM, NH, TR and DS were involved in the original conceptual design of the study, its methodology, data collection and analysis. For the analysis of Physician Engagement MM, NH, TR and DS all contributed to the study in terms of methodological design and data handling. DS analysed all the data and developed the initial coding framework and interpretation. MM, NH and TR contributed to the coding framework and interpretation through analysis, discussion and debate. DS wrote the first draft of the article and MM, NH and TR contributed to subsequent drafts. DS wrote the draft of the revised final version and MM, NH and TR contributed to the final revisions. DS, MM, NH and TR all agreed the final version.

Acknowledgements

The authors would like to acknowledge, as well as thank, the study knowledge users, particularly Cathy Ulrich of the Northern Health Authority, the study participants and Leana
Garraway Research Associate. The Rural Doctors’ UBC Chair in Rural Health is supported by an
endowment from the BC Joint Standing Committee on Rural Issues. The Northern Health UNBC
Knowledge Mobilization Chair is supported by Northern Health and the University of Northern
British Columbia.

Data Availability

The data in this work is highly confidential and although all quotes given are anonymized and
de-identified the data set which consists of individual interviews contains data that could lead
to identification of participants. This is particularly so in terms of some of the communities in
which the study took place where many individual know each other. For this reason the
interviews cannot be made public. This is also a requirement of our Ethics Board approval.
References.


SPQR checklist

Title
Title describes topic and method as well as context. Title appears in Abstract, Summary and main article
Lines 2,3; 38,39; and 92, 93.

Abstract
Structured abstract summarises study
Lines 41-73.

Problem Formulation
Background literature described and significance of problem
Lines 126-158.

Purpose or research question
Lines 155-158.

Qualitative approach and research paradigm
Interpretive approach based on philosophical hermeneutics mentioned at line 166 and described lines 211-225.

Researcher characteristics and reflexivity
Described for first author lines 226-229, and all authors lines 14-25.
Contributions described lines 514-520.

Context
Context of the study including geographical setting described in lines 96-124.

Sampling strategy
Description of participants and strategy for selecting interviews described lines 186-199.

Ethical issues pertaining to human subject
Ethical approval described: lines 505-508, method of consent described: lines 181-182.

Data collection methods
Interviews and data collection method described; lines 173-183.

Units of study
Participants described: line 185-199.

Data processing
Data processing including coding described: lines 226-236.
Techniques to enhance trustworthiness
Hermeneutic approach to analysis described lines 218-225. Steps to enhance trustworthiness described lines 232-236.

Synthesis and interpretation
Results are presented in lines 238-434, and the interpretation in lines 441-484.

Links to empirical data
Quotes are given throughout the results section, lines 238-434.

Integration with prior work, implications, transferability and contributions to the field
Integration with previous work is given in the interpretation section, lines 441-484, and linked to some of the background literature lines 126-158.

Limitations
Described in summary; lines 78-89.

Conflicts of interest
Lines 510-511

Funding
Grant funding described lines 501-503. Positional funding described lines 525-528.
Engaging primary care physicians in system change – an interpretive qualitative study in a remote and rural health region in Northern British Columbia, Canada.

<table>
<thead>
<tr>
<th>Journal</th>
<th>BMJ Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuscript ID</td>
<td>bmjopen-2018-028395.R2</td>
</tr>
<tr>
<td>Article Type</td>
<td>Research</td>
</tr>
<tr>
<td>Date Submitted by the Author</td>
<td>30-Mar-2019</td>
</tr>
</tbody>
</table>
| Complete List of Authors: | Snadden, David; University of British Columbia Faculty of Medicine, Family Practice  
Reay, Trish; University of Alberta, School of Business  
Hanlon, Neil; University of Northern British Columbia, Geography  
MacLeod, Martha; University of Northern British Columbia, Nursing |
| Primary Subject Heading | General practice / Family practice |
| Secondary Subject Heading | Qualitative research, Health services research, Health policy |
| Keywords         | Rural Health Services, PRIMARY CARE, Community Health Planning/Methods, Community-Institutional Relations, Qualitative Methods, Physician Engagement |
Engaging primary care physicians in system change – an interpretive qualitative study in a remote and rural health region in Northern British Columbia, Canada.

MeSh terms:

- Community Health Planning/methods*
- Community-Institutional Relations*
- Family Practice/organization & administration*
- Models, Organizational
- Rural Health Services/organization & administration*

Authors

David Snadden MBChB, MCIsC, MD, FRCGP, CCFP, Professor in the Department of Family Practice at the University of British Columbia, and the Rural Doctors’ UBC Chair in Rural Health.

david.snadden@ubc.ca

Trish Reay MBA, PhD, Professor in Strategic Management and Organization at the University of Alberta School of Business.

preay@ualberta.ca

Neil Hanlon MA, PhD, Professor of Geography at the University of Northern British Columbia.

neil.hanlon@unbc.ca
Martha MacLeod MA, PhD, Professor in the Schools of Nursing and Health Sciences at the University of Northern British Columbia, the Northern Health – UNBC Knowledge Mobilization Research Chair and Co-Lead of UNBC’s Health Research Institute.

martha.macleod@unbc.ca

Corresponding Author

David Snadden

Professor, Rural Doctors' UBC Chair in Rural Health

Faculty of Medicine

The University of British Columbia Northern Medical Program

9-386 Northern Health Sciences Centre

3333 University Way, Prince George, BC, V2N 4Z9 Canada

Email: david.snadden@ubc.ca
ABSTRACT

Objectives

To describe how physicians were engaged in primary healthcare system change in a remote and rural Canadian health authority.

Design

A qualitative interpretive study based on a hermeneutic approach.

Methods

34 transcribed in-depth interviews with physicians and administrators relevant to physician engagement were purposively sampled from a larger data set of 239 interviews gathered over a three-year period from seven communities engaged in primary health care transformation.

Interviews were coded and analysed interpretively to develop common themes.

Setting

This research is part of a larger study, Partnering for Change 1, which investigated the efforts of Northern Health, a rural regional health authority in British Columbia, to transform its health care system to one grounded in primary care with a focus on interdisciplinary teams. It reports how physician engagement was accomplished during the first three-years of the study.

Participants
Interviews with 34 individuals with direct involvement and experience in the processes of physician engagement. These included 10 physicians, three Regional Executives, 18 Primary Health Care coordinators and three Division of Family Practice leads.

Results

Three major interconnected themes that depicted the process of engagement were identified: working through tensions constructively, drawing on structures for engagement, and facilitating relationships.

Conclusions

Physician engagement was recognized as a priority by Northern Health in its efforts to create system change. This was facilitated by the creation of Divisions of Family Practice that provided a structure for dialogue and facilitated a common voice for physicians. Divisions helped to build trust between various groups through allowing constructive conversations to surface and deal with tensions. Local context mattered. Flexibility in working from local priorities was a critical part of developing relationships that facilitated the design and implementation of system reform.
Summary

Strengths and Limitations

• This study drew on in-depth insights of those involved in primary care reform at the community level who were either physicians, or responsible for engaging with physicians, as partners in change.

• The findings resonated with both physicians and health authority planners.

• A hermeneutic approach, based on dialogue and respect of the participants’ and researchers’ experience, enabled the creation of understandings and insights in the area of physician engagement in a remote and rural area.

• As in all qualitative studies the interpretation is related to the unique context of the communities examined, including geography, climate, and provincial and national remuneration systems.

• Qualitative studies are not generalisable, but they do have transferable elements that may be of relevance to not only rural, but also urban areas.
Engaging primary care physicians in system change – an interpretive qualitative study in a remote and rural health region in Northern British Columbia, Canada.

Introduction

Context

Northern British Columbia covers over 500,000 km² of wild, varied and challenging Canadian landscape beset by, at times, harsh weather and natural hazards such as avalanches, floods and wildfires. It is home to many remote communities. Approximately 300,000 people live in this area. The main centre is Prince George, population around 75,000 [1], the regional referral centre for most medical services with links to tertiary care services in the lower mainland of British Columbia. This area is served by a single health authority, Northern Health (NH), that works in collaboration with the Province-wide First Nations Health Authority (FNHA) and the Provincial Health Services Authority (PHSA). In 2009 Northern Health, supported by a federal Primary Health Care Transition Fund, began a process of primary care reform encompassing whole system changes with a focus on developing multidisciplinary primary care teams across several communities utilising the concepts of the primary care home [2, 3], patient centred team based care and community and physician partnerships [4]. The long-term vision was to integrate care in each community so that physicians and other health professions worked together with patients being supported by team members relevant to their needs, where patient information was shared across the teams and with acute care, and where there was substantive local decision making in terms of addressing health priorities.
In 2010, the BC government and the Doctors of BC, the physician representative association, created Divisions of Family Practice. The Divisions are organized on a geographical basis to provide physicians with a common voice in advocating for family medicine and resources designed to enhance patient care through providing patient, practice and physician supports ([https://www.divisionsbc.ca/provincial/home](https://www.divisionsbc.ca/provincial/home)). In northern BC, there are six Divisions that encompass most, but not all, physician practices. Physicians are remunerated by a variety of provincial mechanisms including fee for service billings, sessional payments, and quality and income guarantee arrangements. Most other health professionals such as hospital and community nurses are employed by the health authority. Family Physicians in rural Canada have broad, generalist practices that can include working in clinics and in hospitals, staffing emergency rooms and developing enhanced skills including surgical skills, procedures such as Caesarean sections, anaesthesia, oncology, and mental health skills.

Background

Previous research on health system reform consistently points to the critical importance of physician engagement [5]. However, research also highlights the great difficulty in engaging physicians, particularly in primary care, where physicians often work more independently from the rest of the health system [6]. This lack of engagement is critical to address because developing new ways to provide primary care, such as collaborative team approaches, is essential to sustaining an efficient and effective health care system [7-10]. Physician relationships with health care organisations or health authorities provides a fundamental platform to support all other change initiatives [11-13]. In a synthesis of the literature and...
expert panel report on physician engagement and leadership Denis et al. [14] identified that much of the literature on engagement was based on managed care models in the US and that gaps in knowledge existed about how different strategies, aimed at creating environments that support physician engagement, work on the ground in different contexts. Using a social identity approach that emphasised the differences between physicians and managers, Kreindler et al. [15] described the importance of intergroup dynamics as part of any attempt to engage physicians. This research also emphasised how different contexts needed approaches that varied depending on local relationships particularly within the power dynamics that are in play between physicians and administrators. In general, the literature focuses on how health care organisations engage with physicians as individuals and leaders in order to try to facilitate system change and health improvement within those specific organisations. Engaging physicians in primary care settings, and in particular remote and rural ones, to bring about health system change, remains relatively unexplored in the literature.

This gap is particularly significant for rural Canada which, like many countries, struggles to deliver equitable access to healthcare for its rural populations, resulting in poorer health outcomes for those living in rural areas compared to their urban counterparts [16]. One of the reasons for this is a continuing maldistribution of physicians to rural areas [17, 18]. While there are many ways of trying to provide supports to enhance recruitment and retention in rural areas [19] there remains little evidence on how to engage physicians in isolated rural areas in developing ways of creating and improving sustainable rural health services.

This article examines how a rural health authority and physicians have developed, and continue to engage in the development of, a partnership for the purposes of delivering health care and
improving population health. Specifically, it aims to deepen understanding of the subtleties and complexity of engaging in system change within remote and rural areas.

Methods

Setting

This analysis is a component of an overall study, Partnering for Change I, designed to study how Northern Health and its physician and community partners undertook the transformation of primary health care [20]. An interpretive approach was taken with the collection and interpretation of qualitative data from in-depth interviews from participants in seven communities and at the regional level, utilising a philosophical hermeneutics approach [21]. Seven communities across Northern BC were selected because they represented a diversity of population size and economic, geographical, cultural and social contexts. Both purposive and snowball sampling [22] were used to identify health administrators and health care workers within NH, along with general medical practitioners, municipal leaders and community based organizations outside of NH. A minimum of 10 participants per community were sought.

Data Collection

In-depth, one-on-one, semi-structured interviews lasting 45-60 minutes using an interview guide were carried out between 2012 and 2015 by the principal investigator and a trained research associate both experienced in qualitative methods. Interviews were carried out in person at participants’ place of work. Those participants who remained in their original or related roles were interviewed yearly over the three-year data collection period. Questions
were related to participants’ experiences of the change processes, including the impacts of
differences on relationships and ways of working. Interviews were audio recorded and transcribed
verbatim. Written informed consent was obtained prior to initial interviews and verbal consent
obtained for subsequent ones. The overall data set was comprised of 239 interviews with 122
key informants.

Participants
This paper is based on the analysis of 34 interviews from the main data set. Participants were
all those who were physicians or who expressed direct experience of engagement with
physicians in the communities at any time during the data collection period. The intent was not
to seek data saturation from within a large sample, but to explore in depth what physician
engagement meant to those who actually spoke about it in the interviews about primary health
care transformation. Ten interviews were with family physicians, three in separate years with
Division non-physician leads, and 18 with primary care co-ordinators. The primary care co-
ordinators were hired to support the transition by working in communities with physicians and
the developing interprofessional teams, communicating with community groups, and liaising
with regional managers and executives. They came from administrative or clinical backgrounds
(including Public Health and Community Nursing, Mental Health Nursing and Occupational
Therapy). Also included were three interviews with regional health authority leaders conducted
towards the end of Phase 1 of the project which contained reflections on the first few years of
primary care reform and were relevant to relationships with physicians.
201 Patient and Public Involvement

202 Patients and Public were not involved in the interviews that informed the research reported here. The public were, however, involved through municipal leaders and community consultation by Northern Health in the discussion of the primary care reforms and were key informants in the Partnering for Change 1 study. All study findings, including those reported here, have been fed back to Northern Health Executive and Board through regular discussion and engagement with the research team and used to inform next steps in the processes of reform.

209 Analysis

211 The qualitative approach taken was based on hermeneutics [21, 23]. Hermeneutics is the study and interpretation of texts and, in contemporary research, this includes the texts generated from interviews. In this study, the area of interest was that of physician engagement and the analysis gave insights into the varied direct experiences of those interviewed in order to better understand the phenomenon of physician engagement in the context of the communities of northern BC. This approach also recognises that researchers bring to the field, and to the interpretations, their own experiences and understandings. Instead of bracketing or setting those experiences aside, the researchers constantly keep their assumptions in question. The analytic process itself is one of dialogue where the researchers’ own understandings and assumptions are questioned as the researchers engage with the participants’ transcripts. Through that process of questioning, the researchers gain a deeper understanding and new insights about the experiences expressed by the participants creating a plausible interpretation
Hermeneutics is seen as a way of better understanding interventions in complex systems as well as recognising the diversity of historical and cultural contexts that typify rural communities.

The first author analyzed all interviews by reading them in depth and developing codes relevant to physician engagement using NVivo11 (QSR International). He is a rural physician and experienced doctoral trained qualitative researcher who is familiar with the region and its communities having held educational leadership roles in the region. All authors had previously analysed all transcripts in the study and had identified physician engagement as an important area for further analysis.

The initial coding approach, analysis and preliminary interpretation were discussed with the other authors, the coding agreed, and the interpretation refined based on further analysis and debate. The emergent themes based on the interpretation were shared with selected interviewees and found to resonate with their experience, thus further increasing the authenticity of the analysis.

Results

The analysis of the interviews revealed a complex set of circumstances related to physician engagement. These included issues such as inter-group dynamics, historical differences between professional groups and descriptions of individual aspirations of what local health care change and priorities should be. Weaving the threads of the interviews to find patterns and themes related to the phenomenon of physician engagement resulted in three interconnected
themes related to challenges in engaging physicians in system change and what supported that engagement.

Working through tensions constructively

At the beginning of the initiative physicians were seen by themselves and NH administrators as working independently from NH and the strategic direction of PHC transformation. They were also seen as having significant positional power.

You know our physicians do wield a fair bit of influence and power within the system and have the ability to move things forward or send them to a standstill if they want to. Physicians are still practically in many ways outside of the system. And I'm talking about family physicians, like primary care practitioners in particular. They are their own unique businesses and so there isn't necessarily a bridge always between those two worlds or a process to work on those issues. (PHC Co-ordinator E)

This sense of professional power in the health system, while physicians were not actually within the system itself, created challenges for all in terms of working together.

The data described successes in terms of building bridges and agreeing on new ways of working together but tensions were evident between administrators and physicians. Participants pointed to concerns regarding who was having conversations with whom, and the historical mistrust between professionals and health authorities. They spoke of how those trying to facilitate engagement could get caught “in the middle”.
... cause I kind of sit in the middle, right, so I was sitting at a Northern Health table where we didn’t have Divisions at the tables and the conversations were a lot about us and them. (PHC co-ordinator J)

The tensions identified in the interviews were often recalled as hidden and unacknowledged in the interactions between partners, but participants also recalled efforts to bring these tensions to the surface. Local administrators and the primary care coordinators could be caught between the organizational goals and the autonomy of physicians in their communities and needed to find ways of building relationships in both directions. They also had to find ways of translating language and intent from NH leadership to physicians and vice versa. Honest conversations and structures for communication were necessary. Through conscious dialogue, they could surface and work through tensions that developed when changes were made to how services were designed and delivered. These efforts have not been easy or straightforward. They have taken a long period of time, as foundations of commonly agreed-upon and deliberately purposeful actions have required an understanding of others’ contexts.

This changed relationship with primary care and partnership between the physicians, that’s a big change in how we deliver care. Primary care physicians we think of as within their private business purview. We really respect and they highly prize their autonomy so another thing that keeps me up at night is thinking about how we get those initial critical
conversations off to a good start so that we grow those teams and primary care homes together. (Regional leader 3)

In addition, co-ordinators had to be able to have difficult conversations in order to surface tensions:

So, I spent a lot of time a year ago calling people on the “us and them” in order for us to move the work forward and highlighting that we can’t move if we’re in this, “us and them”. So, trying to shut those conversations down at both of those sides. Whereas now there’s absolutely none of that at all going on in relationship [between] the health authority and Division. (PHC Co-ordinator J)

Approaches like this allowed NH and physicians to develop working relationships focussed on improving care for the people they served, which allowed tensions to be identified, managed and worked through. Actions were focussed on what could be done together to improve patient care, such as the creation of an unattached patient clinic, the development of a family practice clinical teaching unit and actively helping people learn about others’ working contexts, such as nurses job shadowing GPs and GPs doing joint home visits with nurses. Not all physicians interviewed were involved in Divisions of Family Practice, which was also a source of tension.
So, there’s a tension there and different communities have different structures in place
to support this work. So here we don’t have a Division of Family Practice and the Primary
Health Care language. In a lot of work they keep talking about using the Division of
Family Practice to move this work forward..... We don’t have that here, so you kind of
find yourself in this defensive position where you’re saying all the time, “but we don’t
have a Division of Family Practice, we have this”. (PHC co-ordinator D)

Tensions are inevitable in whole system change and the key for those NH administrators based
in the communities was to be able to act as a go-between for physicians on the ground and the
leaders at various levels of NH. Engaging physicians effectively required good listening,
flexibility at the local level and support from NH leadership to allow discussion of local solutions
to local problems within a framework of integrated primary care teams. Underpinning this
coordinated action was the need to find ways to surface tensions in order to deal with them.

Drawing on structures for engagement.

Divisions of Family Practice allowed for a structured dialogue and for a way of recognizing and
dealing with tensions between different elements of the health care system and communities.

NH attempted to partner with the physicians through the Divisions to develop common plans.

NH openly shared their initial goals and ideas and ensured that local administrators were aware
of the need to allow some flexibility in local communities in terms of determining health care
priorities. NH’s approach of sharing what they were trying to do at the community level was
noted by a family practitioner.
...the health authority has come to the table and they've been good partners with openness and transparency and they have allowed us to, you know, look inside their organization, you know, they've shared, they've shared freely a lot of the things that they're doing. (Physician G)

The Divisions of Family Practice allowed physicians to have a common voice, as within the Divisions the physicians developed their own priorities and vision. The same family physician said.

I think it was with the formation of the Division that family doctors have a voice as a collective group in partnering with Northern Health, to have input into how we might deal with and spend resources that were available. (Physician G)

A sentiment echoed by a physician colleague from another community also described how the Divisions provided some continuity which, in turn, provided an environment that supported and encourage partnering.

...it’s the organization of physicians so that there’s one voice to talk about the aspirations or the needs in primary care. So that there’s somebody that the health authority can communicate with, rather than picking the champion who might be the champion this year but has moved away next year. Or is over-extended in his practice and
now has kind of lost interest. Now there’s this more durable entity that you can actually
talk with and partner with and that’s accelerated us in ways that I wouldn’t have
expected. (Physician A)

The Divisions encouraged physicians to have collective conversations about priorities which
were then shared with NH. One of the outcomes was that NH and physicians found they shared
common ground in terms of improving the health of their populations, which had some
interesting impacts on how family physicians felt about their work.

You start to enjoy your work. That’s the thing. That’s the main thing for me. You do a lot
of stuff which actually just becomes a ritual, do prescriptions every day for diabetics and
hypertension patients. Now suddenly, you’re seeing other possibilities. (Physician J)

Working with structures that were designed to give physicians a collective voice helped build
relationships, find common ground, encourage dialogue and enhance continuity. They enabled
the physicians and NH alike to better withstand the inevitable changes of personnel that are a
feature of small rural communities.

Facilitating relationships

Trusting relationships were critical to the process. Finding effective ways of engagement helped
build trust and flexibility on all sides. Physicians and NH were able to form common goals as
well as act flexibly at the local community level to set appropriate priorities that were agreed
upon in each community. The effort required to build relationships was considerable, and in a remote and rural area this also meant finding time for physician leaders to engage with communities and to have time to be involved in planning, as the process of change took time:

I need to do way more travel, way more communication and relationship building out in the peripheral areas and sure it takes more time, but without it you can’t move.... the first two years we didn’t actually achieve a lot except a lot of careful planning and strategic thinking but now it’s led to a place where we actually are acting on that strategic thinking and maybe this is the year that we’re all going to do it. (Physician A)

Where physicians, local administrators, community leaders and the other health professionals could agree on common goals they spoke of a better sharing of skills and integrating of care amongst different team members.

The whole process of engagement and development of common goals, however, was sensitive to the varied community contexts. This meant that approaches to reforming how health care was delivered were influenced by individual community priorities.

...we’re being told to and rightly so I think, that from community to community this may look different and maybe realized in different ways because of different practical realities so I’m encouraged to hear that. (PHC co-ordinator E)

Trust was at the heart of this sharing and took time to build through learning about the visions,
goals and abilities of team members. Trust, however, only came with practical actions.

So, I think there’s more trust because we share more. It’s not silos. Even to trust the

specialist. If you see a specialist here and he talks to you about patients, and have the

collection, it’s even more trust than phoning that guy, see what he thinks about stuff.

It opens doors and breaks down silos. It is just funny how trust is very core. (Physician K)

The maintenance of trust could not be assumed. For some, the worry of demonstrating results

was always in the background.

I think that there’s still, there’s always that element of wanting to see results and so I

think right now we have the commitment and trust that they will come and we’re

working towards it, but it’s always there in the back of my mind that we need to be

demonstrating progress and to continue to build trust. I struggle with that sometimes,

how we define progress, how we evaluate the work that we’re doing and make

improvements. (PHC coordinator E)

Once trust was developed it was just as important to find some early wins to show progress

was being made as described by one physician talking about improving how quickly patients
could be seen in their primary care clinic.

Advanced access is a great example. It was an idea that was around when we started
talking about [primary care reform]. And I started talking about it with the office manager and I don’t know who mentioned it first, but it just kind of came and everyone was on board and it was total collaboration. (Physician A)

Investing time in local relationship-building, despite the strain of the required time commitment in an underserved rural area, served as a means to work through tensions.

I’d have to say overall that I feel I can sit down and talk to the local administrator and while I may not agree on everything, I feel heard. (Physician F)

Only through sound relationships and constructive conversations was sufficient trust developed to create an environment ready for major system change.

... people are developing completely different relationships and when you think that so much of our past and some of our current system, so much of what works well is because of the relationships. (Regional Leader 2)

Interpretation.

Trying to change the health care system in any setting can be an elusive and frustrating goal. Physicians are critical players in any attempt to reform a health care system as they hold considerable power and influence in their communities [14]. Physicians may not always be
aware of the power they hold but, nevertheless, it can be used, consciously or unconsciously, to stall or derail any attempts at changing health care systems [26]. While existing literature emphasises engaging physicians through developing relationships and providing leadership training [14], much of the focus is on the engagement of physicians within institutions like health authorities and health care facilities. The context of rural and remote areas presents a different challenge where physicians are an influential voice in their communities. Emerging from this study were different ways of approaching physician engagement that worked in the very different contexts of several widely scattered rural communities. One important facet was that physician engagement was helped by the creation of the Divisions of Family Practice which provided a structure for the health authority to engage with physicians in the development of shared visions, goals, and collective actions. The Divisions are physician-led and were created through the provincial physician representative association. There appears little in the literature on the existence of physician led groupings beyond financial ones, although the social identity literature suggests that two different groups such as physicians and administrators can only begin to collaborate once they are secure in their own identity [15]. Lack of attention to this can create problems such as those described by Kreindler and colleagues where engagement of primary care physicians in a primary care renewal process was unsuccessful as their group identity was not sufficiently supported to allow them to feel equal partners [27]. The presence of the Divisions provided physicians in scattered communities such an identity and a common and local voice to develop agreed local priorities in partnership with the Health Authority. In addition, an emphasis on building relationships, particularly those at the community level, was important in establishing partnerships between physicians, administrators and healthcare...
teams. The relationships enhanced the journey towards a system of primary care interdisciplinary team-based care focused on patient needs.

While relationship building appears as critical in the literature on physician engagement [15], there is a paucity of description on what is effective within on-the-ground relationships in primary care. Tensions between various groups are inevitable in times of large-scale change. In northern BC finding the tensions, describing, and confronting them allowed them to be worked through. Ways of surfacing tensions through conversation with primary care co-ordinators as the facilitators of conversations were an important finding in this study.

Literature on physician engagement notes that tensions are particularly evident amongst professional groups, particularly between physicians and administrators. It is important to find ways to identify and deal with, often hidden, traditional hierarchies and professional power [20]. One step in working through such tensions is in the co-creation of changed identities [28] through purposeful attention to ongoing relationships that can help people to work together collaboratively. A second key step is to ensure that small incremental changes are successful [29]. The role of the co-ordinators and local administrators in terms of facilitating conversations and bridging between physicians, community and health authority could be seen as similar to the roles described in the literature on boundary spanners or boundary crossers [30, 31], roles that may be foundational in facilitating system change at the local level.

In this study physicians were able to shift their professional stance from being autonomous to being team players when aided by frequent conversations, which have led to a mutual understanding of goals and potential roles of the healthcare team. These shifts were helped by the Divisions of Family Practice which built cohesion amongst physicians to provide a
common voice and make it possible for Northern Health and physicians to create shared visions and joint actions. Such processes take time and there may be no such thing as implementing wholesale system change quickly. Building and maintaining relationships, working with tensions, and listening to communities is an iterative process that takes many years. System change is a journey with many twists and turns in the route and it is important to look for signs of change and progress over time and not expect quick fixes.

Conclusions

This study suggests that when a health authority attempts to achieve whole system change in a rural primary care context, approaches based on relations of trust, flexibility, adaptability and compromise appear to have been effective in engaging physicians as partners in reform. These approaches have been aided by structures to engage physicians, approaches that allow tensions to be surfaced and a commitment to honest conversations.

This is a qualitative study in one health authority in a northern and rural area of Canada. While research like this is highly sensitive to local contexts, such as geography and climate, and to national contexts, like remuneration and employment models, there may still be elements which are transferable to other settings contemplating system change. For example, the concepts of relationship building, surfacing tensions and working with structures for engagement may be relevant to those contemplating large-scale change in primary care, including larger urban settings.

Funding
This work was supported by a Canadian Institutes of Health Research Health Services and Policy operating grant number MOP 114987.

Ethical Approval

The study received Ethical Approval from the Research Ethics Boards of the University of Northern British Columbia, certificate E2011.0920.104.06, and from the University of Alberta certificate Pro00027360_RENS.

Competing Interests

The Authors have no competing interests to declare.

Contributions

Martha MacLeod (MM) and Neil Hanlon (NH) are Principal Investigators, and Trish Reay (TR) and David Snadden (DS) Co-Investigators, of the Partnering for Change I study. MM, NH, TR and DS were involved in the original conceptual design of the study, its methodology, data collection and analysis. For the analysis of Physician Engagement MM, NH, TR and DS all contributed to the study in terms of methodological design and data handling. DS analysed all the data and developed the initial coding framework and interpretation. MM, NH and TR contributed to the coding framework and interpretation through analysis, discussion and debate. DS wrote the first draft of the article and MM, NH and TR contributed to subsequent drafts. DS wrote the draft of the revised final version and MM, NH and TR contributed to the final revisions. DS, MM, NH and TR all agreed the final version.
Acknowledgements

The authors would like to acknowledge, as well as thank, the study knowledge users, particularly Cathy Ulrich of the Northern Health Authority, the study participants and Leana Garraway Research Associate. The Rural Doctors’ UBC Chair in Rural Health is supported by an endowment from the BC Joint Standing Committee on Rural Issues. The Northern Health UNBC Knowledge Mobilization Chair is supported by Northern Health and the University of Northern British Columbia.

Data Availability

The data in this work is highly confidential and although all quotes given are anonymized and de-identified the data set which consists of individual interviews contains data that could lead to identification of participants. This is particularly so in terms of some of the communities in which the study took place where many individuals know each other. For this reason, the interviews cannot be made public. This is also a requirement of our Ethics Board approval.
References.


I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd (“BMJ”) its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in BMJ Open and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge (“APC”) for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.
SPQR checklist

Title
Title describes topic and method as well as context. Title appears in Abstract, Summary and main article
Lines 2, 3; 38, 39; and 92, 93.

Abstract
Structured abstract summarises study
Lines 41-73.

Problem Formulation
Background literature described and significance of problem
Lines 126-158.

Purpose or research question
Lines 155-158.

Qualitative approach and research paradigm
Interpretive approach based on philosophical hermeneutics mentioned at line 166 and described lines 211-225.

Researcher characteristics and reflexivity
Described for first author lines 226-229, and all authors lines 14-25.
Contributions described lines 514-520.

Context
Context of the study including geographical setting described in lines 96-124.

Sampling strategy
Description of participants and strategy for selecting interviews described lines 186-199.

Ethical issues pertaining to human subject
Ethical approval described: lines 505-508, method of consent described: lines 181-182.

Data collection methods
Interviews and data collection method described; lines 173-183.

Units of study
Participants described: line 185-199.

Data processing
Data processing including coding described: lines 226-236.
Techniques to enhance trustworthiness
Hermeneutic approach to analysis described lines 218-225. Steps to enhance trustworthiness described lines 232-236.

Synthesis and interpretation
Results are presented in lines 238-434, and the interpretation in lines 441-484.

Links to empirical data
Quotes are given throughout the results section, lines 238-434.

Integration with prior work, implications, transferability and contributions to the field
Integration with previous work is given in the interpretation section, lines 441-484, and linked to some of the background literature lines 126-158.

Limitations
Described in summary; lines 78-89.

Conflicts of interest
Lines 510-511

Funding
Grant funding described lines 501-503. Positional funding described lines 525-528.