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Using interviews to construct and disseminate knowledge of oral health policy

Abstract: *Objectives:* Policymakers worldwide are challenged by the problem of oral health inequities. The goal of an interprovincial partnership in Canada was to guide policy aimed at improving the oral health of vulnerable populations. Insights regarding barriers and enablers to developing such policy in one province (Newfoundland & Labrador, Canada) were required to enhance collaboration between decision makers and researchers and to contribute to the evidence informing policy development. *Methods:* Snowball technique identified fourteen key informants. Semistructured audio-recorded interviews were conducted in person or by telephone. Two researchers independently conducted the analyses of the transcribed interviews, one using NVivo software and the second, manual coding. Triangulation of the analyses confirmed the findings. *Results:* Agreement between the two approaches showed that most key informants believed that oral health is an important policy issue; however, most felt it was not a high priority among the general public and most were unable to articulate the policy process. Barriers to oral health becoming a governmental priority were related to resource allocation and to poor communication among some groups including dentists and dental hygienists. Current government programmes and initiatives were praised but considered weak in health promotion strategies. Recommendations for enhancing oral health priority varied. *Conclusions:* Attention to the methodological considerations of qualitative research enhanced the credibility of the method and confidence in the findings. Leveraging of existing programmes and improving communication were recommended to contribute to raising the priority of oral health within the government, thereby increasing their commitment to address oral health care, particularly for vulnerable populations.

Key words: data collection; dental hygienist; health policy; oral health; qualitative research

Introduction

The determination of oral health needs and delivery of evidence-based oral health care are contingent on public policy. In Canada, oral health care is largely excluded from the healthcare system, and most individual oral care is privately funded, generally by employer-sponsored insurance coverage. Although the most recent national report of oral health in Canada is a federal government initiative (1), the provincial and territorial governments hold the jurisdictional power for health care and are responsible for oral healthcare policy. Provinces and territories may provide

some publicly funded oral health programmes, thus contributing to wide variations in programmes and policies among the geographic jurisdictions. Vulnerable populations have the poorest levels of oral health and often lack access to the private system of oral care (1). Addressing oral health inequalities is a major problem for policymakers and the challenge exists in all countries and jurisdictions (2).

The goal of a recent study, Increasing Capacity to Inform Oral Health Policy (ICOH) (3), was to plan ways to measure and monitor oral health status and to guide policy aimed at improving the oral health of vulnerable populations on Canada's east coast. The project united multidisciplinary knowledge and experience to increase the capacity within both Nova Scotia (NS) and Newfoundland and Labrador (NL) for informing policy on the oral health of vulnerable populations. The intentionally diverse composition of the interprovincial ICOH team included researchers from NS Dalhousie University's Faculty of Dentistry and Atlantic Health Promotion Research Centre and from the Center for Applied Health Research at Memorial University, NL, as well as NL government personnel and NL seniors' advocates. The strength of the ICOH team was a broad range of expertise in seniors oral health research, health promotion, health advocacy and health policy.

At the time of the study, policymakers in NL had developed some discussion documents regarding oral health policy, but did not have access to oral health researchers in NL as there are no dental or dental hygiene education programmes in that province. At that time, NL had some publicly funded programmes such as fee-for-service reimbursements to dentists for the dental treatment of children and low-income persons, as well as to a part-time Dental Officer who was responsible for assessing claims to the public insurance programmes. Meanwhile, researchers in NS had developed expertise in oral health status assessment. The ICOH study intended to provide an exchange of knowledge and skills between the two provinces to improve oral health by understanding and enhancing supportive networks and policies.

One of the research activities was a series of key informant interviews conducted in NL to determine barriers and enablers to oral health policy in that province and to discuss the creation of a network of stakeholders supportive of influencing policy to establish an effective, efficient oral healthcare delivery system. The method and findings of this study illustrate how the appropriate and rigourous application of qualitative method can elicit a greater depth in the findings, especially in contexts where quantitative methods are not appropriate.

Key informant interviews are one method of data collection in the qualitative set of inquiry paradigms (4–6). Qualitative methodologies are generally used for data that cannot be measured, usually to collect evidence in circumstances that are exploratory with an intentional inclusion of value (4–8), or as a component of mixed methods research utilizing both quantitative and qualitative modes of data collection (5, 9, 10). In mixed methods, qualitative findings typically provide context around quantitative data, thus enriching or deepening overall findings (11). Qualitative methodology processes emphasize the analysis of words and report the views of informants in order to build a complex picture of a social or human problem (9), in this case, the barriers and enablers to oral health policy in NL. One of the philosophical underpinnings of qualitative methods is that it is impossible for research to be truly objective because it is conducted by humans who bring their own personal biases, life experience, previous knowledge of the research topic, and context to the processes of data collection and analysis. Qualitative researchers are thus required to be explicit about their role in the research (10). A resistance to prediction is a defining element in qualitative research (8).

Interviewing key informants for the ICOH project was a clear choice for determining from those knowledgeable, supportive and involved in oral health in NL, the barriers and enablers for oral health policy, particularly for vulnerable populations. As informant interviews examine the issues and values that are socially constructed phenomena, it is important to hear from those who are engaged in the construction. Qualitative interviewing begins with the assumption that the perspective of others is meaningful, knowable and able to be made explicit (5). Although critics suggest that qualitative research is largely intuitive, soft and relativistic (9), qualitative method is as rigourous as the quantitative, when performed correctly (5–13). One of the strengths of semistructured interviewing is its flexibility that allows the researcher to explore complex issues, as well as to assess the perceptions and beliefs (10). The use of qualitative interviewing can help us better understand the context of policy development, a critical element in the advancement of an agenda to develop and implement new policy (13). Because qualitative findings may be transferable but are not generalizable, the actual number of interviews is not predetermined as it would be in a quantitative study. Rather, the principle of saturation requires that interviews continue until there are no new revelations that contribute to the understanding of the research questions (10).

The method used to examine the transcripts of audio recordings is dictated by the information one is seeking to obtain from the data. If the interview is conducted in order to provide context to a bigger question, a broad factual analysis will be useful. If it is carried out in order to explore how the participants respond to a particular situation or artefact, such as in this case, then a more thematic analysis is necessary. It is also possible to do a true content analysis, noting such signs as language usage and number of times specific words are used (14). While analysing transcribed interviews makes the interview information easier to work with, some of the information present during the interview is lost in the translation from oral delivery to text, that is the non-verbal signs such as tone of voice, facial expression and body language.

Whatever the method used, transcripts must be read and reread a number of times; it is very much an iterative process. When the interviewer is also conducting the analysis, the data can become deeper and multilayered. However, it is useful to have others doing the analysis independently, as they are able to concentrate on the text itself without any colouring of the

information by previous exposure or experience. Having two individuals do separate coding, compare results and then negotiate final interpretations normally increases research rigour. Conducting two or more separate analyses reinforces the credibility of the findings (10).

Study population and methodology

Prior to data collection, two policy documents had been analysed to gain understanding of the NL oral health policy environment. The first document was a discussion paper written to inform a consultation process on oral health in NL (*Go Healthy – Keep Smiling: Developing an Oral Health Plan for Newfoundland and Labrador – A Discussion Document* prepared for the Department of Health and Community Services) (15), and the second (*Developing a Provincial Oral Health Plan: Go Healthy – Keep Smiling. What We Heard*) (16) was derived from the resulting consultation process. These documents were analysed independently by the author and a research assistant using NVivo software (version 8; QSR International Pty Ltd., Melbourne, Victoria, Australia). The analysis was then reviewed with the principle authors of the documents and the ICOH team.

Ethical approval for the study was given by Dalhousie University Health Sciences Research Ethics Board.

Study population

For our purposive sample, we used the snowball technique to identify key informants. We began this consecutive referral system with ICOH team members who were knowledgeable about individuals advocating for oral health policy in NL and who represented a range of opinion and experience. Each interviewee was invited to nominate or recommend another individual whom they believed could be helpful. In all, 16 people were invited to participate in a one-on-one interview, preferably in-person or, alternatively, over the telephone. Fourteen people responded to the invitation. The 14 key informants included dental hygienists, dentists (practicing and retired; in private practice and government employed), physicians and individuals with experience in developing policy.

Data collection

Ten in-person interviews were conducted in October 2009, and an additional four phone interviews were conducted in November 2009. A single interviewer, an ICOH researcher, conducted all interviews. The interviews were semistructured and audio-recorded for transcription, and transcriptions were validated by respondents.

The interview guide included a preamble with information on the ICOH study and purpose of the interviews, a brief glossary and questions on the individual's role in policy development and their understanding of the policy process; their perception of the priority of oral health care as a policy issue in NL; current NL organizations or collaborations concerned about oral health, particularly of vulnerable populations; and barriers and enablers to intersectoral collaboration. Questions were modified as interviewees provided new information.

Data analysis

Two independent analyses were conducted with different but comparable methods (17, 18).

Analysis 1

The first analyst had considerable experience in policy analysis and knowledge of the political economy of government policy making in general, including the area of health (although not specifically oral health). As an independent analyst with some background in policy making but no background in oral health practice or policy and no familiarity with the ICOH project, aside from having reviewed the two documents created by the NL government, the first researcher completed the analysis on written transcripts.

A thematic analysis was then undertaken on the understanding that the interviews were conducted to get the opinions of various stakeholders on oral health policy in NL. This researcher also undertook a content analysis to determine explicit opinions, attitudes and perceptions regarding oral health policy in NL.

The process began with a reading of the interview questions in order to derive general themes for a more general analysis of content and to get a sense of what information the interviewer was trying to elicit. From these overarching themes, a more specific code list was derived by reading through the transcripts, once without coding, to gain more specific information. Using an iterative process, the list of themes was refined in the process of manual coding, and note was made of any themes other than the ones derived from the interview schedule.

This analysis was completed without benefit of anything other than the text itself. The political and economic aspects of the interviews and issues regarding communication were emphasized as the predominant topics in the text of the interviews.

Analysis 2

The second analyst had no formal background in oral health practice or policy but was familiar with the ICOH project, had some knowledge of oral health policy in NL and had been more involved with the project overall. This analyst listened to all audiotapes and transcribed some of the interviews and therefore had some idea of the non-verbal content, for example tone of voice, as well as the text. Because much information is received through the non-verbal cues such as tone of voice and body language, a purely textual analysis may elicit slightly different results than the analysis of text plus aurality (19). The tone of voice may show emotion not evident in the text alone and may change the analysis to some extent as the listener/reader will interpret what was said through a different emotional lens. The analyst was cognizant of the potential advantage and bias of having prior knowledge.

The analysis began by free-coding sections of the transcripts using NVivo 8 software (QSR International Pty Ltd), one of many available computer-assisted qualitative analysis software (CAQDAS) (10). Non-hierarchical codes were created for each new idea or concept encountered in the reading of the transcripts. The resulting list of free codes was then extracted into MS Word, reviewed and organized into categories and subcategories. NVivo (QSR International Pty Ltd) was then used to reorganize the free nodes into 'tree-nodes' – a hierarchy of coding. The frequency (both the number of interviewees and the number of instances) for each code was noted at this time.

Differences between the two analysts were mainly in the organization of codes and the elucidation of detail rather than the overall conclusions. Where differences occurred, further discussion between the two analysts generally resulted in agreement of themes and codes. Additional discussion of the findings with the researcher/interviewer was undertaken to triangulate the findings, thereby enhancing the credibility of interpretations. Participants were invited to review the findings and did not suggest any other meanings (Fig. 1).

Results

The results from each analysis are given separately to illustrate the range of interpretations: the first more global and the second more specific word and phrase interpretations.

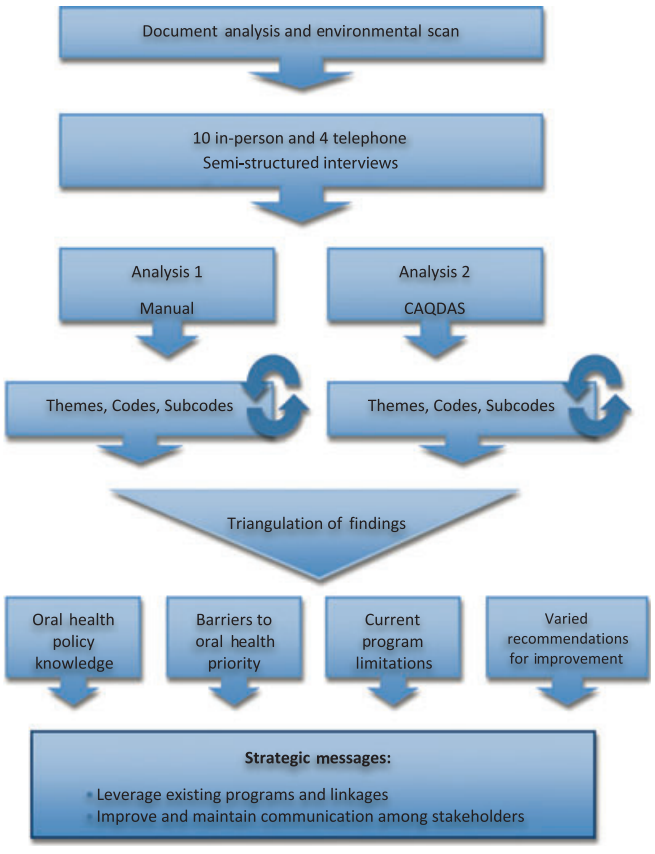

Fig. 1. Methods and results.

Analysis 1

The consultant analyst identified by manual coding 14 codes and 64 subcodes that were interpreted as the following themes (in no particular order of importance):

- Perceptions of importance of oral health to government were widely divergent both within government and outside of it. Some felt that it was extremely important, while others suggested that it was not even on the horizon. While this was to be expected to some extent depending on the participant's role, this disconnect seemed to go deeper, especially among dental professionals.
- There was a series of disconnects that acted as barriers to prioritizing oral health in government policy. Some of these related to resource availability, some to where the participant was located in the care spectrum and many to poor communication, especially the following:
  - between government departments;
  - between the NL Dental Association (NLDA) and government, especially around the role of the Director of Dentistry;
  - between various health professionals, both dental and non-dental;
  - between public health and the NLDA;
  - within the dental health community, especially around the role of paraprofessionals.
- There was an acknowledgement of the importance of some form of public dental programme (as opposed to the entrenched private fee-for-service model), especially among dental professionals, to improve access for marginalized groups and those without insurance. It was suggested that such a broadly based programme does not appear to be on the radar, even though a dental public health programme with health promotion was said to exist at one time.
- The role of the Director of Dental Services in the NL government seemed to be a point of contention among some participants, perhaps related to the role of the office itself or to a perception of the government's attitude to oral health. However, there was some agreement that if oral health is to move up the government priority list, then this needs to be a full-time position.
- There was some confusion regarding existing public health/health promotion material and activities. However, participants had a number of good suggestions for simple ways to make the topic of oral health more visible to the public. The leveraging of existing programmes and linkages was emphasized.
- There was some debate as to whether seniors' oral health or children's oral health should be given priority, given government's overall priorities and resources.
- There was an overwhelming sense of the issues around access, especially among low-income and Aboriginal populations and those living in rural and remote areas. This was accompanied by an underlying sense of frustration among some participants, especially in terms of practitioner availability.

- There was a lack of awareness on the part of most interviewees regarding how government policy is made. However, a few participants were able to describe the policy process very clearly.

Analysis 2

The ICOH-familiar analyst used NVivo 8 (QSR International Pty Ltd) to identify 27 subthemes and numerous codes interpreted as the following themes (in no particular order):

- The majority of respondents had a role in direct oral health service delivery or had some relationship with policy and policy planning. Nearly all expressed the belief that oral health was an important issue particularly in relation to its connection to overall health and well-being.
- Most respondents felt that the level of priority placed on oral health by the public was low, some felt that it varied greatly depending on the region of NL in question, and others thought that oral health was important to the public only as a cosmetic issue (not as a health issue). Several felt that public awareness of the importance of oral health was increasing.
- Groups identified as vulnerable to poor oral healthcare access were seniors, Aboriginal groups, children, low-income adults and people living in rural or remote areas. There was some debate as to whether seniors' or children's oral health should be given priority in any new government initiatives. Cost was repeatedly identified as a barrier to access to care.
- The perceived level of priority of oral health by the NL government varied greatly among respondents with some feeling it was very important to government, while others suggesting it was of no importance. Most felt that the government had expressed some interest in oral health (noting the Children's Dental Health Plan and the proposed Oral Health Plan as evidence) but qualified this by pointing out competing priorities or a lack of awareness at some levels of government.
- Much discussion centred around how oral health fits into the NL government structure and the roles of the various branches and officials of the Department of Health and Community Services and the Regional Health Authorities. In particular, the Policy Development Director was perceived as a champion of oral health policy development. Many respondents noted the position of the Director of Dental Services as an issue. There was some confusion around the actual role of this individual. In general, the respondents felt that this position needed to be full-time and that its scope should be expanded beyond the management of insured services.
- Provision of oral health services by the NL government was another major area of discussion. Most respondents praised the existing Dental Health Plan for children and low-income adolescents but raised concerns about utilization rates and coverage for adolescents. However, the government's focus on treatment rather than prevention, as evidenced by the current lack of dental public health and oral health promotion activities, was a great concern for several respondents. The lack of fluoridation was a particular concern.
- The role of oral health professionals in directing oral health policy was another theme of discussion. The NLDA was noted as generally having a good relationship with government, although one respondent noted recent difficulties in coordinating a meeting between government and the NLDA. NL Dental Association had been greatly involved in the recent policy changes and development of the proposed Oral Health Plan. A criticism levelled at the NLDA was a lack of emphasis on oral health promotion. The NL Dental Hygienists Association (NLDHA) was said to have had less involvement and awareness of these developments but was apparently heavily involved in negotiations to changes in the regulations governing dental hygiene. The status of dentistry as a private industry and the emphasis on cosmetic dentistry in many practices were raised as barriers to access and awareness.
- There was great disparity in the level of understanding of how oral health policy is created. However, most interviewees noted the importance of having evidence-based policy (several pointed out the lack of data on oral health status in NL) and of conducting broad consultation with stakeholders.
- Existing collaborations and partnerships that could advance oral health policy mentioned repeatedly were between government and the NLDA; between government departments or branches; and between the government and the Regional Health Authorities. Many potential future partnerships were suggested by interviewees such as seniors' groups, Family Resource Centres and school boards.
- Respondents' hopes for oral health centred around the creation of new plans and services for oral health for vulnerable populations, including insured services, public health and oral health promotion initiatives. The most common fear for the future of oral health in NL was that the status quo would be maintained.

Comparison of analyses

Subsequent discussion between the two analysts resulted in a triangulation of the meaning and interpretation of the coding results such that the following themes with supportive quotations emerged in the final interpretation. Quotations illustrative of each theme are from different interviewees:

- diverging views among interviewees on the priority placed on oral health by the government:

I think that there is great will, I think that by virtue of the fact that we've developed a – there has been an oral health plan already developed. I mean there's been a tremendous amount of work and, as you know, there was consultations… So I think the will is there but I think that there are a number of competing interests as well.

There is probably, at the Regional Health Authority level some dental health promotion happening. But there isn't any coordination of it, that I know of, at the provincial level.

Some things are done but we really don't assess the impact properly because we don't even know where we started from….

- the need for oral health promotion and dental public health initiatives:

I think the focus is largely on treatment, treatment services as opposed to prevention. … we have, really, a very small role, from a public health perspective, in contributing to oral health. There's - there are no like formal preventive programs within, within the services that we generally provide. For example, you know, other provinces have mouth rinse programs, that kind of thing, that's not part of the regime of services that we have available.

I think there's a fair interest in accessibility to treatment and the funding of treatment. I think there's very little interest, probably little knowledge, of prevention from the public perspective. And, certainly, there doesn't appear to be much demand for, visible demand for prevention.

- access to care for vulnerable populations:

For example adopting a seniors oral health plan similar to the child - the child's plan. So by moving that and saying that it's a necessity now that this needs to be moved forward and that we need to do something about it.

Economics are always going to be a factor and I'm living in an area where there's outmigration, there's mainly seasonal employment, unemployment in the winter. And when it comes down to unfortunately having to spend money on - if they're not in pain - spending money on their mouth doesn't always make sense to people.

- lack of awareness of policy development:

…but there is an awareness I think at the department level that is going to function as an enabler to move this thing forward.

Like when we're talking about, in the oral health plan we talk about using people to their full scope of practice but I don't think I have an understanding of what the full scope of practice for these different professionals are.

- a need for an expanded role for the Director of Dental Services:

…there's only so much he can do because my understanding is he's only actually there two days per week. And I would think if you're going to commit to really promoting oral health in the province that you would need much more resource than that.

- building on existing programmes and linkages to enhance oral health policy:

There is a fair bit of interaction between departments based on wellness, based on the poverty reduction strategy, that those kinds of partnerships exist. So, that might facilitate work around oral health. So, I think there is a foundation there that could be used to support the promotion of oral health.

…leadership comes from government and leadership comes from I guess organizations with a mandate around that too. So I suppose obviously there would be a leadership role from the maybe the Dental Association or the Dental Hygienists Association. But further to that, leadership role through organizations that represent vulnerable groups, … the seniors' networks, the family resource networks and so on.

Discussion

Although the two analyses are similar in many respects, there were some notable differences. For instance, analysis 1 raised concerns about poor communication between government departments and between government and professional associations, while analysis 2 reported good communication and cooperation between government departments and between government and the NLDA. However, analysis 2 did find communication between other oral health professionals and government and between different levels of government to be an issue. This might be because analyst 1 was only reading text and interpreting with her largely political and economic background in policy, while analyst 2, having heard the interviews and being able to identify speakers, may have interpreted the text with this background knowledge.

These differences in analysis might seem to be problematic; in fact, it is quite the opposite. One of the reasons that qualitative analysis is usually conducted by at least two parties is for triangulation of findings, sometimes called 'cross-checking'. This is a form of cross-validation that is a method of cross-checking data from multiple sources to search for regularities (20). It can also refer to using different methods of analysis to see whether the same results are attained. As noted earlier, analyst 1 conducted a purely thematic analysis and a brief content analysis, while analyst 2 conducted a strict content analysis and a frequency count.

Attention to the methodological considerations of qualitative research, and confirmability in particular, enhanced the credibility of this method and increased our confidence in the findings. In this case, the use of three analysts provided for a triangulation of the interview findings and their meanings that, in turn, added depth and context to understanding the essence of policy and the goal of policy development favourable to improving oral health.

The World Health Organization (WHO) has reported that although social inequality in oral health status and the use of services are somewhat universal, risk profiles for oral diseases are distinct and are related to the key determinants of health including living conditions, behavioural and environmental factors and oral health systems (21). Given that oral health inequalities are a major problem for policymakers around the globe, the identification of unique characteristics and perceptions is essential for each jurisdiction (2). Barriers and facilitators to developing oral health policy should use theory-based methods, such as key informant interviews, to identify the most appropriate options for different economic and social circumstances (22). To achieve the goal of developing or altering oral health policy, qualitative methods including key informant interviewing are an important first step to determine some critical issues and potential directions for further action.

Conclusion

The findings of this study clearly support the following conclusions:

- Agreement between the two approaches showed that:
  - Most key informants believed that oral health is an important policy issue.
  - Most were unable to articulate the policy process.
  - Most felt it was not a high priority among the general public.

- Barriers to oral health becoming a governmental priority were related to:
  - Resource allocation.
  - Inadequate communication among numerous identified groups including professional groups such as dentists and dental hygienists.
- Current government programmes and initiatives were praised but considered weak in health promotion strategies.
- Recommendations for enhancing oral health priority varied.

In moving forward with oral health policy, it is important to note that an inability to articulate clearly the policy process will continue to challenge individuals and organizations that advocate for an oral health agenda. To their considerable credit, in recent years, the NL government has increased access to oral health care for some vulnerable populations largely through an increase in government-funded insurance coverage. These initiatives, however, were perceived to be weak in health promotion. The prevailing theme of the key informants interviewed in this study suggests that within the current economic environment, a cautious leveraging of existing programmes and linkages and improving communication may contribute to raising the priority of oral health within the province, thereby increasing the public and government commitment to address oral health care. Worldwide, the use of qualitative methods to investigate oral health policy can contribute to the identification of unique characteristics specific to local and regional populations.

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