The relationship between physician visits and some quality of life indicators

Results from a survey conducted in a rural BC community lead researchers to ask if frequent users of physician services might be better served by strategies that address their higher levels of stress and dissatisfaction with life.

ABSTRACT:

Background: A patient survey and chart review were conducted to determine if there is a relationship between the number of visits a patient makes to a family physician and eight quality of life indicators: self-rated health, self-rated stress, self-rating of health care received, satisfaction with life as a whole, satisfaction with health, spiritual fulfillment, overall quality of life, and happiness.

Methods: The survey required respondents to identify their level of concern or satisfaction with quality of life indicators using a Likert scale. Respondents consisted of adults (age 17 and older) living in British Columbia’s Bella Coola Valley and attending the Bella Coola Medical Clinic. After respondents completed the survey, their charts were reviewed to determine the number of visits they made to family physicians. Data obtained from the survey answers were combined with data obtained from reviewing the charts. The relationships revealed by the two sets of data were then considered.

Results: An estimated 1734 Bella Coola residents were deemed eligible to complete the quality of life survey. A total of 968 usable surveys were returned, for a response rate of 56% (968 of 1734). One-way ANOVA testing revealed there is a relationship between the number of visits to a physician and the scores for self-rated health ($P<0.001$) and stress ($P≤0.001$), satisfaction with life ($P<0.001$), and spiritual fulfillment ($P=0.002$), overall quality of life ($P<0.001$), and happiness ($P<0.001$). No relationship was found between the number of visits to a physician and the respondents’ rating of health care received ($P=0.127$).

Conclusions: There is a relationship between the number of times a person visits a family physician and his or her self-rated health and stress, satisfaction with life and health, spiritual fulfillment, overall quality of life, and happiness. More visits to a physician were associated with greater dissatisfaction with life. Better understanding of these relationships may lead to strategies designed to reduce the number of visits to physicians.

Background

A common theme emerging from the many discussions, commissions, and inquiries about Canada’s health care system is that “better management is required, not more money.”1-3 Health care planners and decision-makers are increasingly looking for ways to make the system more efficient and cost-effective. The questions being asked include:

• Who visits physicians?
• Why do people visit physicians?
• How necessary are these visits?
• How cost-effective are these visits?

The answers to these questions are not easy to obtain because many different physician-specific, patient-

Dr Thommasen is an associate clinical professor in the Faculty of Medicine, UBC. Dr Kelly is an associate professor at the University of Northern British Columbia in Prince George, and chair of Health Services/Health Policy at the British Columbia Rural and Remote Health Research Institute. Mr Zhan is a statistical consultant at the University of Northern British Columbia. Dr Sheps is a professor in the Department of Health Care and Epidemiology, Faculty of Medicine, UBC, and director of the Western Regional Training Centre for Health Services Research.
specific, and access-related factors can affect the number of patient visits per time period.

Physician gender, marital status, age, and place of graduation, along with physician-to-population ratios, size of community, and clinical demands are all family–physician–specific factors that affect physician workload. Studies on patient-specific factors and family physician visits have demonstrated that women visit family physicians more often than men, people of aboriginal descent visit family physicians more often than nonaboriginal people, older people visit family physicians more often than younger people, and people with chronic illnesses visit family physicians more frequently than those without. Aboriginal people have higher rates of smoking and chronic diseases such as diabetes and inflammatory arthritis, which presumably accounts for a portion of the greater number of visits reported by this group.

Studies have also shown that rural individuals utilize health services less often than their urban counterparts, despite the fact that rural residents are not as healthy as their urban counterparts and have higher rates of chronic disease, report being ill more frequently, and are more likely to report poorer health status. Poorer health among rural residents has in turn been attributed to lower levels of education, lower income, and the greater proportion of First Nations people in this population.

The World Health Organization defines health as not simply the absence of disease or disability but as a positive state of complete physical, mental, and social well-being. If people visit physicians because they feel unhealthy, and if feeling unhealthy reflects negative social well-being, research should be able to demonstrate a relationship between social well-being and visits to a physician. In fact, there is a study that shows frequent users of the health care system are experiencing high levels of psychosocial stress. As far as we can tell no one has yet looked at the relationship between visits to family physicians and patients' subjective rating of health and quality of life. If it can be demonstrated that there is a strong relationship between overall quality of life and visits, time spent on improving these factors could, theoretically, result in fewer physician visits in the long run. The objective of this study was to determine if there is an association between visits to family physicians and patients' quality of life.

Methods

Bella Coola Valley is a remote community located in the central coast region of British Columbia. According to the 2001 census 2285 people live in the Bella Coola Valley, and 46% of these people are of aboriginal descent. Bella Coola Valley is part of the traditional territory of the Nuxalk Nation, a tribe of Salish-speaking coastal Indians. Details of the medical services available in this community have been reported previously.

Research was carried out in a participatory fashion, following the recommendations outlined in recently published policy statements on working with aboriginal peoples. There was extensive consultation with the Nuxalk Band Council, community members, and local health care providers on our plans to study determinants of health and disease of people living in the Bella Coola Valley. We obtained letters of support from the Nuxalk Band Council, from the Bella Coola Transitional Health Authority, and from the Central Coast Regional District. Ethics approval to collect data was obtained from research ethics committees located at both the University of British Columbia and the University of Northern British Columbia. Nuxalk health authorities reviewed the final manuscript and approved it for publication.

A survey about health and health care was offered to all adults (age 17 and older) living in the Bella Coola Valley between August 2001 and May 2002. Questionnaires were mailed out three times: the first mailing was in August 2001, the second mailing was in November 2001, and the third mailing was in January 2002. Questionnaires were also distributed at the Bella Coola Medical Clinic, the emergency department of the Bella Coola Hospital, and in two local grocery stores. Booths were set up at the grocery stores and at the clinic where research assistants administered the questionnaire to people who might not normally respond to a mail-out survey, including elderly people and those with literacy problems. Questionnaires were also hand-delivered on the local reserve by two Nuxalk research assistants and picked up later. All recipients were asked to read an informed consent form or were read an informed consent form prior to completion of a survey.

The first question on the survey (see Table 1), which is also the first question in the SF-36 survey, asked respondents to rate their general health. The next question asked respondents to rate their current life stress level. Next, each respondent was asked to rate the personal health care he or she receives in the Bella Coola Valley. Respondents were also asked to provide scores for five additional quality of life items: satisfaction with life as a whole, satisfaction with health, spiritual fulfillment, overall quality of life, and happiness. These quality of life questions have good reliability and validity and have been...
part of numerous surveys distributed throughout North America.\textsuperscript{53,54} An identification number was assigned to each survey and used for remailing surveys and for linking survey responses to clinic chart information. Dr Harvey Thommasen was the only researcher able to link the two sets of data. He was also the researcher who did the chart review. During the chart review he added up the number of times a patient visited a family physician in Bella Coola in 2001. Survey answers and visit information were entered into an Excel spreadsheet, from which results were summarized. Names and addresses were removed from this linked data set and passed on to statisticians and other researchers for further analyses. One-way ANOVA tests were then performed.\textsuperscript{55}

**Results**

A total of 971 surveys were returned, of which 968 could be used for the purposes of this project. An estimated 1734 Bella Coola residents were eligible to complete this survey, so the estimated response rate was 56%. Of the 968 surveys, 964 could be linked to names on the Bella Coola Medical Clinic patient list.

Table 1 presents the mean quality of life score, mean number of visits to a physician in 2001, and the one-way ANOVA probability value ($P$) for each survey item. Survey respondents did not answer all questions, so the total number of respondents varies from item to item.

Analysis reveals that scores indicating poorer health and more stress are associated with *increasing* visits to family physicians ($P$\textless 0.001). Analysis also reveals that scores indicating greater satisfaction with life and health, and greater spiritual fulfillment, overall quality of life, and happiness are associated with *decreasing* visits to family physicians ($P$\textless 0.002). Scores indicating the respondents’ rating of health care services received are not associated with either increasing or decreasing visits to family physicians ($P$\textless 0.127).

**Conclusions**

Our data suggest that there is a relationship between the number of times a patient visits a physician and his or her self-rated health and stress, satisfaction with life and health, spiritual fulfillment, overall quality of life, and happiness. One might be tempted to assume that poor self-rated health is the sole reason for an increase in visits to family physicians, and that it also accounts for dissatisfaction, unhappiness, and poorer overall quality of life. However, numerous studies have shown that there is little or no relationship between how individuals rate their health and their satisfaction ratings for life as a whole, overall quality of life, or happiness. As noted by Michalos, “When researchers use the SF-36 as a measure of health-related quality of life, they are begging the question about the relationship of good health to good quality of life because they are assuming SF-36 measures both equivalently. What’s worse, by confounding these notions, they are preventing themselves from...
The finding of a relationship between self-rated quality of life indicators and number of visits to a family physician implies we might be able to influence number of visits by undertaking community-based interventions to improve quality of life in our patients. If nothing else, this observation makes for interesting hypothesis generation. For example, high users of physician services are frequently labeled as being abusers of health care systems.\textsuperscript{2,11} In Bella Coola, 15\% of residents account for 52\% of all family physician clinic visits.\textsuperscript{3} Perhaps the best way to deal with this problem is not by ordering hundreds of medical tests, but by examining issues of stress, overall quality of life, and happiness, and by engaging the population in strategies to improve these areas of their lives.

There are some limitations in this study. While the data may not be easily applicable to all communities, Bella Coola Valley is like many rural and remote communities in British Columbia and Canada with a high percentage of aboriginal residents. We encourage others to duplicate this survey in their communities to determine if the results are truly comparable and if we should be advocating more community approaches to issues affecting health.

\textbf{Acknowledgments}

We would like to thank Dr Alex Michalos for his assistance with this project. Thanks also to staff at the Bella Coola Medical Clinic for their assistance with distributing and collecting quality of life surveys. Dr Thommasen would like to acknowledge the Community-Based Clinician-Investigator Program for financial support. UNBC’s Research Department contributed $4800 to this project, and the British Columbia Rural and Remote Health Research Institute also provided financial assistance.

\textbf{Competing interests}

None declared.

\textbf{References}

8. Martin S. Fee-for-service v. salary: The debate is heating up. CMAJ 2003;169:701.
The relationship between physician visits and some quality of life indicators


43. Thommasen HV. Prehistoric medicine on BC’s Central Coast. BCMJ 1999;41: 343-346.


