

UNIVERSITY OF CALGARY

Assessing Individual Determinants of Health:
The Development of a Health Determinant Instrument
for Use in a Community Health Centre

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF SCIENCE

DEPARTMENT OF COMMUNITY HEALTH SCIENCES

CALGARY, ALBERTA

MAY, 2000

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0-612-55285-3

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Abstract

The purpose of this project was to develop a practical instrument to assess health determinants of patients at an urban Community Health Centre. Previously, there had been no means of systematically assessing the health determinants of individual patients in this setting.

Qualitative research methods were used to gather the data which guided instrument development. During interviews, participants identified multiple interrelated factors which impact health, and made recommendations for the development and utilization of the questionnaire in the clinical setting. These findings were incorporated as the instrument was designed, to ensure the instrument's relevance and content validity for stakeholders.

Identified applications include:

- assessment of an individual's health determinants, to support patient-centred care.
- assessment of the health determinants for groups of patients, to inform program planning.

Although the instrument was designed for a specific site, the process used in its development is potentially applicable to primary health care settings across Canada.

Acknowledgments

Many people contributed to this project, and I wish to acknowledge their assistance and support. Firstly I thank the project participants; colleagues and patients at the Alexandra Community Health Centre. By so generously sharing their knowledge, experiences and ideas, they made this project possible.

I would also like to thank the Executive Director and Board of the Alexandra Community Health Centre for supporting this research. I wish to acknowledge the financial support of the Centre for the Advancement of Health, the Health Transition Fund, and the College of Family Physicians of Canada.

My supervisor, Dr. Marja Verhoef, was an invaluable resource during the planning and completion of this project. I thank her for her ongoing guidance and encouragement. For their constructive feedback and thoughtful comments I also thank the members of my supervisory committee, Drs. Maeve O'Beirne and Billie Thurston, and the external members of my examination committee, Dr. Sarla Sethi from the Faculty of Nursing and Chris Wood from CUPS Community Health Centre.

Several fellow student researchers were a great source of support and practical assistance. Their advice, feedback, and constant encouragement made the qualitative research process much easier and more enjoyable for me.

I thank my family so much for their emotional (and editorial) support. Finally, I thank my husband, Richard Anderson, for his patience and humour, and for the countless times he told me "I know you can do it".

Dedication

I dedicate this work to my parents, Sheila and Terry McKague. Thank-you for your love and encouragement as I have pursued my academic and personal goals, and for the example you have provided in working to help others improve their health and well-being.

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Chapter I Introduction to the Project

1. Statement of the Problem

People keep falling in the river, and we're trying to help fish them out downstream. Wouldn't it be better to walk upstream and find out why all these people are falling in the river?

(Alexandra Community Health Centre Board Member)

Understanding the factors that determine health is essential to being able to support and promote health. This is true not only at the population level, but also at the level of the individual, family and community. Many health care providers are faced with the daily challenge of working with clients to treat illness, while simultaneously trying to promote and improve health in an environment of limited resources. Being able to assess the factors impacting an individual's health would help both the individual and his health care provider in developing a plan to improve health. This may be particularly important in primary health care settings, where holistic, patient-centred care, which focuses on building an individual's capacity to achieve optimum health, is a fundamental goal.

As part of their overall evaluation plan, staff at the Alexandra Community Health Centre (ACHC) in Calgary are attempting to describe the health determinants of the patients with whom they work. Although some data are available on demographics, medical diagnoses and social risk factors, there is a sense among these health care providers that this does not reflect the "whole picture." Many patients face complex issues which impact both their health and their interactions with the health care system. In order to better understand and describe the issues faced by patients at the Centre, providers have identified a need to systematically assess patient health determinants.

This project was designed to develop an instrument in response to that identified need. Qualitative methods were used to gather data from local stakeholders, including patients and health care providers. By involving the targeted users of the instrument in its development, we have attempted to produce a practical, effective tool which is relevant to all stakeholders. Although the instrument has been developed for implementation at a specific community health centre, the process used is potentially applicable to other primary health care settings across Canada.

2. Purpose of the Project

The purpose of this project was to develop a practical, multi-dimensional instrument to assess selected health determinants of individual adult patients for use in a local community health centre.

3. Research Questions and Tasks

Given the purpose of the project, three main *research questions* were asked:

- ▶ How do key stakeholders (patients and staff) at this CHC define health?
- ▶ Given this definition of health, what do these stakeholders consider to be the determinants of health?
- ▶ How well do stakeholders feel the instrument reflects their understanding of health determinants and incorporates items relevant to them?

Several specific *research tasks* also needed to be addressed during the project:

- ▶ Selecting those determinants to be included as items in the instrument, considering practical issues such as instrument length and modifiability of the determinant, given available resources.
- ▶ Incorporating the selected determinants as items in a usable instrument.
- ▶ Determining how to best integrate the instrument into routine clinical practice.

4. Definitions of Terms

Key terms are defined in this section.

Community Health Centre (CHC) - A centre which provides holistic primary health care to individuals, families and communities, using an interdisciplinary team approach, with an emphasis on community-based services and health promotion (Lepnurm, 1995). Many CHC's are governed by nonprofit community boards (Johnston, 1996).

Determinants of Health - Those factors which determine health. Broadly recognized categories of determinants include "coping skills, behaviour and lifestyle, human biology, ecology and the physical environment, the social, economic, and cultural environment, health services, public policy and information and research" (Alberta Health, 1995, p.10).

Health - For the purposes of this project, we wished to define health broadly, and an *a priori* definition was used: "A dynamic state of complete physical, mental, spiritual and social well-being, and not merely the absence of disease or infirmity" (WHO Executive Board, 1998). The project participants also offered definitions of health, which provided a basis for instrument development. Participant definitions are described in Chapter III.

Health Care Providers (Providers) - Staff providing primary health care services to patients. At this CHC, providers include a chiropractor, counselors, nurses, physicians, and a clinical coordinator with emergency medical services and phlebotomy training.

Health Determinants Instrument - A multi-dimensional, self-report clinical tool designed to assess factors influencing the health of individual patients.

Health Promotion - “The process of enabling people to increase control over the determinants of health and thereby improve their health. Participation is essential to sustain health promotion action” (WHO, 1998, p.1).

Key Informants - “Individuals who possess special knowledge, status, or communication skills, who are willing to share their knowledge and skills with the researcher, and who have access to perspectives or observations denied the researcher through other means” (Gilchrist & Williams, 1999, p.73). These informants may share information both through formal interviews and informal conversation.

Patients – Individuals receiving primary health care services at this CHC. The term clients is used alternatively.

Primary Health Care - “Essential health care made accessible at a cost a country and community can afford, with methods that are practical, scientifically sound and socially acceptable” (WHO, 1998, p.3). Primary health care principles include “the application of the term health in its broadest context, a commitment to the development of the capacity of a community, understanding and valuing of the process inherent in primary health care activities, and the use of multidisciplinary teams” (CRHA, 1996a, p.10).

5. Research Context

In this project, the research questions and the processes used to answer them have been influenced by a number of environmental factors. The principles directing practice at community health centres, the needs of this particular research site, societal understandings of health and its determinants, and the experience of using health assessment instruments in primary health care have all impacted this project. I discuss these contextual factors in more detail in this section.

5.1 Community Health Centres

Community health centres (CHCs) are one model of primary health care service delivery. While various definitions of CHCs exist, most definitions of CHCs have some principles in common. These include using a holistic approach to health, offering interdisciplinary services by salaried providers, emphasizing health promotion, coordinating with other community services, providing effective, affordable, and accessible services, and using community development processes to increase individual and community capacity for health (CRHA, 1996a; Lepnurm, 1995). Many CHCs are governed by non-profit, community-based boards (CRHA, 1996a; Johnston, 1996).

The unique features of CHCs allow providers to offer integrated, holistic care without some of the time constraints faced by primary care providers in traditional fee-for-service settings. Several studies suggest that overall costs for patients receiving their care at CHCs are lower than for patients receiving traditional fee-for-service primary care, due to reduced hospital inpatient days (Lepnurm, 1995). However, the effects of a CHC

service delivery model on patient outcomes are not fully understood.

The funding environment influences the type of information about clients and service provision which CHCs need to gather. CHC services and programs are usually funded globally by Regional Health Authorities and other public or private funders. This creates a greater need for providers to be accountable for services provided than in a traditional fee-for-service funding model. Increasingly, CHCs are recognizing the need to document the health determinants and health needs of the populations they serve, in order to account for their models of practice and the services they provide.

These challenges are common to many CHCs. Currently, approximately 255 CHCs exist across Canada; the vast majority are in Ontario and Quebec (Lepnurm, 1995). In Alberta there are three community-governed CHCs. One of these is the Alexandra CHC in Calgary, the site of this project.

5.2 The Alexandra Community Health Centre

The Alexandra Community Health Centre (ACHC) has provided primary health care service to individuals and families in Calgary since 1973. The majority of the patients are adults, with a large elderly population. Many patients live in three inner-city communities surrounding the centre. Other patients may live in other areas of Calgary but are served at the centre because they have complicated health needs and barriers to accessing traditional health services. Because Alberta Health Care Insurance is not required in order to receive free health services at the centre, a number of patients are visitors to Alberta, refugee claimants, and new immigrants who cannot afford to pay for

services privately. Patients often have complex socioeconomic, mental health and medical needs. Recognizing these characteristics of the clients accessing services at the Centre, the Centre's board recently agreed to change from a primarily geographic mandate to a mandate to serve the poor, the working poor, and the marginalized.

In addition to registered patients accessing primary health care services, the centre has a larger clientele of community members who may be involved in community development activities or other programs but are not registered as patients.

The ACHC is a not-for-profit agency governed by a board made up of community members and individuals interested in health. The centre is managed by an Executive Director assisted by administrative staff. Direct primary health care services are provided by a chiropractor, a nurse, family physicians, reception staff and a medical coordinator. Through arrangements with partner agencies, counselors, a mental health therapist, public health nurses, and foot care nurses also provide services at the centre. In addition to the clinical services provided at the centre, staff are engaged in health promotion activities including support and educational groups, community outreach, and community development initiatives.

5.3 Health and its Determinants

Health is a concept which is challenging both to define and quantify. Because a variety of definitions of health exist, attempting to operationalize the concept of health, by developing instruments to assess it, can be difficult. In Western societies, and particularly within the positivist medical paradigm, health has traditionally been understood as an absence of disease or disability (Bowling, 1991; Staniszewska, 1998). However, it is increasingly recognized that this definition of health is too narrow. The WHO (World Health Organization, 1948) definition of health as a “state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” broadens the concept of health. This definition has been expanded to include the idea that health is dynamic. Health can also be defined as a resource for living, an idea echoed in a National Advisory Council on Aging definition: “a key resource for living; involving an equilibrium with one’s environment and with one’s physical and mental strengths and limitations”(1995, p.18).

Although numerous definitions of health exist within the medical and health promotion literature, most current definitions have in common the ideas that health is multi-dimensional and that it goes beyond the mere absence of physical disease or incapacity. For the purposes of this study, we used an *a priori* definition which reflected these principles: “a dynamic state of complete physical, mental, spiritual and social well-being, and not merely the absence of disease or infirmity” (WHO Executive Board, 1998). We also asked project participants to give us their own definitions of health, and to describe the factors that they saw impacting health. These findings formed the basis for

the development of the instrument.

In Canada since 1974, most definitions of health have introduced the idea that health is influenced not only by individual biological factors, but by environmental factors outside of the individual, which extend beyond the traditional jurisdiction of the health care system (Clarke, 1996, p.83). Often termed the determinants of health, these conditions and resources for health include such things as “peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity” (Kickbusch, 1992). Research into the population determinants of health provides evidence that differences in health status between groups is strongly influenced by a variety of factors: examples include socioeconomic status, age, gender, geography and culture (Bolaria, 1994; Clarke, 1996; Krieger, Moss, & Williams, 1997). Findings from these aggregate population studies have been supported by some cohort studies which link such factors with health at the individual level (Evans & Stoddart, 1994).

Based on such research, a variety of frameworks have been designed to explain the determinants of health. Most of these frameworks identify an interface between societal and environmental factors as well as individual factors such as personal behaviour and biology (Lalonde, 1974; Evans & Stoddart, 1994; Raeburn, Rootman, & O'Neill, 1994). In addition, numerous models based on social psychology exist to explain health behaviour at the individual level. (Freudenberg, End, Flay, Parcel, Rogers, & Wallerstein, 1995; Gillis, 1993; Hollnagel & Malterud, 1995).

The purpose of these health determinants frameworks is to expand our understanding of the forces influencing health, often at the population level. When one is

trying to understand and improve health at the individual level, it becomes necessary to find practical ways to apply these frameworks. Within a framework, broad categories of health determinants may encompass a vast number of specific factors which influence health for individuals in certain settings. In the Evans and Stoddart framework, for example, a broad category of “social environment” is included in the model of health determinants. Many specific social factors may influence the health of an individual, ranging from income level to ability of that person to communicate in the same language as his health care provider. The interactions between different factors, at different times, may also be critical to an individual’s health.

In reference to the Evans and Stoddart framework, it is pointed out that the framework “was presented at quite a high level of generality; each of its conceptual categories or ‘boxes’ contained many different specific factors on which one might assemble evidence and test hypotheses. The progress from such a framework to understanding of causal relationships securely based in empirical evidence - what one would like to know when making policy - requires a great deal of additional work” (Hertzman, Frank, & Evans, 1994). Frameworks describing the determinants of health can serve as useful tools, but health care providers are still left with the task of trying to understand and articulate what specific factors are affecting the health of an individual patient, in order to help that individual improve his health. The instrument developed during this project provides one means of assessing those specific factors influencing health at the individual level.

5.4 Using Health Assessment Instruments in Primary Health Care

In this section I will discuss issues related to health assessment instruments and their uses in primary health care clinical settings such as CHCs.

a. Types of Health Status Instruments

Traditional assessments of health status have focused on quantitative biological measures of disease, death or disability, either at the individual or population level. These types of assessments, however, may fail to take into account the broad dimensions and subjective aspects of health (Greenfield & Nelson, 1992; Muldoon, Barger, Flory, & Manuck, 1998). In response to this recognized limitation of traditional morbidity and mortality measures, multi-dimensional instruments have been designed to measure subjective health status. Such measures are designed to measure “the patient’s personal morbidity - that is, the various effects that illnesses and treatments have on daily life and life satisfaction”, rather than to simply measure the disease state (Muldoon et al., 1998).

Just as definitions of health vary in their focus, different health status instruments assess different constructs. This may be because the settings for which instruments are designed require different information about health status. Instruments can be classified as specific or generic, depending on whether they focus on a single condition or clinical population, or whether they attempt to measure health globally (Pal, 1996). This discussion will focus on generic health measures, as they are more closely related to instrument which we have developed.

Commonly used terms for generic health status include “quality of life”, “health-related quality of life”, “subjective health status” and “functional status”. As Staniszevska

states, “such interchangeable use of terminology relates to the lack of a conceptual definition of quality of life or subjective health status, although most researchers agree it is a multidimensional construct and that there are a variety of approaches to its measurement” (1998, p. 36). Because health is itself a nebulous concept with numerous definitions, no single, universally accepted measure of health status exists. However, certain measures enjoy greater popularity and have been used with more frequency. As well, a single question, “Compared to other people your age, how do you rate your health?” has been used in various population health surveys. Summaries of several generic health status instruments are available (Anderson, Aaronson, & Wilkin, 1995; Bowling, 1991; McDowell & Newell, 1996).

Numerous generic health status instruments exist, which are intended to measure a variety of health-related dimensions, including mental, physical and social functioning, health-related quality of life, pain and other symptomatology. Most instruments do not assess broader social factors which might influence health. In measuring quality of life, for example, “most approaches used in medical contexts do not attempt to include more general notions such as life satisfaction or living standards and tend rather to concentrate on aspects of personal experience that might be related to health and health care” (Fitzpatrick, Fletcher, Gore, Jones, Spiegelhalter, & Cox, 1992). Few instruments include measures of resources, such as support services for the elderly (McDowell & Newell, 1996). Existing health status instruments do not tend to address factors influencing health which are outside the scope of traditional health care services.

b. Assessing the Quality of Health Status Instruments: Validity and Reliability

Health status measurement refers to the process of assembling items which will serve as indicators of different aspects of health, and then assigning numbers to these indicators. The scores for these items may be combined to give an overall score, which is intended to represent some aspect or level of health in a meaningful way (McDowell & Newell, 1996).

Two integral characteristics of any health status measure are its reliability and validity. These concepts are important to our understanding of the quality of a measurement instrument. The purpose of this project was to develop an instrument intended to *assess* selected health determinants, but not to provide a summary measure of these variables. We have also not attempted to use statistical tests to determine the reliability or validity of the instrument as part of this project. However, we have attempted to design a instrument which includes items relevant to stakeholders and practical for the clinical setting in which it will be used. Our research process has focused on ensuring one aspect of validity, content validity. In this section I will briefly discuss the concepts of reliability and validity, including content validity.

Reliability refers to the “consistency or stability of the measurement process across time, patients or observers” (McDowell & Newell, 1996, p.37). It is the proportion of variance in a score attributable to true variability in the variable of interest being measured, not due to error in measurement (DeVellis, 1991). Various statistical techniques are used in testing the reliability of an instrument.

Validity can be defined as the extent to which an instrument measures what it is

intended to measure (McDowell & Newell, 1996). Validity should not be reported in general terms, but must be considered in the context of the particular setting in which the instrument will be used (Anastasi, 1988). Several types of validity are commonly described. *Criterion validity* and *construct validity* can be tested using a variety of statistical procedures.

The type of validity most relevant to this project is *content validity*. Content validity refers to how well the sampling of questions in the instrument reflects the instrument's aims. When addressing content validity, two issues to be considered include how relevant the items are to the concept being measured, and how comprehensively the instrument measures all aspects of the domain it professes to measure (McDowell & Newell, 1996). Content validity is very dependent on the methods used during instrument development (DeVellis, 1991). Rather than using statistical analyses, content validity is determined by subjective assessments. During the development of an instrument, face validity or "clinical credibility" is tested by having patients and other experts in the field review the instrument critically (McDowell & Newell, 1996). Content validity is reflected by the extent to which these observers consider the scale items are both relevant and comprehensive, given the intended purposes of the instrument.

c. Uses of Health Status Instruments

Although health status instruments have existed for several years, their potential for practical application has not yet been realized. In this section I will briefly discuss some current and potential uses of health status instruments.

Some current uses include:

- As outcome measures in clinical trials comparing a treatment with placebo, or comparing two different treatment modalities. In this role, generic instruments often complement physiological outcome data.
- As outcome measures in the evaluation of models of health service organization, such as the Medical Outcomes Study in the United States, which compared types of health care provision using patient-assessed outcome data (Greenfield & Nelson, 1992; Staniszewska, 1998).
- As outcome measures in cost-benefit analyses. Quality of life measures have been used in this way, although this application is controversial (Fitzpatrick et al., 1992).
- In comparisons of groups of patients with different illnesses, in order to assist with understanding the impact of certain conditions on patient's lives.

Health status instruments also have potential applications both in population research and in the clinical setting. Some of these potential uses include:

- In large population surveys and hospital medical audits, to complement population morbidity and mortality data (Staniszewska, 1998).
- To assist health care providers in assessing the functional level of individual

patients and to screen for unsuspected functional or emotional problems (Deyo & Carter, 1992; Greenfield & Nelson, 1992). This use may be particularly important as studies have shown that nurses' (Bond & Thomas, 1991) and physicians' assessments of patients' functioning and quality of life can differ significantly from the patients' own perceptions (Calkins, Cleary, Davies, et al., 1991; Fitzpatrick et al., 1992; Jachuck, Brierley, Jachuck, & Willcox, 1982; McHorney, 1997).

- ▶ In an evaluative role, to monitor changes in subjective health status over time and to evaluate response to treatment (Deyo & Carter, 1992; Staniszewska, 1998).
- ▶ To help determine health care needs of individual patients and groups of patients.

This final application is most relevant to the health determinants instrument which we have developed during this project. Existing generic health status instruments may be limited in their ability to determine health care needs as they focus on measuring current functional status and perceived well-being rather than existing and required resources and skills. As Donovan, Eyles and Frankel point out: "empirical assessments of health care requirements are clearly desirable, but in this case the level of generality characteristic of health status measures makes their interpretation difficult" (1993, p.161). One goal of our instrument is to assess specific factors potentially influencing the health of individual patients.

d. Limitations of Health Status Instruments

Several limitations of health status instruments can be identified. One issue is whether a construct as complex as health can be assessed meaningfully by a quantitative instrument. Donovan et al., in a qualitative study of a popular health status instrument, the Nottingham Health Profile, found that “the forcing of responses into predefined categories negated people’s desires to negotiate the meanings of health and illness” (1993, p. 159). By its very nature, a quantitative instrument constrains the concept of health. Given that only pre-determined constructs can be measured by a generic instrument, it is essential that the constructs measured by a particular instrument match the purpose for which it is being used. Donovan et al. (1993) suggest that further meaning may be lost during the development of instruments as questions are removed to improve internal consistency, leading to the deletion of the very questions which might explore the variety and complexity of the concept of health.

A second conceptual challenge is that although the term ‘health status measures’ implies that health is being measured, the indicators selected in many instruments are actually designed to measure ill-health or dysfunction (Barrett & Victor, 1997; Hollnagel & Malterud, 1995). Many instruments are designed to assess function and quality of life among people with illness, resulting in instruments which are sensitive to differences in health status among those who have poor function or quality of life, but which cannot detect differences in health status among the “healthy” general population, creating a ceiling effect. Other instruments have a floor effect, in which they cannot detect differences in health status among those with poorer level of health (Donovan et al., 1993;

Fitzpatrick et al., 1992). Another issue is differentiating between statistically significant and clinically significant variations in health status.

Some instruments may be appropriate for use as a discriminative measure, to assess health status at one specific time, but may not be responsive enough to use as an evaluative instrument, to measure health outcomes or changes in health status over time in response to treatment. In addition, use of instruments for outcome measurement can be limited by changes in self-assessed health status as diseases progress. Psychological adaptation to ill health can lead some patients to have improvements in perceived health even as their physical functioning declines (Muldoon et al., 1998).

In order to provide meaningful results, health status measures must be relevant to the population using them. Instruments designed for patients of a particular age, culture or language group, or for patients with specific disease processes, cannot be assumed to be valid for another group of patients.

A final challenge is in the use of health status measures as outcome indicators in the clinical setting. In primary health care settings such as CHCs, difficulties arise in understanding health needs of a culturally diverse and often transient clientele, in measuring broad health outcomes both at the individual and community level, and in linking improvements in health to the effects of often-overlapping programs and services. The complexity and multi-dimensional nature of the health phenomena being described do not easily lend themselves to quantitative measurement (Johnston, 1996).

An illustrative example is a client whose problems include chronic back pain, unemployment, depression and difficulties coping with the behaviour of her teenage son.

Simultaneously she is working with a chiropractor to treat her back pain, a family physician to help her manage her pain and depression, and a counsellor to assist in coping with family stress and negative emotions. In addition her counselor has referred her to an employment program at an outside agency, and her son has become involved with a recreational program for teens facilitated by the health centre's community development team. With this support, she becomes employed and starts to cope better with both her physical and mental health problems. Her relationship with her son also improves. These changes result in a better standard of living for the entire family and potentially will reduce future stress-related health problems. The multiple simultaneous services she is receiving appear to have some interrelated impact on her health. However, it is almost impossible to quantify the health impact of any specific intervention, given the complex interactions of the factors influencing her health.

In this type of situation, it might be most appropriate to describe the impacts of these health services qualitatively, using stories or case studies. However, in the current funding climate, resource allocation decisions are more often based on quantitative measures of health status and service utilization which may not reflect the needs of the individuals being served (Donovan et al., 1993). The development of tools to assist in more meaningful assessment of client health needs and evaluation of CHC programs and services is important, both to ensure effective programming, and to secure ongoing funding in times of limited resources.

Despite the real challenges of assessing health meaningfully with health status instruments, these types of measures are increasingly being used in various domains in the

health care system. If care is taken in choosing instruments which meet the practical needs of the clinical setting and which assess appropriate aspects of health, these instruments may potentially be a valuable addition to traditional biological measures of health and disease.

e. Using Instruments in Primary Health Care

What features are important in a health assessment tool for it to be used successfully in a primary health care setting such as a CHC? Essential features of an instrument should include:

- ▶ *Acceptability to patients.* An instrument is only useful if the patient is willing to provide the requested information. Patients need to feel that the instrument content is relevant to them, that questions make sense, and that answering the questions serves a purpose.
- ▶ *Relevance to providers.* The instrument must also appeal to providers as being relevant to their practice. Some studies using health status instruments in the clinical setting have shown that the availability of this patient information did not significantly alter physicians' decision-making. Reasons suggested for this lack of response to health status data include that the data obtained were irrelevant to clinical decision-making, or that information was not provided in a useful format or at an appropriate time in the clinical course (Fitzpatrick et al., 1992). An approach to this problem is to involve stakeholders in the development and validation of proposed instruments, allowing them to select dimensions relevant to them (Staniszewska, 1998).

- *Brevity.* If health status instruments are to be used routinely in primary health care settings, they need to be brief and simple enough to complete so that they do not become a burden for patients. While one study found that most patients enjoyed completing health status questionnaires and felt that the information would be useful to their health care providers, instruments which were too long or intrusive were less likely to be embraced (Fitzpatrick et al., 1992).
- *Accessibility.* Methods to attempt to gain information from patients who might be unable to complete self-report instruments such as people with learning disabilities, illiteracy or who do not speak English, also need to be considered (Deyo & Carter, 1992).
- *Practicality.* The resources of the clinical site in which the instrument will be used must also be considered. Most CHCs have limited staffing and financial resources for instrument administration, data entry and analysis. Instruments which are patient-completed, brief, and do not require complicated scoring algorithms are more likely to be integrated into the clinical routine.
- *Appropriateness for purpose.* Finally, the instrument being used must be appropriate to its purpose in the primary health care setting.

The challenge of this project was to construct an instrument which would be appropriate for the needs of the clinical setting, acceptable and accessible to patients, relevant to providers, and which could be effectively integrated into the clinical routine. Most importantly, it was essential to understand how patients and providers define health, and describe the factors that impact it, in order to develop a relevant tool.

6. Significance of the Project

This project is significant for two reasons. Firstly, it is new work. A review of the literature during the planning stages of the project did not identify any existing multi-dimensional instrument to assess individual patient health determinants. Indeed, although much information has been accumulated about the impact of specific population health determinants (Evans & Stoddart, 1994), it does not appear that any existing models of health determinants have been operationalized in the form of an instrument. In addition, it is relatively innovative to propose the routine use of multi-dimensional health assessment instruments in CHCs. Prior to beginning the research, I contacted clinical administrators at fourteen Canadian CHCs by telephone to ask about their use of health assessment instruments in the clinical setting. None of those contacted was using such instruments. While this was not a comprehensive survey of Canadian CHC's, it does suggest that the routine collection of information from patients about their health determinants is not yet a common practice at CHCs.

The second reason that this project is significant is the potential usefulness of the instrument to the ACHC. The development of a multi-dimensional instrument to assess patient health determinants has important implications for practice at this health centre. At meetings with centre staff, health care providers have identified potential applications of the instrument, including:

- Assessment of *one individual's* health determinants at one point in time to identify factors which are influencing that individual's potential to achieve and maintain optimum health. This will allow identification of available resources and specific areas of need for that individual, to aid patient and provider in care management.

Although both modifiable and non-modifiable factors impacting health are included, the instrument taps modifiable factors in greater depth.

- ▶ Assessment of a *group* (summary of health determinants of entire patient population or a specific sample) at one point in time to allow a better understanding of the health issues being faced by patients. This will help guide resource allocation and program planning within the centre, and help inform funders as to the range of patients' health resources and needs in order to provide appropriate support.

Given these applications, the instrument has the potential to contribute in a new way to patient assessment at the ACHC, and subsequently to the provision of appropriate, responsive primary health care services.

Chapter II Research Design and Methods

During the early planning stages of this project, it was clear that the development of this instrument would require the meaningful input of a variety of stakeholders at different times and for different purposes. We designed a multi-phase, qualitative research process, selecting methods which would best suit the purposes of each phase. This chapter describes the research methods used in this project. Because various authors within the qualitative research field apply different terms to describe similar methods, I have included definitions of terms for the key methods used in this project.

1. Qualitative Research Methods and Traditions

We chose to use qualitative methods during the development of this instrument as these methods best suited the needs of the project. During the initial planning stage, we considered whether it would be possible to develop a health determinants questionnaire based solely on existing knowledge in the literature about health determinants. We felt, however, that theory and knowledge of health determinants was at a level that could not be easily operationalized as an instrument for use with individuals. Most information in the literature describes categories of health determinants at the population level; we did not have information about specific factors impacting the health of individuals in this particular setting, nor did we understand patients' own perceptions of their health determinants. We knew *something*, but we did not know *enough* to enable us to develop a relevant instrument for individual patients for use at this specific clinical site.

Qualitative research is particularly well suited to explore issues about which

relatively little is known (Morse, 1995b). In addition, qualitative methods allow the researcher to study phenomena from an *emic* perspective; that is, “from the perspective of the participants in the setting under study” (Morse, 1995b, p.21). In this project, we sought an understanding of how stakeholders perceive health and the factors which determine it, in order to develop a relevant instrument relevant. This type of research goal, we believed, would best be achieved using qualitative methods.

Over time, diverse approaches to qualitative research have developed in different disciplines. Within each of these qualitative traditions, researchers may seek to answer specific types of research questions, may use certain strategies in data collection, analysis and presentation, and may look to particular authors as being experts in that tradition’s methodology. Many disciplinary traditions exist: phenomenology, hermeneutics, ethnography, and grounded theory to name only a few (Miller & Crabtree, 1999a). In some cases the characteristics of the different traditions overlap.

In primary health care, the use of qualitative research strategies is relatively recent compared to some other disciplines. As a result, there is no well-described qualitative tradition associated with primary health care. While some primary health care researchers are guided by an existing disciplinary tradition, others pick and choose qualitative methods depending on their research needs (Gilchrist, 1992). Some may also combine multiple research methods, including qualitative and quantitative methods, in one study (Miller & Crabtree, 1999a). In this project we chose not to adhere to a specific disciplinary tradition, but rather selected different qualitative research methods to best answer the research questions being asked at each stage of the project.

2. Definitions of Terms

The following terms relate to the qualitative research methods used in this project.

Analysis - The analysis of qualitative data refers to "the identification of essential features and the systematic description of interrelationships among them - in short, how things work" (Wolcott, 1994, p.12). Reduction and interpretation are two tasks in analysis; the researcher reduces the data to a set of patterns or categories, and interprets meaning from the re-organized data (Creswell, 1994).

Coding - This term refers to the part of the analytic process in which codes are applied to sections of data which reflect ideas, themes or relationships which are relevant to what is being studied (Bogdewic, 1999). "Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study" (Miles & Huberman, 1994, p.56).

Constant-Comparative Technique - Glaser and Strauss (1967) describe this analysis strategy of comparing an incident "with previous incidents in the same and different groups coded in the same category"(p.106). This process of comparing and contrasting sections of text allows the researcher to look for similar and dissimilar meaning in the data, in order to clarify the characteristics of the phenomena he is describing as he develops categories.

Contact Summary Form - This data organization tool is described by Miles and Huberman (1994). It is a one-page form which a researcher can use immediately after an interview to briefly summarize main ideas, themes and new questions arising out of that contact. The contact summary form used in this project is presented in Appendix A.

Editing Analysis - In this analysis approach, the researcher develops descriptive and categorical codes through interaction with the text, rather than starting the analysis with a set of *a priori* codes. Using this style, "the interpreter enters the text and begins to segment the data by identifying the information most pertinent to the research questions and then categorizing, cutting, pasting, splitting and splicing, much as an editor does" (Miller & Crabtree, 1999b, p.135). This approach is depicted in Figure 1 at the end of this section.

Information Saturation - The point at which no further new themes or categories are emerging from subsequent interviews is referred to as saturation or redundancy. A researcher frequently chooses to stop sampling when he reaches this point of information saturation. (Kuzel, 1999; Morse, 1995a).

Interviewing - A common means of collecting data in qualitative research, interviewing refers to a formal communication between a participant and researcher (Gilchrist & Williams, 1999). Interviews can range from being structured, with questions clearly defined to answer a specific question, to being very loose, using open-ended questions designed to elicit a participant's experiences or perceptions in rich detail (Miller & Crabtree, 1999c).

Key Informants - This term describes research participants who "possess special knowledge, status, or communication skills, who are willing to share their knowledge and skills with the researcher, and who have access to perspectives or observations denied the researcher through other means" (Gilchrist & Williams, 1999, p.73).

Maximum Variation Sampling - Maximum variation sampling "aims at capturing and

describing the central themes or principal outcomes that cut across a great deal of participant or program variation” (Patton, 1990, p.172). In this type of sampling, participants who have varied characteristics are sampled in order to ensure that a range of experiences or perceptions is likely to be represented during data collection.

Member-Checking - This is a process by which the researcher reviews findings with research participants and requests their feedback as to how well the findings reflect their experiences. This allows the researcher to check her interpretations of the data, and provides further information which may help clarify her understanding of the findings (Crabtree & Miller, 1999a; Gilchrist & Williams, 1999).

Purposeful Sampling - This is a general term which refers to the process of sampling cases or units which will yield rich information about the phenomenon being studied. A variety of strategies can be used in purposeful sampling; maximum variation sampling is one example of such a strategy (Patton, 1990).

Template Analysis - In a template style of analysis, a set of codes is used as the starting point of the analysis process (Crabtree & Miller, 1999b). Codes may be established *a priori* or after initially scanning of the text. The start list of codes can be generated from “the conceptual framework, list of research questions, hypotheses, problem areas and/or key variables that the researcher brings to the study” (Miles & Huberman, 1994, p. 58). This analysis approach is depicted in Figure 2 at the end of this section.

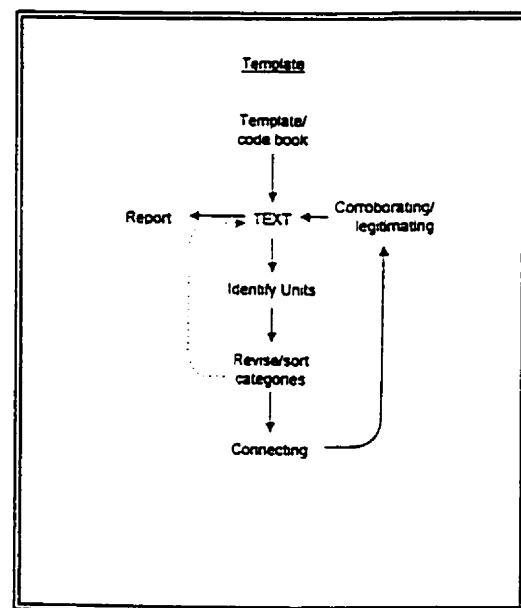
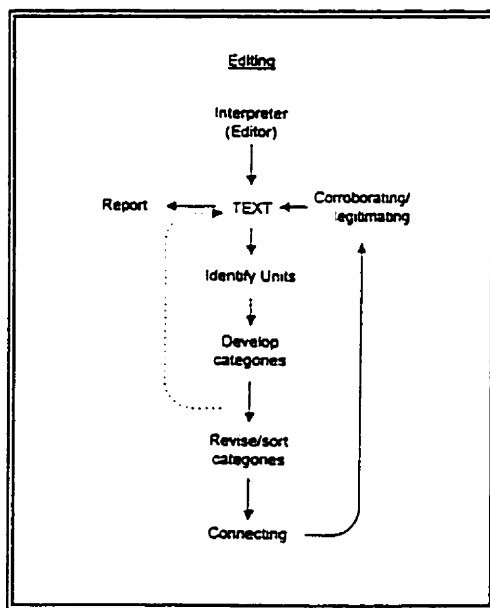
Triangulation - The process of triangulation is used to support the trustworthiness of qualitative results by showing agreement between findings from varied sources, gathered by different methods, and interpreted by independent researchers. “Triangulation is a way

to get at the finding in the first place - by seeing or hearing multiple *instances* of it from different *sources* by using different *methods* and by squaring the finding with others it needs to be squared with”(Miles & Huberman, 1994, p.267).

Trustworthiness - A key issue in qualitative research is to ensure “the correctness or credibility of a description, conclusion, explanation, interpretation” (Maxwell, 1996, p.87).

Different terms can be used to describe this characteristic: validity, authenticity, accuracy or trustworthiness (Creswell, 1994). I will use the term trustworthiness in this report to refer to the extent to which findings credibly reflect the experiences and perceptions of participants. The term validity I will reserve for discussion of properties of the instrument.

Figure 1 - Editing Analysis Approach Figure 2 - Template Analysis Approach



(Both from Miller & Crabtree, 1999a, p.22)

3. Research Methods

Though not adhering to a specific qualitative tradition, the methods used in this project were common to qualitative research, and were selected to fit the research questions during each phase. Data collection and analysis were focused on the eventual development of the instrument, and various methods were used to help verify the findings during the stages of analysis and instrument development.

Table I provides a brief overview of methods used in the project. In the following section I will describe the methods applied during each of these phases in more detail, including the strategies used for sampling, recruitment, data collection and analysis.

Table I - Overview of Research Methods

Phase	Methods
Previous Research (provider interviews)	<ul style="list-style-type: none"> -Purposeful, maximum variation sampling -Open-ended interviews with providers -Contact summary, template analysis, manual coding -Member-checking
Phase I (patient interviews)	<ul style="list-style-type: none"> -Purposeful, maximum-variation sampling -Open-ended interviews with patients -Contact summary, editing analysis, computer-assisted coding -Member-checking/ peer review
Phase II (instrument development)	<ul style="list-style-type: none"> -Consensus group with providers -Development of draft instrument -Review of draft via structured telephone interviews with patients and verbal and written feedback from providers -Template analysis approach -Member-checking
Phase III (instrument pilot)	<ul style="list-style-type: none"> -Purposeful sampling -Structured interviews with patients -Further verbal feedback from providers -Template analysis approach -Member-checking

3.1 Previous Research: Provider Interviews

Table 1a - Previous Research

Purposes	Methods
To elicit providers' definitions of health and their perceptions of the factors which determine health	<ul style="list-style-type: none"> -Purposeful, maximum variation sampling -Open-ended interviews using an interview guide -Template analysis approach, manual coding of data -Member-checking, triangulation of findings from different providers

Several months before beginning the project outlined in this report, I interviewed a sample of providers at the health centre as a project for a qualitative research methods class. While this previous project was not a formal part of this study, it did provide data which were used during development of the instrument. For a detailed description of the methods used during this previous research, copies of an unpublished proposal and report are available (McKague, 1998a,b). The purpose and methods of this previous research are summarized in Table 1a; in the following paragraphs the methods are briefly outlined.

Sampling and Recruitment:

Six participants, representing a variety of health care providers, took part in this set of interviews. These key informants were selected purposefully, based on their depth of involvement with patients, reasonable length of experience at the centre, and willingness to speak openly about their experiences. I also employed a maximum variation sampling strategy. The range of provider types, with different professional experiences and

education, was a potential source of variation at the centre, and so different types of providers with different health care experiences were approached for recruitment. All providers approached agreed to participate.

Data Collection:

Data were collected through face-to-face interviews with health care providers conducted at the centre. Written informed consent was obtained at the start of each interview. The interviews were semi-structured, using open-ended questions loosely based on an interview guide. The length of the interviews ranged from 30 minutes to 1 hour 15 minutes. Interviews were audio-taped and then transcribed verbatim.

Analysis:

Initially, after transcribing each interview, I completed a contact summary form, articulating the key ideas and new questions which emerged out of the interaction.

Next came the process of coding the data from each interview. During the analysis of the provider interviews, I used a template coding approach, which has been defined previously. While reviewing the transcripts and contact summary forms from the initial interviews, it became apparent to me that participants were using a few broad categories to describe both the dimensions of health and the factors impacting health. These categories fit well with existing definitions of health and health determinants. When coding the first interviews, I used these categories as a start list of codes.

As I progressed through the interviews, I applied the *a priori* codes to the larger categories of health determinants, and then assigned descriptive sub-codes to more specific factors impacting health within each broad category. In addition, I assigned new

codes to phenomena which did not fit existing categories. As codes emerged, I used the constant-comparative technique to revisit and re-code previous data if appropriate.

During this process, I sketched, and re-sketched diagrams for each participant, depicting the major categories of factors they identified as impacting health. the specific factors within each category, and the relationships between the dimensions identified. Finally, I attempted to bring together the common dimensions and relationships into a preliminary model to describe the broad categories of factors impacting the capacity of patients to be healthy. In addition, I created lists of specific factors influencing health within each of these broad categories.

After analysis of the interviews, I presented the preliminary results to providers at a staff meeting, and elicited feedback, taking notes for later analysis.

3.2 Phase I: Patient Interviews

Table 1b - Phase I

Purposes	Methods
1. To elicit patients' definitions of health and their perceptions of the factors that determine health	-Purposeful, maximum-variation sampling -Open-ended interviewing -Editing analysis approach, computer-assisted coding
2. To find out how comfortable patients would feel in sharing this information via a questionnaire	-Member-checking, peer reviews, triangulation of findings from different patients
3. To elicit patients' recommendations as to how to incorporate a questionnaire into clinical practice	

The purpose of this phase and the methods used are outlined in Figure 1b. While the primary purpose of the interviews was to gain an understanding of how patients defined health and perceived its determinants, we also used the interviews to answer some practical questions about the use of a questionnaire to assess health determinants. Sampling and recruitment, data collection and analysis methods are discussed in more detail in this section.

Sampling and Recruitment

For the purposes of this project, we sampled adults who were registered patients receiving clinical services at the health centre. While planning the project, we identified several crucial issues which would potentially impact sampling and recruitment. As in the provider interviews, it was important to use a purposeful maximum variation sampling strategy in order to find participants who represented a range of experience and

perceptions. Potential sources of variation in patient experience in this research setting included age, gender, cultural background, health and illness experiences, socioeconomic status and education. However, we were faced with practical limitations in being able to identify these patient characteristics as we recruited our sample. In addition, we wanted to minimize the potential for patients to feel pressured or coerced to participate and so had to plan sampling and recruitment with that in mind.

We recognized that recruiting patients to participate in the interviews might present challenges. Patients often have competing demands on their time and resources which may take priority over research participation (Andrews, 1996). This may be especially true of people who are disenfranchised or who have complex health problems; people whose input was of particular interest in this project. If patients distrusted the consultation process or felt coerced to participate this might influence their willingness to become involved. Other potential barriers to participation included language differences, ability to read, physical disabilities or difficulties accessing transportation. Taking these issues into account, the sampling and recruitment strategy was carefully planned with the help of staff at the centre and input from advisors and peers.

Both staff and researchers were concerned that if health care providers at the centre were aware of who was being recruited, patients might feel coerced to participate because of concerns about jeopardizing their health care services if they refused to take part. Therefore we did not ask health care providers at the centre to recommend patients for recruitment. Instead, we generated a list of patients randomly and used a research assistant from outside the centre to select patients for recruitment, without providers being

aware of which patients were being approached.

We also wanted my role as a researcher rather than a physician to be clear to participants during the interviews, in order to maintain the research focus of the interviews. Therefore, we chose to generate the patient recruitment list from days when I do not regularly see patients at the centre, in order to minimize the chances of an interview participant also being a patient whom I regularly see as a physician.

From a six month period prior to the initiation of the interviews (January to June 1998) we randomly selected six days and pulled the computer records for the patients seen on those days. The clinic's computer database generated a "client profile" for the patients seen on each of these days, which included basic demographic information, address and phone number, as well as a list of diagnoses summarized from all previous patient visits with the nurse or physician provider. We chose several characteristics available in the database, including age, gender and presence or absence of chronic mental and/or physical disease, as a means of achieving a maximum variation sample. Using a sampling frame (Figure 3), the research assistant generated a list of potential interview participants 18 years of age or older. She then selected 10 patients, who had a range of the identified characteristics, and sent them a letter of invitation to participate (Appendix B). Included with the letters were stamped, addressed response cards on which the invited patients could indicate whether or not they wished to receive a phone call to set up an appointment for an interview.

Patients who had responded positively were telephoned by the research assistant and an appointment for an interview was arranged. She recorded the number of negative

Data Collection

The interviews with all seven patient participants took place over a four-month period between March and July, 1999. Participants were given a choice of where they would like to be interviewed; six participants were interviewed in their homes and one at the health centre. Written informed consent was obtained immediately prior to each interview (Appendix C). The length of the interviews varied, ranging from 30 minutes to 1 hour, 35 minutes. Interviews were audiotaped and subsequently transcribed verbatim. I transcribed four of the interviews and the other three were transcribed by the research assistant.

As in the provider interviews, the patient interviews were semi-structured, using open-ended questions. I used an interview guide, which had been developed based on the interview guide from the provider interviews. The wording of several questions had been modified and the questions had been pre-tested with providers at the centre and peers. I did not strictly follow the interview guide. At times I changed the order of the questions in response to the flow of the interview or omitted a question because the participant had already addressed that issue. In addition, I sometimes added probing questions or asked for examples of the phenomena the participant was describing. The interview guide is presented in Appendix D.

After each interview, I completed a contact summary sheet outlining the main themes emerging and identifying unanswered questions, which in some cases influenced the questions asked in subsequent interviews.

Analysis

In analysing the patient interviews, I employed a different approach to organizing and interpreting the data than in the analysis of the provider interviews. During the previous research I had used a template approach, initiating the analysis with a start-list of *a priori* codes based on the categories of health determinants identified by providers themselves. During the analysis of the patient interviews, however, I used an editing approach, which has been previously defined. My choice of analysis approach for the patient interviews was guided by the interview content. The patient participants tended to answer the interview questions by providing detailed examples from their own experiences, rather than describing categories of determinants. After scanning the first few interviews and completion of the contact summary forms, it was clear to me that patient participants were answering the questions in a different way, and that a different analysis approach was required.

Editing analysis uses a more inductive approach than template analysis; the researcher first opens up the data by applying descriptive codes and subsequently develops, and revises, categorical codes as she identifies patterns in the data (Miller & Crabtree, 1999a). Editing analysis starts with a process of open coding, in which "data are broken down into discrete parts, closely examined, compared for similarities and differences, and questions are asked about the phenomena as reflected in the data" (Strauss & Corbin, 1990, p. 62). As this process is repeated again and again, categories emerge to explain the described phenomena. In this section, I will discuss how I employed this approach in analysing the patient interview data. During the analysis, I used

Ethnograph v5.0 computer software to help organize the data.

As I read through each initial interview, I considered sections of text, phrases, sentences, or sometimes paragraphs, and applied codes to describe the ideas expressed. At this stage the codes were mainly *in vivo*; that is, codes were named using the words of the informants themselves (Strauss & Corbin, 1990). These level 1 codes were descriptive of specific phenomena discussed by the participants. Next I compared sections of text within an interview or between interviews to see if they were describing the same or different phenomena. Sometimes the same phenomena were being described, and an existing level 1 code was used. Sometimes the text referred to a different or new idea, and a new level 1 code was created.

In certain cases, different sections of text referred to similar ideas which shared certain properties, and in this case I created new, level 2 codes, reflecting the common properties of the phenomena. These level 2 codes were sometimes named after existing social or psychological constructs such as self-efficacy or social support, which have been described in the literature. In some cases, I created names to describe the phenomena if there was not a good match with existing constructs. As I analysed subsequent interviews, I applied both level 1 codes, and, increasingly, level 2 codes to sections of text which reflected these phenomena.

During this process, I continued to use constant comparison to look for similar and dissimilar meanings in the examples given. I found this process helpful in the development of codes with clearly-defined properties.

As coding progressed, I began to see similar properties between different level 2

phenomena which allowed them to be grouped together as factors impacting health within a larger category of health determinants. In a third level of coding, I identified and named these larger categories. In addition, I compared the larger categories with the categories of determinants described previously in the analysis of the provider interviews.

During analysis of the patient interviews, I recognized complex relationships between the many health determinants described by patients. In order to operationalize the results as an instrument, it was not necessary to develop a model of the relationships between determinants. It was, however, important to understand specific factors impacting health for participants and also to acknowledge the potential relationships between these factors. This limitation of the results to their clinical significance, rather than their theoretical significance, is appropriate given the purposes of the project (Thorne, 1997).

The end result of this editing analysis approach was the creation of a list of broad categories of health determinants with specific factors identified within each broad category, based on the patient interviews. These results were then carried forward into the next phase of the project.

3.3 Phase II: Instrument Development

Table 1c - Phase II

Purposes	Methods
1. To achieve consensus among providers as to the determinants to be included in the instrument and potential applications	-Consensus group with providers -Development of draft instrument -Structured telephone interviews with patients -Verbal and written feedback from providers
2. To develop a draft instrument	-Template analysis
3. To revise the draft instrument based on feedback from stakeholders	-Incorporation of specific recommendations -Member checking

After analysis of the patient and provider interviews, we had a better understanding of the many interrelated factors perceived to influence patients' health. During phase II, we sought to clarify which of these factors needed to be included in the instrument based on the needs of stakeholders, and to develop a draft instrument with stakeholder input. The purposes and methods of Phase II are summarized in Table 1c.

The first step was to present the results of the interviews to providers and to receive guidance from staff as to instrument content, formatting, and potential applications. This was done in the format of a consensus group. Next, we developed a draft questionnaire. This questionnaire was reviewed with several patients and revisions were made based on their feedback from telephone interviews. The draft instrument was distributed to providers who provided verbal and written feedback, with the instrument going through several more iterations. When the draft instrument was ready to be piloted, the clinical team met to arrange how the pilot was to be carried out, and we moved into the third phase of project. In this section, I will discuss each of these steps in more depth.

Consensus Group

At this stage of the project, it seemed important to share the interview findings with staff stakeholders and receive their guidance about desired instrument content, format, and applications before going ahead with instrument development. We decided to proceed with a group discussion for this purpose. We were careful to clarify that this was a consensus group rather than a focus group, as the purposes of these two types of groups differ. While “the primary purpose of focus groups is to collect qualitative data” (Morgan & Krueger, 1993, p.11), this group was organized to share information and achieve consensus about some key issues in development of the instrument. This type of discussion was familiar to staff, as achieving consensus through discussion at meetings is a common means of decision-making at the centre. Although this consensus group was distinguished from a focus group by its purpose, it did have in common with a focus group some features, such as use of a moderator, taping and transcribing of the discussion and use of an template style of analysis (Knodel, 1993).

We felt it was important to invite all staff who might potentially be affected by the use of the instrument at the centre to provide input, and so all staff were invited to participate in the group. Seven staff attended, including a receptionist, a crisis worker, a counsellor, two physicians, the medical coordinator and the executive director. In addition, an external evaluator conducting a long-term process evaluation at the centre took part. A moderator experienced in group facilitation was hired from outside the centre, and I acted as co-moderator.

The moderator explained the purpose of the group and written informed consent

was obtained (Appendix E). Next, I presented a summary of the health determinants and other issues which had emerged from the provider and patient interviews. The moderator then led a two hour discussion based on a series of open-ended questions we had developed previously (Appendix F). She frequently asked participants to confirm if her interpretation of their comments was correct, and at the end of the discussion summarized the recommendations made by the group. The moderator took detailed notes, and the discussion was also audiotaped and subsequently transcribed by a transcriptionist.

We used a template approach in organizing and analysing the data, with the subject of each question serving as an *a priori* category. Both the moderator and I summarized our impressions of the main themes of the discussion independently. The moderator also summarized her impressions of the group dynamics and the roles of each participant in the group. She then reviewed her notes and I reviewed the transcript in more detail, looking for answers to each question as well as looking for unexpected themes. Because the discussion had continued until consensus on key issues was reached, the analysis required was relatively simple and we did not pursue the type of in-depth coding and re-coding used in the interview analysis. The moderator and I then met to compare our interpretations of the data and to confirm our understandings of the recommendations the group had made.

Instrument Development and Feedback

In the following weeks I developed a draft questionnaire including items about the key health determinants identified by the interview participants and confirmed as being relevant during the consensus group. For many items in the questionnaire, the words of

the interview participants themselves formed the basis for the question. For a few items I modified wording which has been commonly used in various health surveys such as The Canada Health Survey (Health and Welfare Canada, 1981), Canada's Health Promotion Survey (Health and Welfare Canada, 1993) and The Health of the Calgary Region Survey (CRHA, 1996b). In some cases, I developed questions based on my own understanding of the determinants to be assessed, or, in the case of a question about income, based on public information available about that determinant (National Council of Welfare, 1999).

We had identified the importance of having feedback from stakeholders as the instrument developed in order to bring a well-formulated questionnaire to the pilot. With this aim in mind, we carried out structured telephone interviews with some of the patients who had participated in the interviews to obtain their feedback about the draft questionnaire. As this was a change from the original protocol, this modification was submitted to the Conjoint Health Research Ethics Board and received approval. Three patient interview participants had indicated that they wished to receive a copy of the instrument when it was ready. I wrote to these three participants, sending them a copy of the draft instrument and letting them know that I would contact them by phone to invite them to take part in a telephone interview to give their feedback. When contacted, all three agreed to be interviewed and verbal informed consent was obtained. I used a structured interview guide (Appendix G) and took notes of the participants' responses. Analysis of the data was straight-forward, as the questions and responses were very specific. Participants identified problems with items in the instrument and made recommendations for changes, including whether items should be removed, modified, or

new items added.

During the same time period, I distributed the draft instrument to staff at the health centre with a request for feedback. Twelve staff provided feedback, in most cases verbal but in some cases also written. During this series of informal interviews, I asked staff to identify problems with items and to specify solutions they would suggest, including whether items should be added, removed, or modified. In addition, because one of the recommendations out of the consensus group had been to revise our current patient intake form to make it more compatible with the Health Determinants Questionnaire, I also reviewed this intake form with the physician staff and asked for their input into revisions.

During this period I reviewed the questionnaire versions with my supervisor, and revised the questionnaire several times based on the patient and staff feedback. The third draft I reviewed with staff at a clinical team meeting which had been arranged to organize the details of the pilot. Based on recommendations from that meeting, we revised the questionnaire again before piloting it with patients.

3.4 Phase III: Pilot

Table 1d - Phase III

Purposes	Methods
1. To pilot instrument	-Purposeful sampling
2. To make final revisions to the instrument	-Structured interviews with patients -Verbal feedback from providers -Template analysis

The final phase of this project was to pilot the instrument with a sample of patients in the clinical setting, and to make final revisions based on the pilot. The purpose of the pilot was threefold: to obtain feedback from patient participants about the content of the questionnaire, to gain an understanding of how comfortable patients felt sharing the information requested in the questionnaire, and to assess how practical the instrument was when applied in the clinical setting.

We selected the participant sample purposefully, based on how it was anticipated that the instrument would eventually be used in the clinical setting. During the consensus group, staff had identified that the instrument would be most effective when used one-on-one with patients attending the centre for a new patient appointment or for a complete examination with a physician. These appointments are longer than regular follow-up appointments, with time allotted for taking a detailed history and for health promotion and disease prevention counselling. We felt that the pilot should be carried out with patients attending for these two types of appointments, to match the situations in which the instrument would potentially be used on a regular basis. In addition, we chose to exclude

patients who, because of very limited English, required the use of a translator.

Over a two week period, the centre receptionist identified all eligible English-speaking patients who had upcoming new patient appointments or complete examinations booked. New patients are routinely asked to arrive fifteen minutes before their appointments in order to complete an intake form. The receptionist telephoned patients coming in for complete examinations to inform them that we were piloting a new instrument, and asking them to arrive fifteen minutes before their scheduled appointment time if they were interested in participating in the pilot.

Of the patients scheduled for new patient appointments or complete exams during that period, two could not be reached by telephone and did not come to their appointments. Ten patients did attend their appointments, and of those ten all agreed to complete the Health Determinants Questionnaire and participate in the pilot. These patients varied in age, gender, and previous health and illness experiences.

When patients arrived prior to their appointments, the receptionist gave them a cover letter explaining the purpose and the format of the pilot (Appendix H) and a copy of the Health Determinants Questionnaire. All patients were given the option of completing the questionnaire either on their own or with the assistance of a staff member. During their appointments, patient participants reviewed their responses to the questionnaire items with their physicians, and addressed any issues which arose from the information disclosed. Each of the four physicians who regularly see patients for booked appointments had at least one opportunity to review the questionnaire with a patient.

Immediately following their appointments, I asked the patient participants to take

part in a brief structured interview to give feedback about the draft questionnaire. Written informed consent was obtained (see Appendix I), and the interviews lasted between five and fifteen minutes. The structured interview questions were the same as those used during the telephone interviews in phase II (Appendix F). Patients provided information about their comfort in sharing the information contained in the questionnaire with various types of providers, their recommendations for frequency of use, their feelings about the time required for completion, as well as their feedback about specific questions and ways to improve the questionnaire.

During the interviews, the responses regarding comfort in sharing information were relatively consistent. Different participants also tended to identify problems with a small number of questionnaire items repeatedly. As much of the same information appeared to be emerging from subsequent interviews, I felt that I had reached the point of information saturation (Kuzel, 1999) and chose to end the pilot after ten interviews.

Again, I used a simple template approach to analysis, using the subject of each question as a category. The analysis proved to be straight-forward, as the interviews were structured and the information participants provided was very specific, requiring little interpretation.

Following the pilot, I identified common problem items in the questionnaire and made further revisions, including the incorporation of suggestions made by the patients during the pilot. I distributed the instrument one more time among staff stakeholders, and made some minor revisions based on suggestions from staff. At this point, the questionnaire was in its final form.

4. Assuring Trustworthiness: Methods Used for Verification

Ultimately, the goal of this project was to develop a practical instrument to assess modifiable health determinants, which would have content validity for the setting in which it was developed. Whether or not we achieved this type of validity depended on the quality of the data which emerged from the provider and patient interviews and the methods used for instrument development. Again and again, during the process of data gathering and interpretation and instrument development, I found myself challenged by the question; “How do we know if we can trust these results?” or “How do we know if my interpretation truly reflects the experiences of participants?” Various strategies can be used in qualitative research to try to draw trustworthy conclusions (Miles & Huberman, 1994). These strategies are employed throughout the research process, from sampling through data gathering, analysis and interpretation. In this section I will discuss some of the main methods I used during this project to ensure that the results were as trustworthy as possible.

4.1 Accurate Recording of Data

If data are incomplete or recorded inaccurately, it is difficult to trust the interpreted results (Maxwell, 1996). During the stakeholder interviews, I took both detailed notes and audiotaped the interviews. After each interview I completed a contact summary form, identifying key themes and new questions, while the interview was still fresh in my mind. Next the interviews were transcribed verbatim; some I transcribed myself and some were done by a transcriptionist. I then listened again to the interview

while simultaneously reviewing the typed transcript, looking for and correcting any errors.

The same process was followed for the consensus group in Phase II. In this case, the detailed notes taken by the moderator proved to be important as one side of a tape (approximately 30 minutes) failed to be recorded due to a technical problem, and therefore could not be transcribed.

During the telephone interviews, the informal interviews for provider feedback, and the structured interviews the pilot I took detailed notes. However, I did not record the interviews. Recording the patient telephone interviews and informal provider interviews would have been difficult for practical reasons. More importantly, we did not feel verbatim transcripts were required as the information provided was very specific and required little interpretation.

4.2 Minimizing Unwanted Researcher Effects

The qualitative research interview has been described as “a conversation in which the data arise in an interpersonal relationship, co-authored and co-produced by interviewer and interviewee”(Kvale, 1996, p. 159). Clearly, the researcher has a major effect on what data emerge during the interview as she purposefully seeks out useful information through her choice of questions. However, in some situations the role of the researcher may cause misleading information to emerge during the interview. In planning and carrying out these interviews, I attempted to identify potential unwanted researcher effects and to minimize them.

We were primarily concerned about potential unwanted research effects related to

my dual role as a physician at the centre as well as a researcher. During the patient interviews, participants were aware that I worked as a physician at the health centre. I was concerned that this knowledge might create several potential problems. Patient participants might view me as an “expert” on health and feel uncomfortable sharing their own opinions about the factors that determine health because they worried that these were not the “correct” responses. Participants might feel pressured to provide socially-desirable responses about health determinants, such as the negative effects of smoking or recreational drug use, even if they did not feel these were important determinants. Finally, I was concerned that participants might be inclined to interact with me as a practitioner rather than a researcher, changing the focus to a therapeutic interview rather than a research interview.

We addressed these concerns in several ways. As discussed previously (p. 34), the sampling strategy was designed so that patients who regularly saw me as their family physician were not invited to participate, as we felt it would be more difficult for me to maintain a researcher role with these patients. When introducing the study and obtaining informed consent from participants, I emphasized strongly my role as a student researcher, and the fact that I wanted to learn from their experience. I also assured them of the fact that their responses would be kept confidential and would not be shared with their health care providers. In order to ensure that participants provided their own opinions rather than the answers they felt I was expecting, I asked probing questions, seeking responses emerging from the participants’ own experiences. In one situation, when a participant wanted clinical advice from me about a health problem, I briefly answered her question

and encouraged her to discuss the problem in more depth with her own physician, then redirected the conversation back to the interview. Through these strategies, I attempted to minimize potential researcher effects which might influence the trustworthiness of the interview responses.

4.3 Identifying and Managing Researcher Bias

In quantitative research, attempts are made in the research design to control for and eliminate sources of bias, in order to increase the validity of the findings. In qualitative studies, however, it is recognized that the researcher is the instrument through which data is collected and analysed, and that every researcher brings his own biases to the research (Creswell, 1994; Maxwell, 1996). As a researcher interprets the data in a qualitative study, this interpretation will be influenced by the experience of the researcher and his interaction with the participants. It is essential that prior to beginning a project, a researcher identifies his own values and biases which might influence the research, and that he maintains this awareness throughout all stages of the research process. He can then recognize when his own biases are influencing the data he is gathering, or his interpretation of it, and can seek alternate explanations to challenge his findings. By identifying preconceived ideas and conscientiously trying to separate them from the experience of the participants, the researcher may be more confident that he is describing the essential phenomenon being studied. In this process, the researcher recognizes that “a truthful account is obtained not by trying to eliminate bias but by comprehending it” (Gilchrist, 1992, p.89).

Reduction refers to “a narrowing of attention to what is essential in the problem while disregarding or ignoring the superfluous and accidental”(Stewart & Mickunas, 1990, p.26). Bracketing is a technique employed in reduction, by which the researcher identifies his preconceived ideas about the phenomenon under investigation, in order to isolate his prejudices from the essence of the phenomenon (Miller & Crabtree, 1999c).

Having worked in the health care field, I brought my own prejudices to the research as to how health should be defined, and as to what factors determine health.

Some of these preconceptions which I identified included:

- ▶ an understanding of health as a state of well-being, with multiple dimensions.
- ▶ an expectation that patients would tend to focus on the physical dimension in their definitions of health.
- ▶ an expectation that the main categories of health determinants would be social, physical (including genetic) and lifestyle as suggested by a common health determinants model (Evans & Stoddart, 1994).
- ▶ a expectation that health care services and providers would be seen as major factors influencing health.
- ▶ an expectation that patients might emphasize lifestyle factors over social factors.

I sought to identify these preconceptions at the start of the project, and to maintain an awareness of them throughout analysis in order to challenge myself to look for disconfirming evidence and alternate explanations in the data. In addition, I used other strategies which I will subsequently describe to test that my interpretation of the data was not overly influenced by my biases.

4.4 Triangulation

As a researcher gathers data, she may have more confidence in her results if the same information comes from different sources, or if her interpretations are independently confirmed by other researchers. Triangulation is usually built into different stages of the research process. In this study, we planned triangulation by data source and method, by researcher, and by theory (Gilchrist & Williams, 1999; Miles & Huberman, 1994).

Our primary data sources were patients and providers at the health centre. During analysis, I compared findings between these data sources, examining both the similarities and differences between categories of determinants and specific factors within those categories. Comparisons were made between results for individual providers, for individual patients, and between the findings for providers and patients. Because we used maximum variation sampling of both provider and patient participants, there was a wide range of experience, and potentially of opinion, within and between groups. The high degree of consistency in the findings, given the heterogeneity of the participants, lends credibility to the results.

We also triangulated between data gathered by different methods. Most data was gathered by individual interviews. However, data about key health determinants also emerged through the consensus group discussion in Phase II and again at team meetings in Phases II and III. I compared the results obtained through these two different methods of data collection, again looking both for agreement and disagreement in the findings.

During analysis of the patient interviews and consensus group results, we also triangulated by researcher. This type of triangulation allowed me to test my own

interpretations of the data. My supervisor reviewed patient interview transcripts to identify themes and categories. After the consensus group, the moderator and I each independently looked for categories and themes in the data and then met to compare our findings. In addition, I asked peers to review the transcripts, a form of triangulation which will be addressed in the following section.

A final type of triangulation involves comparing findings with existing related theory. I triangulated the findings from this project with several theories related to health, health determinants, and health care, including those of Antonovsky (1979), Evans and Stoddart (1994); Mangham, McGrath, Reid, & Stewart (1994), and Stewart, Brown, Weston, McWhinney, McWilliam, & Freeman (1995). These comparisons are discussed in Chapter V.

4.5 Peer Review

Peer review is a specific means of triangulating results by researcher. I shared patient interview transcripts with three qualitative researchers who were external to the project. These researchers reviewed the uncoded transcripts and identified ideas, categories and themes in the data. They then discussed their interpretations with me, allowing me to compare and contrast my own interpretations. This peer review confirmed many of my own findings from the data. In several instances it also encouraged me to look at the data in a way I had not previously considered.

4.6 Weighting Data

In qualitative research, the researcher, for a variety of reasons, may trust certain data more than others. He should give more emphasis, or more weight, to trusted data in his interpretation (Miles & Huberman, 1994). During data collection in this project I was concerned about participants providing “pat” answers: responses which they felt I was looking for, or which were socially desirable. With this concern in mind, I tended to trust responses more if the participant provided evidence from his own experience of the health determinant in question. If a participant simply stated that a certain factor influenced health, I asked probing questions to better understand the experience on which he based that conclusion. I gave more weight to results supported by rich evidence from the participant’s own experience.

Similarly, I tended to give more weight to data arising spontaneously rather than that due to prompting. If a participant did not mention a determinant which had been identified in previous interviews, I sometimes questioned him about that determinant. In some cases, the interviewee agreed that the factor was a health determinant which he had not previously considered. If he provided a personal example of the impact of that determinant on health, I tended to trust that evidence. However, if an interviewee agreed when prompted but was unable to explain why he agreed, I did not give that data as much weight as information which had emerged spontaneously.

4.7 Looking for Meaning in Outliers

Outliers are findings that seem to lie outside the range of most participant's responses. A researcher should carefully consider exceptional findings, in order to test her findings and possibly expand or re-think her interpretation (Miles & Huberman, 1994).

An example of the importance of paying attention to outliers occurred during the provider interviews in the previous research. During the first few provider interviews, similar definitions of health and consistent categories of health determinants emerged. However, when I interviewed the chiropractor, his responses to questions initially seemed to be quite different from the responses of other providers. He defined health in a slightly novel way compared to other providers; later his definition of health was echoed by several patient interviewees. As well, the way he organized and described health determinants appeared to be different. This difference spurred me to do some further reading in the literature. During this reading I found a model of capacity which shared some common features with the findings from the chiropractor's interview (Mithaug, 1996). This in turn caused me to reconsider how I had interpreted and organized the data from previous provider interviews, and led to some changes in my understanding of the relationships between health determinants.

Although I was tempted to ignore this outlying data, by acknowledging it and seeking to understand its meaning at an early stage in the research process, I emerged with a richer and more trustworthy understanding of health determinants.

4.8 Following Up Unexpected Findings

Miles and Huberman (1994) encourage researchers to actively look for meaning in seeming surprises in the data. I encountered numerous unanticipated findings in the patient interviews; often my initial reaction was to discount these findings as being irrelevant to the research question. On further consideration, some findings actually related to, and added depth to, the results.

My final question for most patient interview participants was “Is there anything we haven’t talked about which you would like to add?” This question frequently triggered unexpected responses which will be discussed further in Chapter III. In some cases, I interpreted these results as not being relevant to the project at hand, but nevertheless being issues which needed to be addressed either through practice changes at the health centre, or through further research. In other cases, I interpreted the findings as having meaning which did, in fact, add to my understanding of factors influencing health.

4.9 Looking for Disconfirming Evidence

A qualitative researcher needs to look for negative or disconfirming evidence during data analysis, in order to further test whether or not his interpretations are trustworthy (Gilchrist & Williams, 1999). In this project, our maximum variation sampling strategy was designed to increase the likelihood that we would interview participants with differing perceptions about health and its determinants, thus encouraging disconfirming evidence.

When negative data came out in the interviews, I tried to use it to challenge my

emerging ideas about categories of health determinants. For example, several provider interview participants had identified spirituality as a key determinant of health, with some defining spirituality as a belief in a higher power and some defining it as a sense of meaning in life. In a subsequent interview, when I asked the interviewee if he thought spirituality was important to health, he responded negatively. As we explored the idea further, he defined spirituality as religious belief and observation. However, when I asked him if having a sense of meaning was important to health, he responded positively. This was an instance when disconfirming evidence led me to re-examine and re-define the emerging categories during analysis.

4.10 Member-checking

One key strategy for verifying findings is to ask research participants to provide feedback about the results. We used this process of member-checking extensively during the various phases of the project. During the patient and provider interviews, I frequently summarized my understanding of the ideas being expressed and asked the participants to confirm how accurate this understanding was, and to correct any misinterpretations. At the end of each interview I summarized my interpretation of the key points expressed in the interview, and again asked for feedback. After completing the provider interviews, I also presented the findings at a staff meeting and elicited feedback.

In Phase II of the project, the consensus group provided an opportunity for extensive feedback from staff about the results from the interviews. Again, within the consensus group discussion, the moderator frequently paused to rephrase data and ask for

confirmation and clarification of her interpretation.

During Phase III, instrument development, I obtained specific member feedback about the draft instrument content. From patients, this was obtained through telephone interviews after three patients had reviewed and critiqued the questionnaire. Similarly, staff reviewed the questionnaire and provided written and verbal feedback, both one-on-one and during team meetings.

The pilot was designed primarily as a member-check of the content validity of the questionnaire, as well as to gain feedback from patients about their comfort with the use of the instrument in the clinical setting. Following revision of the questionnaire after the pilot I again distributed the questionnaire among staff and received some further feedback which led to minor revisions.

This extensive use of member-checking increased my confidence in the trustworthiness and relevance of the instrument to stakeholders.

There is no single method for achieving credible results in qualitative research. In this project, we employed multiple strategies during all stages of the research process in order to optimize the trustworthiness of the results. Throughout the project, we kept in mind the final goal, which was to develop a practical instrument with content validity and relevance for its intended users.

5. Ethical Issues

Ethical considerations for this project included the issues of consent, privacy, confidentiality, anonymity, as well as potential benefits and harm. Sample consent forms for the patient interviews, provider consensus group, and patient structured interviews are attached (Appendices C, E and I). The project proposal was approved by the Conjoint Health Research Ethics Board.

The recruitment process for interviews has been described previously, and was designed to minimize potential for coercion, or perceived coercion, of patients by health providers. Privacy was protected by conducting interviews either at the centre in a room separate from the clinic area, or in the patient's own home. The project was described to potential participants and written informed consent was obtained prior to each interview. Confidentiality of the participants' responses was protected. Audiotapes and interview transcripts were available only to myself, my supervisor, and a limited number of colleagues who signed a confidentiality agreement for peer review (Appendix J). Initials, rather than the participants' names, were used on the audiotape and in the transcripts. No harm was anticipated for the interview participants. I had made contingency plans so that if distressing personal issues emerged during the interview, the participant would be assisted in accessing appropriate support services. This situation, however, did not arise.

Our recruitment for the staff consensus group has been described. Written informed consent was obtained. Participants were asked to respect each other's confidentiality and not to discuss outside of the group the information addressed. Because of the small number of staff at the centre, anonymity was not possible. However, as the

questions being addressed in the group deal primarily with the composition and use of the instrument itself, it was not anticipated that potentially sensitive topics would arise, reducing the need for anonymity.

We made a modification to the original protocol after identifying that it would be useful to have some of the original patient interview participants provide feedback about the first draft of the instrument. This change was approved by the Ethics Board. As these interviews were conducted by telephone, written informed consent was not obtained. Instead, I discussed the purpose of the interview with each potential participant, and obtained verbal consent using the pilot consent form as a guide. These interviews were not audiotaped, and the data was only available to my supervisor and myself. Other ethical issues were similar to those described previously.

For the pilot structured interviews with patients, written informed consent was obtained prior to each interview. The ethical considerations were similar to those for the other patient interviews.

We did not anticipate direct or indirect harm to any of the participants in this project. Although participants were unlikely to experience any immediate benefits from taking part in this project, we did anticipate potential long-term benefits to participants, as the tool emerging from the project could lead to improved patient care at the centre.

Chapter III Results: Foundations of the Health Determinants Questionnaire

The final result of this project was a questionnaire designed to assess health determinants for individual patients for use at the Alexandra Community Health Centre. In order to understand how the instrument content was selected, it is necessary to understand the results which emerged from the earlier phases of the project. This chapter discusses the results from the previous research with providers and the Phase I patient interviews. I will describe the ways participants defined health, the key health determinants which they identified, and their recommendations for the development and utilization of the instrument. In addition, I will describe some unanticipated findings which emerged during the interviews.

1. Definitions of Health

One principle of primary health care is “the application of the term health in its broadest context” (CRHA, 1996a). Staff at the Alexandra CHC seek to apply a broad definition of health in the services and programs they provide. In order to ensure that health was defined broadly for the purposes of this project, we adopted an *a priori* definition of health which reflected how health is commonly understood in primary health care. The purpose of this broad definition was to guide interviewing; if participants defined health merely as the absence of disease, I could enlarge the discussion to also address their perceptions of factors impacting well-being.

This *a priori* definition served as a guide only. We recognized that we needed to understand how patients and providers in the research setting defined health, in order to

understand their perceptions of the factors determining health. Health care providers' definitions of health emerged during the previous research; because these definitions were subsequently incorporated into the development of the instrument, I will briefly summarize them in this section. As patient participant interviews progressed, further definitions of health emerged. These definitions of health will also be described.

1.1 Provider Definitions of Health

During the spring of 1998, I interviewed six providers working at the health centre. These included, in chronological order, a nurse, a counsellor, a family physician, a medical receptionist, the medical coordinator, and a chiropractor. At the beginning of each interview, I asked each provider how she defined health, or what it meant to be healthy. While definitions varied, some key themes emerged. These themes included:

► **Health as a Multi-dimensional State of Being Well**

The most common definition was of health as a state of well-being, often described as having several dimensions ; *"It's to be well, emotionally and physically," "I think that there's a physical element, I think that there's a psycho-emotional and I think that there's spiritual as well, aspects to a person's health and well-being."* One participant described health as having multiple dimensions: *"A state of being that's preferred... and this state of wellness or being would include everything from emotional, physical, financial, support groups, satisfaction with work, community-based, how healthy your community is, self worth; I get this overwhelming urge to say 'etcetera'."* These definitions came closest to the definition of health adopted *a priori* for this project (WHO Executive Board, 1998).

► **Health as an Ability to Function**

Several providers identified health as an ability to function or to perform one's proper activity (Webster's II Desk Dictionary, 1988). One provider stated: "*My definition of health assumes active functional health.*" Another gave specific examples of aspects of functioning: "*Someone who is healthy or deems himself healthy may be able to work and to live a full life that way, have children, raise children and have a partner, that kind of thing.*"

► **Health as a Resource**

One provider defined health as a resource. In describing health, she stated: "*It's a resource for people. It's something that helps them in their daily lives. I've also heard it defined as an economic resource for society... I love that definition because truly that is the case: we are trying to prevent illness and promote health, because it will be an economic resource.*"

► **Health as a Subjective Experience**

One participant also introduced the idea that there are no absolute criteria for health which can be objectively applied; rather, health is defined by the individual experiencing it. She gave an example of this idea: "*Health is measured by their own perception of health. So someone may be a diabetic and consider themselves healthy because they have good management of their diabetes and live life to the fullest. Someone else may define their health as not very good if they have a minor problem, minor in my eyes, for example, but in their eyes it's very large... Say high blood pressure that is even well controlled, and they see themselves as unhealthy.*"

While the idea of health as a multi-dimensional state of well-being was predominant among the providers interviewed, other interesting themes also emerged as the providers defined health. The relationship of these definitions to patients' definitions of health and to definitions in the literature will be examined in Chapter V.

1.2 Patient Definitions of Health

During the first phase of the project, I interviewed seven adults who were registered as patients at the health centre. In accordance with our purposeful maximum variation sampling strategy, these patients varied in terms of a number of specific characteristics, based on information available in the health centre's computer database. Table 2 outlines the characteristics of each of the patient interview participants. Four of the seven participants had been born in Canada and were of Northern or Eastern European ethnic origin. Three participants had been born out of Canada; of these three, one was a recent immigrant from the Middle East and spoke limited English.

Table 2 - Patient Interview Participant Characteristics

Initials	Age (Years)	Male	Female	Chronic Mental Illness	Chronic Physical Illness	No Chronic Illness
JN	59	✓		✓	✓	
JJ	45		✓			✓
MJ	32	✓			✓	
CC	47		✓		✓	
NC	33		✓	✓		
EV	71		✓	✓		
PB	74		✓		✓	

The first question I posed to each patient participant was: “What do you think it means to be healthy?” Patient participants’ responses to this questions were more varied than providers, and numerous themes arose during analysis. Some of the key themes which emerged as patients defined health included:

- ▶ **Health as an Ability to Function**

The concept of health as an ability to function, or to be active, was strongly voiced in the patient interviews. The provider interviews had introduced the general idea of function as the performance of one’s proper activity. In the patient interviews, several different dimensions of functioning emerged. Patients gave examples of physical, social and cognitive functioning as they defined health. In addition, they spoke about functioning at a variety of levels. These levels included:

- ▶ **Performing “normal” day-to-day activities**

Some participants spoke about performance of activities which they considered should be part of normal, day-to-day function: activities such a eating, sleeping, and working. One participant stated: *“Well, as we get older our abilities do diminish somewhat. But you still feel like you should be able to do just about anything you ever did. To sleep well, and to eat well. So that’s what being healthy is to me.”* Another participant with a physical disability discussed how, for her, ideal health would be to function as she had in the past for recreation and employment purposes.

Interviewer: *“What else does it mean to you to be healthy?”* Response: *“Even to go out this weekend with my son took me so much longer, and I don’t have enough balance to ride my ten-speed anymore. Takes me longer to do things.”* Interviewer: *“So, being able*

to move around more easily?" Response: "And to work." Interviewer: "Inside the home, you mean, or outside the home?" Response: "Outside. I worked for ten years. And now I'm really bored."

► **Performing activities that give satisfaction**

The idea of health as the ability to perform activities which give one satisfaction also emerged. One participant discussed her active physical and social functioning at a time in her life when she had considered herself to be healthy: "*I was always very active. Very, very active. I tap-danced, I clogged, I square-danced until about four years ago.*" She added: "*I was healthy for years, but now... Well, feeling good, and you know, to be able to do the things you want to do. I can't do that, that much anymore. I don't know, all of a sudden my health went kaput.*"

► **Performing to one's potential**

A third definition introduced was that of health as achieving optimum function, given one's capabilities. One participant with a physical disability spoke in detail about being able to identify his own mental and physical potential and functioning at that level. He explained: "*I can't exercise very well. I need somebody to help me. But exercise, for someone who can go walking or who can do everything he wants or she wants.*" He added "*I think for me, for myself, when I can think about my life and I can do anything in my life. I guess that's healthy for me; to be able to do and think all that I can.*"

Although at least three different levels of functioning were identified by patients, these definitions had in common the idea that health is an ability to function according to an individual's own needs and expectations. Whether an individual expects to be able to

perform daily activities that he considers normal, to be able to carry out activities that provide satisfaction, or to perform to his greatest potential, achievement of health depends on functioning at a level in keeping with an individual's expectations.

► **Health as Being Able to Cope**

Another theme which emerged in several interviews was the idea of health as the ability to cope with problems.

One participant, who had initially defined health as an absence of disease, went on to talk about well-being: *"Your well-being, I mean it's if you've got problems it's how you handle it and how you take care of yourself, and good stuff like that."*

Another participant stated that he was not healthy. When asked to expand on what he meant, he discussed first his anxiety and its impact on his ability to cope: *"At one time, I couldn't say I was a different person, but I feel external circumstances and how I handled them was different. For myself, that's what it is."* Interviewer: *"So to be healthy would be to be free of anxiety, would you say?"* Response: *"Well, having the confidence to be able to cope, and to be comfortable in the world."*

► **Health as Well-being with Multiple Dimensions**

A few patients' definitions of health shared features with the WHO definition, including the ideas of health as a sense of well-being or health as having multiple dimensions. One participant initially defined health as *"feeling good"*. Another stated *"It means having a sense of well-being primarily"*, then went on to discuss dimensions of well-being: *"That would involve physical, mental and emotional. All those things are integrated I feel, although we tend to separate them out."*

Another participant also discussed various dimensions of health in the following interchange. Interviewer: *"So you said to me part of health is the mind, the brain, and part is the body?"* Response: *"Right, and the heart."*

► **Health as Freedom from Symptoms**

Another definition of health, echoed by several participants, was freedom from symptoms of illness, whether physical or mental.

One participant, when asked what it means to be healthy, answered simply: *"Not what I am."* When asked what health would be for her, she responded: *"To not be so tired, wouldn't have as many shakes. I wouldn't have to go through the withdrawals that I just went through."*

Another patient, when asked to define health, said: *"Well, I suppose first it means to be reasonably free of pain."*

In one interchange, a participant discussed his mental health symptoms and how these symptoms took away from his health: *"I don't feel healthy so I can tell you all the negative stuff."* Interviewer: *"Okay, tell me. What do you feel it means to not be healthy then?"* Response: *"For a long time I've been plagued with various anxieties. Some of them I guess organic, and some of them from exterior circumstances."*

► **Health as Freedom from Disease**

In a few cases, patient participants also identified freedom from clinical disease as being an aspect of health. This idea emerged in the following interchanges.

Interviewer: *"Do you see anything else in your definition of health?"* Response: *"Well, there are a lot of clinical problems themselves, which again I would say are*

genetic and organic, in the sense that maybe it was predetermined by my parents, and other just the wear and tear of living."

Initially, one participant defined health in this way: *"I guess if a person has as few health problems as possible."* Interviewer: *"When you talk about health problems, what sort of things do you mean?"* Response: *"Oh, asthma, sinuses, all those things. You know, conditions - arthritis, shit like that."*

No participant defined health solely as an absence of disease; as the interviews progressed, participants identified freedom from disease as being one dimension of a broader definition of health.

► **Health as a Continuum**

One participant suggested that there is no absolute state of health, but rather that health exists as a continuum. Based on the way each person defines health for herself, one can range from being less to more healthy. She defined a person as being healthy when she *"has as few health problems as possible"*, and went on to clarify that: *"I don't think there's such a thing as a completely healthy person"*.

1.3 Redefining Health for the Project

Although some common themes emerged as providers and patients defined health, provider definitions tended to be more homogeneous while patients defined health in a greater variety of ways. Among providers, the most common definition was of health as a multi-dimensional state of well-being, similar to the WHO definition of health. Other themes from providers included health as an ability to function and health as a resource. One provider introduced the idea that health is subjectively defined by the individual experiencing it.

While the concept of health as a multi-dimensional state of well-being was voiced by some patients, more common themes were health as an ability to function according to one's expectations, health as an ability to cope, and health as an absence of symptoms of illness. The idea of health as an absence of clinical disease was also expressed, although only as a component of a broader definition. Another idea which emerged from the patient interviews was that there is a continuum of health, and that one might be more healthy in one dimension, and less healthy in another.

Given that participants' definitions of health included ideas not reflected in the WHO definition of health was initially adopted for this project, we developed a new definition of health which better reflected the perceptions of interview participants. By this new definition, *health is a multidimensional state of well-being, in which a person is able to cope with problems and to function according to his or her expectations.* As I selected determinants of health to be included in the instrument, I did so with this definition of health in mind.

2. Determinants of Health

After asking interview participants to share their understandings of health, I then asked them to tell me what factors they felt influenced or determined health. In the following sections, I will briefly summarize the provider-reported health determinants, which emerged mainly out of previous research, and will discuss in detail the determinants reported by patient participants.

2.1 Health Determinants: The Perceptions of Health Care Providers

During previous research, I asked six providers at the centre to discuss factors which they believed influenced or determined health. Providers tended to discuss broad categories of factors impacting health. They often started out by discussing their general perceptions of health determinants, but when prompted, sometimes discussed their experiences in working with clients. Specific factors influencing health often emerged as they described these experiences.

Providers confidently discussed relationships between specific factors and categories of health determinants, and sometimes used examples to explain these relationships. Some health providers also described their perceptions of their own roles in working with clients to change health determinants. This information was helpful in identifying which determinants might be modifiable, given the resources of the centre.

a. Categories of Health Determinants

Frequently the providers themselves identified broad categories of factors impacting health. During analysis, I organized the specific factors which emerged into these broader categories. Often participants discussed specific factors in terms of whether they were resources supporting health, or whether they were potential stressors, acting as barriers to achieving health. In many situations, the factors existed on a continuum; at one end of the continuum a particular factor supported health, while at the other end it acted as a barrier. An example would be income; adequate income was seen as a resource for health, while low income was perceived as a stressor, making it more difficult to achieve and maintain health.

Four categories of health determinants arose from the provider interviews. These categories are: social factors, physical factors, spiritual factors, and psychological factors, including two sub-categories of mental/emotional factors and personality/behavioural factors. Each of these main categories is briefly discussed below.

► Social Factors Influencing Health

The term social means “of society or its organization, concerned with mutual relations of human beings living in organized communities” (Allen, 1984). A wide range of specific factors were organized under the heading of social determinants. Some factors concerned relationships between a patient and the people immediately around him. Other factors, such as income, housing, and childcare, were included in this category because their availability is influenced by the organization of resources within our larger society.

► **Physical Factors Influencing Health**

This category referred to factors having to do with the body (Hensyl, 1987).

These ranged from genetic endowment, to presence or absence of physical disease, to nutritional level and environmental exposures which might impact the body.

► **Spiritual Factors Influencing Health**

Several participants explored the idea that possession of spiritual resources is a determinant of health. Spirituality “refers to the sense of well-being that we experience when we find purposes to commit ourselves to which involve ultimate meaning for life” (Ellison, 1983, p.330). Spiritual well-being has been described as having two dimensions: a *vertical* dimension referring to a person’s sense of relationship to God, and a *horizontal* dimension referring to a person’s sense of purpose and satisfaction in life. (Bufford, Paloutzian, & Ellison, 1991). Providers discussed both of these aspects of spirituality as having an impact on health, although placed greater emphasis on the need to find a sense of meaning or sense of purpose in life.

► **Psychological Factors Influencing Health**

The term psychology refers to “behaviour and the physiological and cognitive processes that underlie it” (Weiten, 1992, p.651). A large number of factors fit into this broad category, and can be further organized these into two sub-categories, mental/emotional factors, and personality/behaviour factors.

► **Mental/ Emotional Factors Influencing Health**

The term mental is defined as “relating to the mind”(Hensyl, 1987, p.446), while emotional is defined as relating to “a strong feeling; aroused mental state” (p.239). I

chose to combine these two ideas into one category because providers frequently used the terms mental and emotional interchangeably in the interviews. In many situations they also discussed psychiatric illnesses which impacted patients both cognitively and affectively. The two concepts appeared to be so interrelated in provider interviews that it would not have made sense to separate them. Specific factors discussed included positive and negative emotions (especially related to mood disorders), the extent of a person's cognitive abilities, and the impact of other psychiatric disorders.

► **Personality/Behavioural Factors Influencing Health**

This final category was the most difficult to define. Participants had used the terms social, physical and mental as they categorized the previously-described health determinants. However, they also discussed a variety of other factors without attempting to categorize them. These factors shared a common feature of being intimately associated with the individual, relating to an individual's perceptions of herself and the world around her, as well as her behaviours associated with these perceptions. Eventually I categorized these as being personality/behavioural health determinants. Personality can be defined as "the diverse ways that an individual usually reacts to the events, circumstances, and people encountered in daily life" (Berger & Thompson, 1991, p.216). Where personality describes the individual's usual response pattern, behaviour refers to specific activities within that response pattern (Hensyl, 1987, p.87).

My interpretation of the data related to these personality and behavioural determinants was influenced by some existing concepts in the literature. The five dominant determinants which emerged in this category included self-esteem, perceived

self-efficacy, self-knowledge, self-management, and health-related behaviours. Self-esteem refers to a person's sense of self-worth, or how a person values himself (Gage & Polatajko, 1994). Perceived self-efficacy is a person's confidence in his ability to perform a task, and was originally described by Bandura (Gage & Polatajko, 1994). Self-knowledge refers to an awareness of one's own needs, interests and abilities (Mithaug, 1996). Self-management describes a person's ability to control his own resources to meet his needs, and requires skills, knowledge and motivation (Mithaug, 1996). Health-related behaviours include those behaviours which providers identified as promoting or potentially diminishing health. These behaviours were identified as being closely influenced by personality characteristics.

b. Specific Health Determinants

During their interviews, providers identified numerous specific health determinants, which are presented in Table 3. I have organized these factors into resources or stressors depending on whether they support, or act as a barrier to health. Those factors which lie on a continuum from resource to stressor are presented opposite each other on the list. Factors which emerged more strongly in the interviews are arranged closer to the top of each list.

Table 3 - List of Provider-Reported Health Determinants

1. Social Factors	
Specific Resources:	Specific Stressors:
supportive relationships _____	isolation
adequate income _____	poverty
employment _____	unemployment
adequate housing _____	homelessness/ inadequate housing
education/training _____	lack of education/training
	- history of abuse/current abuse
positive modelling by family _____	lack of positive modelling
literacy _____	poor reading skills/illiteracy
ability to communicate _____	communication barriers (language, lack of adequate translation services)
available childcare _____	lack of /inadequate childcare
accessible health care services _____	inadequate/inaccessible health care services
time _____	lack of time
access to transportation _____	lack of transportation
safety at home or in community _____	lack of safety
2. Physical Factors	
Specific Resources:	Specific Stressors:
	- physical disease
physical mobility _____	lack of mobility/ physical disability
	- physical symptoms
positive genetic endowment _____	negative genetic endowment
good nutrition/hygiene/sanitation _____	poor nutrition/ hygiene/sanitation
	- physical trauma
	- physical effects of addiction
3. Spiritual Factors	
Specific Resources:	Specific Stressors:
sense of meaning/purpose _____	lack of meaning/purpose
belief in a higher power	
belief in an afterlife	

Table 3 continued

4. Psychological Factors	
a. Mental/Emotional Determinants	
Specific Resources:	Specific Stressors:
	- mood disorders
	- other psychiatric conditions
positive emotions _____	negative emotions (eg. loneliness, fear)
cognitive abilities _____	cognitive disabilities
	- psychological effects of addiction
b. Personality/ Behavioural Determinants	
Specific Resources:	Specific Stressors:
self-esteem _____	low self-esteem
self-knowledge _____	lack of self-knowledge
perceived self-efficacy _____	low perceived self-efficacy
self-management _____	lack of skills, knowledge and motivation to self-manage
health-promoting behaviours _____	health-diminishing behaviours
(exercising/ healthy eating/	(smoking/ alcohol abuse/drug abuse)
seeking preventative health care)	

c. Relationships Among Provider-Reported Health Determinants

All providers interviewed indicated that the relationships between factors were complex. They did, however, discuss many types of possible relationships they had observed between the various factors impacting health. During analysis, I drew diagrams depicting the relationships the participants had described. Using a simple model, found in Appendix K, I summarized these relationships among the categories of health determinants. Because the instrument was not intended to assess relationships between health determinants, the specific health determinants, rather than the model, were used as a basis for instrument development.

d. Providers' Roles

In addition to information about providers' perceptions of health determinants, many provider participants also shared how they saw their own roles in working with patients for improved health. Briefly summarized, these roles included:

- ▶ **Advocate in Accessing Resources**

Emerging strongly was the provider's role as an advocate for patients as they attempt to access resources . One provider stated: *"some people need help in advocacy and getting them to be able to access services like social services, or daycare subsidy, or AISH, or any of these things. And to me, that's also to help them with their basic needs. We have people who don't have housing and sometimes, you know, we have to walk that path with them. That maybe is a little further than what our realm is, but unless we can give it to someone else that can do it, then to me we have a responsibility to do it."*

Providers also discussed numerous other resources which they have a role in helping patients to access, such as medical services, medications, food, educational and employment programs, and support networks.

- ▶ **Facilitator of Self-Knowledge**

Providers identified one of their key roles as being facilitators for self-knowledge. They stated that helping patients to identify the issues impacting their health was a necessary first step in the process of effecting change. As one provider described: *"First of all one of the things that we can do is help people identify what are the issues for them, because sometimes they haven't really talked about it, and so they don't see it as an issue; they don't see poverty as an issue."* She gave an example: *"It could be a woman*

that's abused, and her way of coming in is that 'I've got a stomach ache', for example, but as you get talking to her and trying to find out when the stomach ached improves, gradually she starts to identify some stressors in her life."

► **Supporter of Self-Esteem**

Several providers identified that they have a role in supporting patients' self-esteem, both through direct counselling but also by providing an atmosphere in the clinic in which patients feel respected and valued.

► **Supporter of Self-Efficacy**

Helping patients to feel more confident that they can cope with problems was also identified as a role. One provider discussed a way she might help support a client's perceived self-efficacy: *"If someone has coped with several crises before then that's: 'What helped you get through that before?' You help them to identify what are the things that can help them now."*

► **Facilitator of Self-Management**

A final role which all providers discussed was that of helping patients to manage their own health issues. This role includes facilitating the knowledge, skills and motivation required for patients to self-manage. One provider discussed this in the context of proactively managing diabetes: *"I'm a strong believer in people being their own expert in their body, an expert in their own health. And a person who understands diabetes has the knowledge and can be able to work with it because of a good clear understanding... Then the diabetes does not control them, they control it, and they can live life to the fullest."*

Another provider described his role in fostering self-management through a

therapeutic relationship. *"I think the patient is mostly responsible for changing their habits. Too many times people expect their health care provider to fix their box of health. That's what I call it: 'Here's my box of health, fix it.' And I do that a lot, but I do it without any satisfaction or thrill... Maybe one day they'll trust you and respect you enough that they'll ask you what they should do. And it does happen eventually, they'll say: 'Well, now that you've fixed my box of broken things for three and a half years, how do I get past this?' Hurray, you're entering a new level of consciousness."*

Throughout the interviews, providers identified that a *trusting therapeutic relationship* was a prerequisite to being able to work effectively with patients in these various roles. Two factors emerged frequently as being essential to the development of a therapeutic relationship: adequate time and a willingness to listen to the patient. In addition, providers discussed the value of having a multi-disciplinary team, both for supporting each other and for working more effectively with clients to improve health.

The information that emerged from providers about their perceived roles was very helpful in identifying which health determinants might be modifiable, given the resources available at the centre and the roles of providers.

2.2 Health Determinants: The Perceptions of Patients

When asked to share their understanding of the factors that determine health, patient participants responded with a wealth of ideas. While provider participants tended to describe categories of health determinants generally and to give specific examples only when prompted, patients were more likely to speak in detail about their own experiences of factors impacting their health. Using examples from their own lives, they provided richly textured information about the many influences on health.

a. Categories of Health Determinants

Many categories which emerged in the patient interviews were similar to those from the previous research with providers. Some differences, however, did exist. A large category was made up of *social factors*. Two sub-categories of social factors emerged, which I named *immediate social environment* and *broader social environment*. Similar *physical factors* emerged as in the provider interviews, although the emphasis within this category varied somewhat. A large number of specific factors I grouped together in the category of *psychological factors*. Within this large category I again found that two sub-categories of determinants emerged: *mental/emotional factors*, and *personality/behaviour*. While in the provider interviews, spirituality had been identified as a unique determinant in a category of its own, in the patient interviews the concept of a sense of meaning emerged more as an aspect of personality and was included in this category, while other aspects of spirituality were not identified. What follows is a summary of each category and the types of specific determinants included in the category.

► **Social Factors Influencing Health**

In the patient interviews, two types of social factors were described. Participants discussed in depth the social environment closely surrounding an individual, which I termed the *immediate social environment*. Included in this immediate environment were such factors as social supports, income, housing, education, employment and volunteer activities, access to transportation, roles within the family, current or past abuse, and access to effective health care providers. In addition to the immediate social environment, participants discussed a variety of factors within a *broader social environment* which they saw as having the potential to impact health. This sub-category included such factors as socioeconomic policies, societal values, community resources and programs, the education system, the health care system, and the media.

► **Physical Factors Influencing Health**

As in the provider interviews, many factors emerged which related to the body. For patients, these physical factors included the presence or absence of physical symptoms of illness, physical mobility, heredity, changes to the body with aging, the physical effects of addictions, and the impact of environmental exposures on the body. While some patients also discussed the presence or absence of organic disease, this was emphasized less than the impact of symptoms on health.

► **Psychological Factors Influencing Health**

As in the provider interview, this broad category included two sub-categories; mental/emotional factors and personality/behavioural factors.

► **Mental/Emotional Factors**

While providers discussed the impact of mental illness on health, patients tended to discuss the impact of negative emotions on their health. The predominant emotions discussed were depression, anxiety and loneliness. Patients also spoke about cognitive changes with aging and their influence on health. They discussed the psychological effects of addictions such as alcoholism or gambling. In some interviews, mental illnesses also emerged as a factor impacting health.

► **Personality/ Behavioural Factors**

Many factors related to individual personality and behaviour were discussed by the patient participants. Patients often referred to the importance of having a positive attitude or a positive view of the world. As well, having a sense of place in the world was discussed. Several patients talked about the idea of having a sense of meaning and its contribution to well-being. Certain concepts, such as self-esteem, self-knowledge, and perceived self-efficacy, appeared to consistent with factors which had been previously discussed by providers. The idea of self-management of health issues and problems was discussed in detail. Having a sense of control over one's own resources and behaviours was identified as being integral to the ability to self-manage. Certain specific behaviours were identified as being health promoting. These included taking care of oneself, seeking information, seeking help in dealing with problems, and "talking out" distressing issues. Some specific health-diminishing behaviours were also discussed, such as alcohol and drug abuse and smoking.

b. Specific Health Determinants

As patient participants described their own experiences, they offered many examples of specific factors which impacted their health. Table 4 provides a list of these factors within each category. As in the provider interviews, some factors might act as resources for health at one end of a continuum and stressors or barriers to health at the other end. Rather than presenting these factors either as resources or stressors in Table 4, I have simply listed the factors and any key aspects of the factors which emerged. Factors which were emphasized more strongly or frequently by participants appear nearer to the top of the list within each category. When the meaning of the concepts discussed was consistent with defined concepts in the literature, I borrowed the terminology used in the literature. Perceived self-efficacy is one example. However, when a matching concept did not exist in the literature, I describe the concept using the wording of the participants themselves.

As is apparent from the length of Table 4, patients identified numerous specific factors as being health determinants. Although many of these factors are of interest, it is not within the scope of this project to provide a detailed description of each of these factors. Instead, in Chapter IV, I will discuss in depth only those factors which were selected to be included in the instrument

Table 4 - List of Patient-Reported Health Determinants

1. Social Factors	
a. Immediate Social Environment	
Specific Factors:	Key Aspects:
Social support	-family/friends/neighbours
Income adequacy	
Housing adequacy	
Education	
Employment	
Abuse	
Leisure/Recreational activities	
Volunteering	
Major life events	
Role as caregiver	
Modeling within family	
Family expectations	
Time	-time for self
Security in home or community	
Access to transportation	
Effective health care providers	-listening/suggesting/valuing patient's ideas
b. Broader Social Environment	
Specific Factors:	Key Aspects:
Socioeconomic policies	-taxation/public service funding
Societal values and expectations	
Community programs/resources	
Education system	-expanded formal health education
Health care system	-service availability
Media/Television	-public education regarding health issues
2. Physical Factors	
Specific Factors:	Key Aspects:
Degree of physical symptoms	-especially pain
Presence/absence of clinical disease	
Heredity	
Mobility	
Nutrition	
Physical effects of addictions	-alcohol/drugs/smoking
Medications	-positive and negative effects on the body
Physical changes with aging	
Environmental exposures	

Table 4 continued

3. Psychological Factors	
a. Mental/Emotional Determinants	
Specific Factors:	Key Aspects:
Emotions	-depression/anxiety/loneliness
Psychological effects of addictions	-alcohol/drugs/smoking/gambling
Psychiatric conditions	-“clinical” depression/eating disorders
Cognitive changes with aging	
b. Personality/Behavioural Determinants	
Specific Factors:	Key Aspects:
Attitude	-positive or negative
Sense of meaning	
Sense of place in the world	
Self-esteem	
Perceived self-efficacy	
Self-knowledge	
Sense of control	
Self-management of problems	-planning/acting
Health-promoting behaviours	-taking care of self (exercise/eating well/time for self)
	-seeking early treatment for health problems
	-seeking information
	-seeking help (counselling/support groups)
	-talking things out
	-alcohol abuse/drug abuse/smoking
Health-diminishing behaviours	

c. Relationships Among Patient-Reported Health Determinants

All the patients interviewed confirmed that complex relationships existed between the many health determinants which they had described. They did give some examples of specific relationships between factors, although in less detail than what was presented by providers. One participant, describing the links he saw between various determinants of his health, stated: *"As a doctor you must know how intricately it is interlocked, so one cannot really sort of pull out one string and say 'Ah, I can unravel it'."*

Participants discussed how one health determinant could directly affect another determinant. One participant described how physical symptoms or sadness ("pain in heart") could lead to decreased cognitive functioning: *"When I have a pain in my hand my brain is not going to work very well. When I have a backache, stomachache or heartache, pain in my heart, I can't think very well. Everything, they are connected to each other, everything."* Another spoke about the relationship between health-promoting behaviours and mental/emotional symptoms: *"If you don't sleep, get depressed. Don't eat, don't sleep, get depressed. Everything has a bond."*

As well as discussing how factors relate to each other directly to impact health, participants also spoke about factors influencing each other indirectly, via a mediator. Stress was commonly identified as a mediator of these relationships. Stress can be defined as a person's perception of a circumstance threatening personal well-being. Stress usually evokes various responses; emotional, physiologic and behavioural (Weiten, 1992). One participant described how things in her daily life caused stress, which subsequently caused anxiety and impacted her ability to sleep: *"I think that also, when I have wakeful*

nights, I think that's stress. Because I tend to get a little wound up about things, and I will wake up and I'm thinking about whatever it was I was thinking about when I went to sleep." Another participant spoke about her teenage daughter's unplanned pregnancy as a source of stress, and described her initial behavioural response: *"Like, I'd quit smoking, drinking, and when I found out she was pregnant, I told my friend 'give me a pack of cigarettes right now'."* Later in the interview, she discussed how she now tried to use health-promoting behaviours to respond to stress. Interviewer: *"What things do you find people need to control their stress?"* Response: *"Exercise, and thinking about something else. I write poetry or work on my computer, or take a walk."*

Throughout the interviews, patients described how many individual factors relate to each other both directly and indirectly, and that the complex interactions of these factors determine a person's state of health. I did not attempt to depict the relationships identified by patients as a model for two reasons. Firstly, I felt that much more research would be needed to fully explain the complex relationships among factors, as I had not explored this in depth with participants. Secondly, a model of the relationships between determinants was not required for instrument development, as the instrument was intended to identify individual determinants influencing health, rather than relationships between determinants. However, the issue of relationships among health determinants could be pursued at a later date.

2.3 Summary: Health Determinants

Many of the same health determinants emerged from interviews with patients and providers at the health centre. The specific factors fit into similar broad categories of determinants: social factors, physical factors, and psychological factors (including mental/emotional factors and personality/behaviour).

Some differences did exist between the types of information which emerged from the provider and patient interviews. While both providers and patients discussed a variety of factors which impact health in the immediate social environment, patients also discussed factors in the broader social environment. The providers had identified spirituality as a separate category, while this category did not emerge in the patient interviews. One concept which providers had identified as an aspect of spirituality, sense of meaning, fit best into the personality/behaviour category in the patient interviews. Within the physical and mental/emotional categories, providers placed a greater emphasis on the presence or absence of physical or mental disease, while patients were more concerned with the presence or absence of symptoms.

Despite these differences, a sufficient number of common factors were identified by the participants that I felt comfortable proceeding to the next phase of the project, which was to begin the development of the instrument based on recommendations from participants.

3. Recommendations for Instrument Development and Use

Prior to developing a draft questionnaire, I received guidance from stakeholders regarding practical aspects of instrument development and recommendations for utilization of the instrument.

During the patient interviews in Phase I, I asked participants several questions about the use of the instrument, including their comfort in answering questions about their health determinants, whether they would prefer to complete a questionnaire alone or with a provider, and the amount of time they would be willing to spend on the questionnaire. In the consensus group during Phase II, we elicited direction from providers as to how to select determinants to be included in the instrument, and specific ways in which they would like to use the instrument in the clinical setting. The recommendations made by patients and providers for development and use of the instrument are summarized below.

Patient feedback included:

- ▶ **Comfort** - All patient participants in the project indicated that they would feel comfortable sharing personal information about their health determinants and would be willing to do so in a questionnaire format. Two interview participants qualified their willingness, saying that they would prefer to share the information with a provider if they felt it would make a difference in their care.
- ▶ **Time** - When asked how much time they would be willing to take to complete a questionnaire about health determinants, patients' general response was: *"I'd be willing to spend as long as it takes."* The exception was one patient, who responded: *"Fifteen minutes."*

► **Method** - Patient interview participants were also asked how they would recommend completing the questionnaire, alone or with a provider. Several participants indicated that they would prefer to complete it first on their own, and then to review their responses with a health care provider. The rest responded that they would prefer to complete it with a provider, some suggesting as part of an interview with a nurse or medical student. All patients recommended that if patients were asked to complete the instrument on their own, that a provider be available to assist those with limited literacy.

Provider feedback included:

► **Modifiability** - During the consensus group, providers had voiced concerns that the instrument might identify issues which could not be addressed given the current resources at the centre. For example, they did not feel it would be worthwhile to assess the impacts of taxation policies, as resources were not available at the centre to advocate for changing those policies. They recommended that the instrument focus on health determinants which were potentially modifiable, given available services at the centre.

► **Workload** - Providers indicated that the instrument should be designed to elicit the required information, but in a way that reduced provider workload as much as possible. They suggested keeping the questionnaire as short as possible in order to minimize the time required to review it with clients and for data entry. As a time-saving measure, they recommended that patients first complete the instrument independently and then review it with the provider, rather than patients completing the instrument in the provider's presence. They recommended that the medical coordinator, nurse, or receptionist be available to assist clients with limited reading or writing skills.

- ▶ **Purposes** - Providers agreed that the tool would be used for assessment purposes, to identify key issues affecting health which could then be explored further with clients using open-ended questioning. They also recommended that client and provider could use the issues identified during instrument completion as the basis for developing a health management plan.
- ▶ **Utilization** - Providers discussed various ways by which the instrument could be used most effectively. Consensus was reached that the instrument would be best used at intake with new clients and when patients attended for complete physicals with physicians. These were identified as visits when additional time was available to discuss health determinants, to identify key health issues, and to develop care plans with clients. Providers suggested that the questionnaire should be integrated with, or perhaps replace, the existing intake form which was not being effectively used. Providers also discussed the possibility of revising the current intake process so that a nurse would complete an intake interview with each new client and review the questionnaire with the client at that time, using the issues identified as the basis for developing a health management plan.
- ▶ **Client Willingness** - At the consensus group, providers discussed whether all clients would feel comfortable sharing personal information about health determinants. It was recommended that it be made clear to clients that they were not required to complete the questionnaire, and that they could leave questions blank if they desired.

These patient and provider recommendations were helpful both in designing the draft instrument and planning the process by which it would be piloted and integrated into service provision.

4. Unanticipated Findings

In several patient interviews, unexpected findings emerged, seemingly unrelated to the questions I had asked. Usually participants raised these issues at the end of the interview, when I asked an open-ended question: “Is there anything else you would like to add which we haven’t talked about?” In one interview, the participant spoke at length about issues related to the role of the health centre even before I had started to ask any interview questions. I have grouped these unanticipated findings into several themes which are summarized in this section. These themes included:

- **Role of the health centre in the community** - Two patient interview participants discussed the role of the health centre within their communities. Both of these patients were long-term residents of two of the communities which formed the geographic catchment area for the health centre at the time of the interviews. As well, they were both long-term patients at the centre; one patient had been a founding member of the health centre in 1973.

Several issues regarding the role of the health centre in the community were raised. One participant identified that although the health centre had originally been “rooted in the community”, the centre was now poorly integrated with the community and community members had little input into the management of the centre. He stated that: *“In many ways I feel myself that the Alexandra Health Centre is sort of an institution which is really just planted here with very tenuous links to the actual community.”* He also identified a perception among community members that the centre had lost its autonomy when it made a funding agreement with the Regional Health Authority. Participants made

some specific suggestions for increasing the integration of the centre within the community, including advertising Board meetings, actively soliciting community-members' input into major decisions, and educating staff about the historic role of the centre within the community.

- **Systemic Health Care Issues** - Several participants discussed issues within the health care system in Alberta, including inadequate funding leading to a shortage of health care providers in the province, as well as an over-emphasis on funding high-tech equipment and services at the expense of funding human resources. Another issue raised was that certain health services not covered by Alberta Health Care Insurance, such as physiotherapy and dental care, were inaccessible to people with lower incomes.
- **Service Provision at the Alexandra Community Health Centre** - Several participants raised concerns specific to service delivery at the health centre. These concerns ranged from frequent turnover of health care providers, to waiting times for appointments, to ice on the steps in the winter.

While these unexpected findings did not directly impact the development of the questionnaire, they did raise important issues for the health centre. In Chapter V, I will discuss some of the potential implications of these unanticipated findings.

Chapter IV Results: The Health Determinants Questionnaire

The development of the Health Determinants Questionnaire was gradual; the questionnaire went through several iterations during phases II and III before reaching its final form. Initially I created a draft instrument based on the recommendations from patients and providers. As I elicited feedback from stakeholders, I revised the instrument several times. This chapter outlines the items included in the draft instrument, discusses initial revisions made to the instrument, summarizes the results of the pilot and subsequent modifications, and describes the content and format of the completed questionnaire.

1. The Draft Instrument

The original draft questionnaire contained twenty-one questions; twenty intended to assess specific health determinants and one intended to assess general perception of health. Most items in the questionnaire were answered using an four-point ordinal response scale, with each response ordered by magnitude. (eg. “very good, somewhat good, not very good, not good at all”). I initially selected a four-point response scale in order to encourage respondents to chose a positive or negative direction for their responses.

Items were selected to be included in the instrument based on two criteria:

1. whether or not they were potentially modifiable, given the resources available at the health centre and,
2. their relative importance as identified by interview participants.

The majority of the items selected relate to health determinants in the immediate social environment and to personality and health-related behaviours, with some physical

factors and mental/emotional factors also included. Factors within the broader social environment were not included as these factors were not perceived by providers to be easily modifiable given the resources at the centre. One factor identified as being an important determinant of health, abuse, was excluded, as routine screening for domestic abuse was already occurring at the centre. Items assessing the presence of physical disease and mental disorders were also excluded, as physicians already assessed these factors in depth during their intake interviews with patients. The health determinants assessed by individual items in the original draft questionnaire are presented in Table 5, and the full draft instrument can be found in Appendix L.

The first item was not intended to assess a specific health determinant, but rather the individual's general perception of his own health. This item was included on the recommendation of my supervisory committee members as an introductory question to provide an overall sense of the patient's attitude toward his own health.

Table 5 - Health Determinants Represented in the Original Draft Instrument

Item #	Concept Being Assessed	Category of Determinant
1	General Perception of Health	-----
2	Physical Symptoms	Physical Factors
3	Physical Mobility	Physical Factors
4	Emotional Symptoms	Mental/Emotional Factors
5	Perceived Self-efficacy	Personality
6	Sense of Control	Personality
7	Self-esteem	Personality
8	Sense of Purpose	Personality
9	Transportation	Immediate Social Environment
10	Adequacy of Housing	Immediate Social Environment
11	Income Adequacy-basic needs	Immediate Social Environment
12	Income Adequacy- non-essential	Immediate Social Environment
13	Work Satisfaction	Immediate Social Environment
14	Leisure Activities Satisfaction	Immediate Social Environment
15	Instrumental Social Support	Immediate Social Environment
16	Emotional Social Support	Immediate Social Environment
17	Smoking	Health-related Behaviours
18	Alcohol Use	Health-related Behaviours
19	Substance Dependency	Health-related Behaviours
20	Exercise	Health-related Behaviours
21	Diet	Health-related Behaviours

2. Initial Revisions

Following the development of the draft instrument, I made numerous revisions based on feedback from patient and provider stakeholders. The majority of the revisions were stimulated by suggestions made by the original patient interview participants who reviewed the draft instrument, as well as providers who offered verbal and written feedback. The major changes which were made prior to the instrument pilot include the following:

- ▶ The revision of the introduction to include a rationale for the questionnaire.
- ▶ The addition of one further possible response to most questions to create a five-point ordinal response scale. During the structured telephone interviews, patients had recommended the addition of a response between “very” and “somewhat” for several items.
- ▶ The removal of the questions about sense of control (which providers felt to be too complex a concept to be able to assess in a single item) and income adequacy for non-essential goods and services (not felt by providers to be relevant enough to be included).
- ▶ The addition of items concerning frequency of preventative health care services in the past, safety in the living and/or work environment, satisfaction with relationships, education level, and patient perception of adequacy of education/training.
- ▶ The revision of several items to improve clarity, often by simplifying wording or including examples of the phenomenon being assessed. Most of these specific changes to items were recommended by patient who took part in the structured telephone interviews.

3. Pilot Results and Final Revisions

The pilot of the revised draft instrument elicited feedback from patients about their willingness to complete the questionnaire, as well as specific suggestions for changes to the instrument to make its content more relevant to patients. After these suggestions had been incorporated, the questionnaire was once more reviewed by providers and final revisions made. This section summarizes the results of the pilot, and the revisions made after the pilot was completed.

3.1 Pilot Results

After the draft instrument had gone through its initial modifications, it was piloted with a sample of ten patients in the clinical setting. The pilot participants ranged in age from mid-twenties to early eighties. Eight were female and two were male. All of the pilot participants were of European ethnic origin. Nine were Canadian-born and one was a recent English-speaking immigrant. The majority had been patients at the health centre for some time and were attending for a complete examination with a physician; three were new patients attending the centre for the first time.

The structured interview form used during the pilot is presented in Appendix G. After completing the Health Determinants Questionnaire and reviewing it with their providers, patients were asked a series of close-ended questions. When asked how willing they would be to fill in the questionnaire from time to time, six responded “very willing”, three responded “quite willing” and one responded “somewhat willing”. Five of the ten participants suggested completing the questionnaire every one to two years, while the

other five recommended completing it two to three times per year. All of the participants regularly saw a doctor and all responded that they would feel either quite or very comfortable sharing the information contained in the Health Determinants Questionnaire with their physicians. Of the three participants who saw a chiropractor or counsellor, all responded that they would be very comfortable sharing the information with these providers. Three participants also had seen a nurse. Two out of the three responded that they would be very comfortable sharing the information with their nurse, while one stated that she would be somewhat uncomfortable as she did not yet know the nurse very well.

Participants were asked their opinions about the time required to complete the questionnaire. All responded identified that it “took about the right amount of time to fill in.” The actual amount of time required for pilot participants to complete the questionnaire ranged from fewer than five minutes to twenty minutes, with most participants needing fewer than ten minutes to complete it. One participant required assistance completing the questionnaire; poor eyesight was cited as the reason.

The pilot participants were then asked three open-ended questions. The first two questions requested specific feedback about items which did not make sense and items which participants had felt uncomfortable answering. The third question asked for their recommendations as to whether any further items should be added to the questionnaire. These open-ended questions stimulated specific feedback about a number of items, and prompted further revisions to the questionnaire which are outlined in the following section.

3.2 Final Revisions

The final revisions made to the draft instrument were based on feedback from patients who participated in the pilot and a further review by providers after the pilot was completed. The changes made included:

- ▶ The addition of three demographic questions including age, gender and area of the city in which the individual lives. Staff felt that these demographic categories would be useful as they would allow the health determinants of sub-groups of patients to be identified.
- ▶ The modification of the time frame to be considered in responding to a question from “the last few weeks” to “the last couple of months”, as patients had identified that a longer time frame would provide a better sense of an individual’s typical health-related conditions and would be less influenced by transient situational changes.
- ▶ The removal of an item about the presence of long-term (chronic) health problems. Many patients identified that they were unsure whether or not to include long-term health problems which were not severe (such as recurring mild knee pain), or which had been diagnosed but were stable (such as diabetes and hypertension). Many pilot participants left this item blank because of this ambiguity.
- ▶ The addition of examples of types of housing and aspects of housing adequacy, suggested by patients to improve the clarity of the item.
- ▶ The addition of an item about income levels and an item about the number of people in the home supported by this income. Providers requested that these questions be added to allow data to be collected about the number of patients above or below the

poverty line.

- ▶ The addition of a final open-ended question asking patients to identify their health goals for the next year. This item was suggested by providers, not as a means of assessing health determinants, but rather as a tool to aid in developing health management plans with patients.

4. The Health Determinants Questionnaire

The instrument is presented in its final form in Appendix M. The questionnaire contains thirty-one items; three demographic questions, one question about general perception of health, twenty-six questions about health determinants, and one open-ended question about health goals. In this section I will discuss each item in the questionnaire, outlining the concept being assessed and the rationale for the item.

► **#1 - What is your date of birth?**

This is a demographic question, allowing results to be compiled for different age samples.

► **#2 - What is your gender? (Response Categories: Male, Female)**

This demographic question will allow results to be compiled for groups of male or female patients.

► **#3 - What part of the city do you live in? (Response Categories: Inglewood, Ramsay, Victoria Park, Other SE Calgary Community, NE Calgary, NW Calgary, SW Calgary)**

Historically, the health centre served the communities of Inglewood, Ramsay and Victoria Park in SE Calgary. A recent change in mandate by the board removed geographic boundaries for intake, and providers wished to be able to consider health determinants for clients coming from different areas of the city.

► **#4 - In general, compared with other people your age, would you say your health is: (Response Categories: Excellent, Very Good, Good, Fair, Poor).**

This item is intended to assess the patient's general perception of health, in order to provide a context for discussing health determinants and health goals with the patient. The same question is used in the Health Promotion Survey (Health and Welfare Canada, 1993)

and in the Health of the Calgary Region Survey (CRHA, 1996b), which would allow comparisons to be made between this patient group and the general population.

- ▶ **#5 - When was the last time you had a medical check-up? (Response Categories: In the past year, 1-3 years ago, 3-10 years ago, More than 10 years ago, Have never had one)**

This question was added based on feedback from providers who identified that it would be helpful for them to know the regularity with which a patient had sought health maintenance and preventative health care services in the past. During their interviews, providers had emphasized the importance of primary and secondary preventative health care services (such as regular visits to discuss lifestyle changes, or for screening and early intervention in disease processes). Patient interview participants had stressed the importance of secondary prevention to avoid complications of disease (by “going to the doctor if you get sick”), and of seeking help to alleviate symptoms. This item attempts to capture behaviour related to both primary and secondary prevention.

- ▶ **#6 - How much are you bothered by physical symptoms, like pain or weakness? (Response Categories: Not bothered at all, Not very bothered, Somewhat bothered, Quite bothered, Really bothered)**

This item is intended to assess the degree to which a patient is or is not distressed by physical symptoms. During the patient interviews, pain and weakness were the two physical symptoms identified as having the greatest impact on health.

- ▶ **#7 - How much are your day-to-day activities in the home limited by physical problems (like a disability, stiffness or pain)? (Response Categories: Not limited at all, Not very limited, Somewhat limited, Quite limited, Really limited)**

This item is intended to assess degree of limitation in activities of daily living due to

physical disability. Disability can be defined as “an inability to do something; a diminished capacity to perform in a specific way” (Hallahan & Kauffman, 1991, p.6). The examples of limiting physical problems were provided because of feedback from some patient participants that they viewed the term disability as implying that an individual uses a wheelchair; I wanted to address disability more broadly and so included stiffness and pain as other problems causing limitations.

- ▶ **#8 - How much of the time are you bothered by emotional problems, like feeling down or feeling anxious? (Response Categories: None of the time, Not very much of the time, Some of the time, A lot of the time, All of the time)**

Degree of distress caused by negative emotions or emotional symptoms is addressed by this item. Feeling anxious and feeling down were the two emotions identified by patients as having the greatest impact on health. The question is not intended as a tool for diagnosing clinical anxiety disorders or depressive disorders, but rather as a screen for the impact of these common negative emotions. Providers indicated that if patients identified that they were bothered by these symptoms, this would then provide a stimulus for more in-depth questioning about symptoms of anxiety or depressive disorders.

- ▶ **#9 - How confident do you feel that you can cope with the problems you face? (Response Categories: Really confident, Quite confident, Somewhat confident, Not very confident, Not at all confident)**

The idea that individuals need to have a sense of confidence in their abilities to cope with problems, in order to manage problems effectively, emerged strongly in both patient and provider interviews. One patient discussed how *“If you view something positively then you’re going to be able to feel that you can deal with the problem. Whereas if you have a negative attitude it’s going to seem like it would be overwhelming to you. So two*

different people can be presented with the same problem and deal with it in totally different ways and one might be able to work it out more easily.” This item is intended to assess this concept of confidence in one’s coping abilities. The concept is closely related to that of perceived self-efficacy. However, perceived self-efficacy usually applies to confidence in being able to perform a specific task, while this item assesses an individual’s general sense of confidence in coping with problems.

- **#10 - How good do you feel about yourself as a person? (Response Categories: Really good, Quite good, Somewhat good, Not very good, Not good at all)**

This item is intended to assess subjective, or experienced self-esteem; or how an individual feels about himself (Brown, 1995; Coopersmith, 1967). Similar wording was used in the Health of the Calgary Region Survey (CRHA, 1996b) in a section assessing self-perception.

- **#11 - How much of the time do you feel there is a sense of meaning in your life? (Response Categories: All of the time, A lot of the time, Some of the time, Not very much of the time, None of the time)**

Several interview participants identified having a sense of meaning as a determinant of health. Sometimes the term sense of purpose was used in similar contexts, as by this participant: *“A sense that you belong to something else and they have a purpose and a meaning.”* Initially the term sense of purpose was used in the draft instrument, but the wording was changed to sense of meaning after patients and providers gave feedback that sense of meaning better reflected the concept they had described.

- **#12 - Usually, how easy is it for you to get to places you need to go, like appointment, shopping, work or school? (Response Categories: Really easy, Quite easy, Somewhat easy, Not very easy, Not easy at all)**

Both patients and providers indicated that ease of access to transportation has a potential impact on health. One provider described this determinant as impacting isolated seniors:

“These are maybe people who were quite active before but due to the fact that they can’t get out now, they don’t have transportation perhaps is an issue. They don’t have someone to take them places.” This item is intended to assess transportation accessibility.

- **#13 - How well does your housing (apartment, house) meet your needs? (eg. big enough, affordable). (Response Categories: Really well, Quite well, Somewhat well, Not very well, Not well at all, Do not have housing right now)**

Housing was identified by many participants as a health determinant: not only whether or not a person had housing, but also the adequacy of the housing. During the pilot, patients suggested adding the examples of specific aspects of housing adequacy in order to clarify the question.

- **#14 - How safe do you feel where you live and/or work? (Response Categories: Really safe, Quite safe, Somewhat safe, Not very safe, Not safe at all)**

This item is intended to assess patients’ sense of safety in their surrounding environment.

Several participants had identified that fears for their safety prevented them from exercising outdoors, running errands in their neighbourhoods, or leaving their homes at night. Safety at work was also raised as an issue.

- **#15 - About how much was your household income last year? (Response Categories: Less than \$7000, \$7000 to \$16 499, \$16 500 to \$22 499, \$22 500 to \$33 000, Greater than \$33 000)**
- **#16 - How many people in you family (including yourself) did this income support? (Response Categories: One, Two, Three, Four, More than four)**

Items 15 and 16, combined, assess self-reported income. Based on provincial income data, the responses to these two questions identify whether an individual or family is above or below the poverty line (National Council of Welfare, 1999). Providers suggested including these questions to allow for reporting about poverty levels for the patient population at the centre.

- **#17 - How well does your income meet your basic needs, for things like food, housing, and medications? (Response Categories: Really well, Quite well, Somewhat well, Not very well, Not well at all)**

This item is intended to assess a patient's perception of the adequacy of his own income to meet his needs. Since needs will vary (i.e. one individual with a low-income may be unable to afford his expensive medications, while another individual with the same income may be able to afford his medications because he has Social Services coverage), this item augments the income information from items 15 and 16.

- **#18 - What is the highest level of education you have finished? (Response Categories: No schooling, Some elementary, Finished elementary, Finished high school, Finished College or Tech Program, Finished University Degree)**

This item is intended to assess self-reported level of education. The same categories are used in Canada's Health Promotion Survey (Health and Welfare Canada, 1993) , allowing for possible comparison with the general population.

- ▶ **#19 - How well do you feel that your education/training meets your needs? (Response Categories: Really well, Quite well, Somewhat well, Not very well, Not well at all)**

This item is intended to assess an individual's perception of the adequacy of her education or training to meet her own needs, and augments the information provided by item 18.

- ▶ **#20 - How satisfied are you with the main work that you do? (housework, volunteer work or paid work). (Response Categories: Really satisfied, Quite satisfied, Somewhat satisfied, Not very satisfied, Not satisfied at all, Not working)**

Both patients and providers identified that a person who has work, paid or unpaid, which affords him satisfaction, is more likely to be healthy. Some retired patients discussed the positive impact of volunteer work on their lives, while other patients who were no longer able to work outside the home due to disability described how this had negatively impacted their health. It leaves an option for patients to identify that they do not work.

- ▶ **#21 - How satisfied are you with the things that you do in your leisure time? (Like hobbies, social activities, sports). (Response Categories: Really satisfied, Quite satisfied, Somewhat satisfied, Not very satisfied, Not satisfied at all, Have no leisure time)**

While satisfaction with leisure activities did not emerge strongly as a determinant of health in the provider interviews, almost all patients discussed this factor. They described the impact both of hobbies done on their own, as well as social activities shared with others. Although no interview participants took part in sports, many identified sports as an important leisure activity for others. This item is intended to assess satisfaction with leisure time activities. It also leaves an option for patients to identify that they do not have any leisure time, which was also raised in the interviews as a factor influencing health.

- **#22 - How much of the time can you count on friends or family to help you with problems? (Response Categories: all of the time, A lot of the time, Some of the time, Not very much of the time, None of the time)**

This item is included to assess instrumental social support, or the provision of tangible aid (Langford, Bowsher, Maloney, & Lillis, 1997). Both patients and providers described the importance of having a supportive family or friends to assist with instrumental needs.

Examples given were things such as personal care when ill, assistance around the home, and transportation. This was identified as being particularly important for seniors.

- **#23 - How much of the time is there someone you can talk to about how you are feeling? (Response Categories: All of the time, A lot of the time, Some of the time, Not very much of the time, None of the time)**

This item is designed to address two other aspects of social support, emotional and appraisal social support. Emotional social support involves the exchange of feelings such as caring, empathy and trust, while appraisal social support involves the communication of information which contributes to self-evaluation (Langford et al., 1997). Several participants identified that an individual's ability to share her feelings with someone whom she trusts contributes to health.

- **#24 - How happy are you about your relationships with the people you live with? (Response Categories: Extremely happy, Quite happy, Somewhat happy, Not very happy, Not happy at all, Live alone)**

This item is intended to address an individual's satisfaction with his relationships with those immediately around him. This concept, identified by several participants as being a factor influencing health, appears to reflect emotional social support. Providers suggested that they would explore this issue further with open-ended questioning if a patient responded that he was not happy with his relationships.

- **#25 - How would you describe your cigarette smoking habits? (Response Categories: Have never smoked, Used to smoke but quit, Smoke occasionally, Smoke daily)**

This item addresses cigarette smoking, identified by most participants as a behaviour potentially detrimental to health. The categories are similar to those used in the Canada Health Survey (Health and Welfare Canada, 1981).

- **#26 - If you are smoking daily, about how many cigarettes do you smoke per day? ____**

Providers indicated that it would be helpful to them to know how much an individual is smoking per day, both to aid in counseling regarding cessation, and to help in following smoking patterns over time.

- **#27 - Over the past 12 months, how often on average did you usually drink alcohol? (Response Categories: Every Day, 4 to 6 times a week, 2 to 3 times a week, Once a week, Once or twice a month, Less than once a month, Not at all)**

This item is intended to address frequency of alcohol use, identified by participants as a factor potentially detrimental to health. The categories for frequency are the same as those used in the Health Promotion Survey (Health and Welfare Canada, 1993). The question does not assess the amount of alcohol drunk per sitting, and so does not screen for binge-drinking patterns. Providers identified that they would often explore drinking patterns further with open-ended questioning.

- **#28 - Have you thought about cutting down on your alcohol or drug use? (Response Categories: Yes, No)**

This item is intended to assess an individual's perception of whether or not she ought to decrease alcohol or drug use. This item was re-worded several times; providers suggested

that the wording selected would potentially provide useful information about readiness to change behaviour.

- **#29 - Thinking about the last couple of months, how often do you usually exercise? (Things like brisk walking, dancing, sports, jogging, swimming, aerobics, stretching exercises). (Response Categories: Not at all, Less than once a week, 1 to 2 times a week, 3 to 4 times a week, 5 to 6 times a week, Every day)**

This item addresses frequency of exercise, identified by participants as a health-promoting behaviour. Patient participants suggested the specific examples provided, to clarify what is meant by exercise. The categories are the same as those used in the Health Promotion Survey (Health and Welfare Canada, 1993).

- **#30 - How much do you think you could improve your diet? (Things like eating less fat, eating more fruits and vegetables, eating regular meals). (Response Categories: Could improve it a lot, Could improve it a little, Does not need improvement)**

This item is designed to assess an individual's perception of his diet. This item was also reworded several times based on feedback from providers, and examples added to increase clarity. Providers identified that they might further explore a patient's diet, based on his response.

- **#31 - Do you have any goals for the next year to improve your health and well-being? If so, please write them down below and discuss them with your health care provider.**

This final item was added after providers suggested that it would serve as a useful introduction to a discussion with the patient concerning health management planning.

These thirty-one items form the Health Determinants Questionnaire, the ultimate result of this project. While the questionnaire itself is most directly applicable to clinical practice at the centre, some of the other results from the project also have potential implications which will be discussed in Chapter V.

Chapter V Discussion

From this project there has emerged not only an instrument for assessing individual health determinants, but also findings related to stakeholders' understandings of health and the factors that influence it. In this chapter, the findings will be considered within the context of existing literature, and in terms of their strengths, limitations, and transferability. As well I will discuss their implications for practice at the research site and in other primary health care settings, and some recommendations for dissemination and future research.

1. Overview of the Findings

Based on in-depth interviews with providers and patients, a definition of health was developed for the project which reflected the common themes expressed by participants. According to this definition, *health is a multi-dimensional state of well-being, in which a person is able to cope with problems and to function according to his or her expectations.*

Participants described multiple factors impacting individual health. Providers tended to describe broad categories of health determinants, then, when prompted, to cite examples of specific determinants. Patients, however, discussed multiple specific determinants within the context of their own life experiences. The many factors impacting health were found to fit into several large categories, such as the immediate and broad social environments, physical determinants, and psychological determinants including mental/emotional factors and personality/behavioural factors.

The various health determinants described by participants formed the basis for the development of the instrument. In addition to information on health determinants, participants provided concrete recommendations as to what types of determinants should be included in the instrument, and how to best utilize the instrument in a clinical setting. As they piloted the Health Determinants Questionnaire, participants provided useful feedback about the relevance of the instrument's content to their own situations.

In addition to these results, which directly answered the research questions, some unanticipated findings emerged. Patient participants discussed a variety of issues, ranging from their perceptions of the health centre being disconnected from the communities it serves, to issues of under-funding and misplaced resources within the health care system, to specific recommendations for improved service at the health centre. These unexpected findings also have potential implications for health centre policy and service provision.

The results will be considered in the following discussion.

2. Relating the Findings to Other Work in the Literature

One way of verifying findings is to triangulate with related work in the literature, and to consider the extent to which the literature supports the results of the study. Although before beginning this project I had some awareness of literature related to health determinants, I did not attempt to refer to the literature during analysis, being concerned that my interpretations might be overly influenced by existing work. Instead, I waited to compare my findings with information from the literature after completing the analysis. In this section I will discuss several concepts in the literature: Antonovsky's Salutogenic Model, Evans' and Stoddart's Framework of Health Determinants, the concept of Resilience, and the Patient-Centred Model by Stewart et al. The first two seek to explain the determinants of health for individuals and populations, the third is a concept related to coping, and the fourth outlines an approach to patient care. I will briefly describe the key elements of each, and make comparisons with the findings from this project.

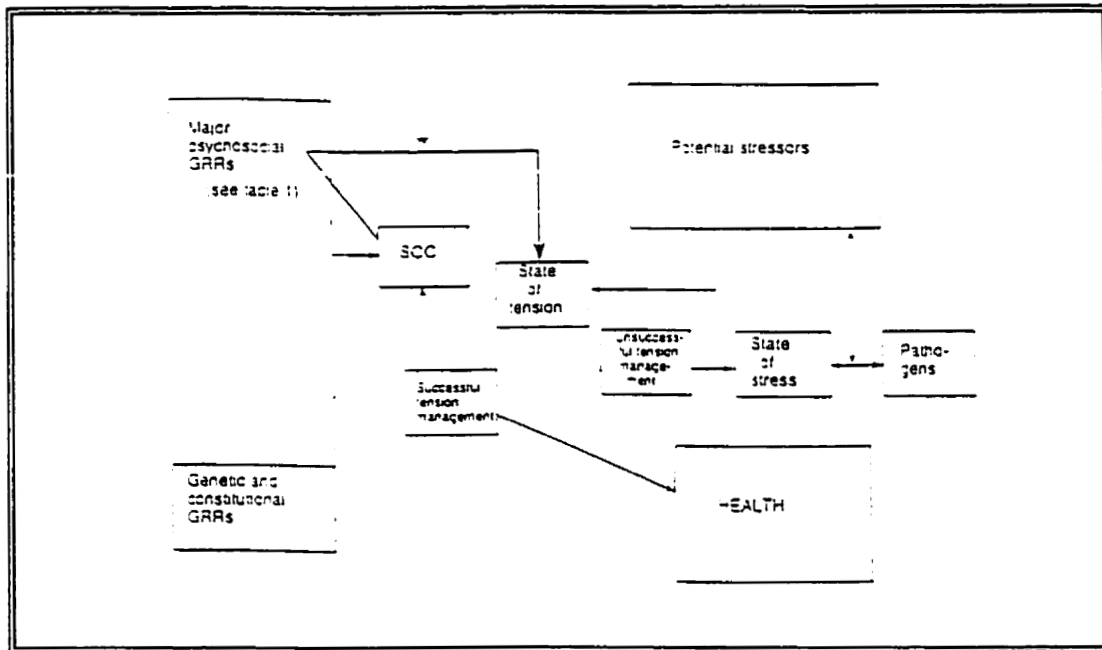
2.1 Antonovsky's Salutogenic Model

Antonovsky developed this complex model to explain the origins of health based on his own research into stress and coping, and on other findings in the medical and sociological literature (Antonovsky, 1979). His definition of health is quite specific; he criticized the WHO definition of health (multi-dimensional well-being) as being too broad, making "the concept of health meaningless and impossible to study" (Antonovsky, 1979, p.68). This model is based on a conception of individual health as a point on a continuum of "ease" to "dis-ease". His definition identifies this ease/dis-ease continuum as having

four key dimensions: the individual's experience of pain, the individual's perception of his limitation in performing self-defined important life activities, health professionals' perception of the individual's prognosis, and health professionals' perception of required action in addressing the individual's situation.

A simplified version of the Salutogenic Model is presented in Figure 4, outlining its key elements. The idea of sense of coherence is central to the model. Sense of coherence is described as a "feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected" (Antonovsky, 1993, p.725). People with a strong sense of coherence tend to see their lives as meaningful and manageable. Antonovsky identifies that potential stressors are present in all our lives, and these stressors lead to a state of tension. People with a strong sense of coherence can mobilize their resources to overcome stressors, leading to successful management of tension. This moves them toward the health end of the ease/ dis-ease continuum. If individuals have a low sense of coherence or few resources they may be unable to withstand stressors successfully. They will move from a state of tension to a state of stress, pushing them toward the dis-ease end of the continuum.

Figure 4 - The Salutogenic Model (Simplified Version)
(From Hollnagel & Malterud, 1995, p.425)



The findings from this project share some common features with the Salutogenic Model. As well there are some key differences. Antonovsky's definition of health requires the perspective of both the individual and the health professional, while interview participants in this project defined health only from the perspective of the individual experiencing it. The definition of health for this project incorporates the concept of well-being, making it broader than Antovosky's. However, both definitions share a common element, that of health being defined in part by the individual's perception of his own functioning. In addition, the definition of health from this study identifies the ability to

cope with problems as an aspect of health, which may correspond with the process of successful tension management described in the Salutogenic Model.

Antonovsky identifies numerous psychological, genetic, and constitutional resources which can help an individual to manage tension. In addition he discusses various psychological, physical and biochemical stressors. Many of these resources and stressors correspond to the specific factors impacting health identified by participants in this project. The concept of sense of coherence may be echoed by participants' descriptions of "sense of meaning", "sense of place in the world", and "positive attitude" expressed during the interviews.

In summary, the Salutogenic Model provides a complex explanation for the genesis of individual health, with health being seen as a continuum. As well as being supported by Antonovsky's research, the central ideas of the model appear to make intuitive sense. The findings of this project correspond with several aspects of the Salutogenic model; in particular they identify specific resources and stressors for individual patients.

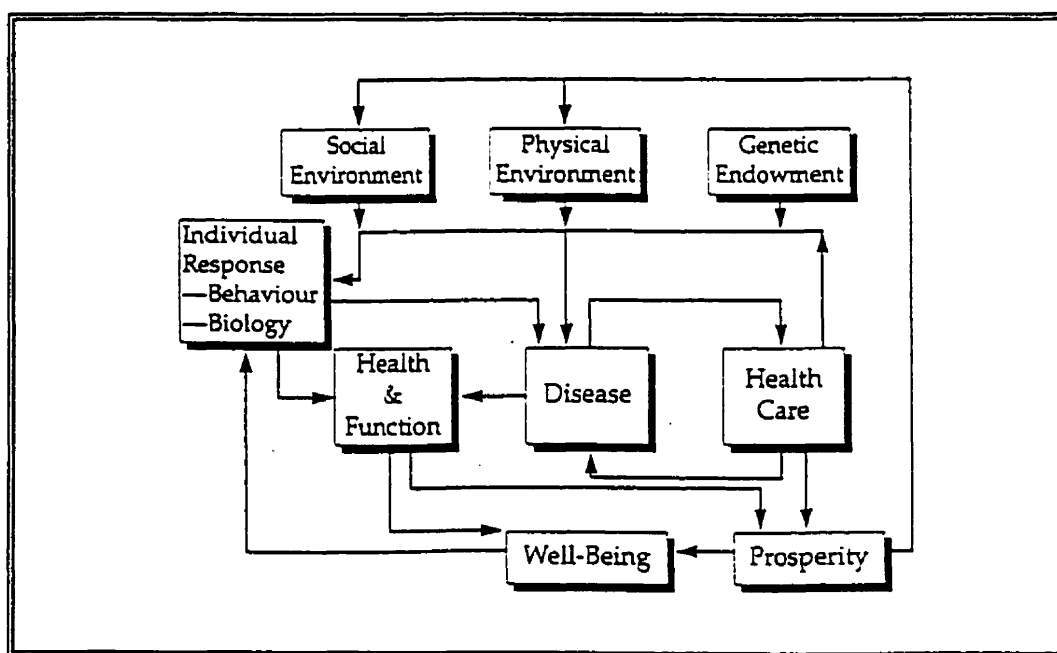
2.2 Evans' and Stoddart's Framework of Health Determinants

In the book Why Are Some People Healthy and Others Not?, Evans and Stoddart (1994) present a framework for considering determinants of both individual and population health. They, too, suggest that the WHO definition of health is too broad to serve as a basis for health care policy, and rename the concept expressed by the WHO definition as "well-being". They define health as "the absence of illness or injury, of distressing symptoms or impaired capacity", and qualify that this is from the patient's

perspective (p.47).

Their framework for explaining the determinants of health and the connections between health and well-being is presented in Figure 5. In the framework, broad categories of determinants are identified as well as the relationships between these categories. The authors recognize that each category has a rich internal structure containing multiple variables, with the interaction between variables from different categories being critical to the health of both individuals and groups. The framework also recognizes the economic benefits and costs of health care services and their impact on health and well-being.

Figure 5 - Framework of Health Determinants (from Evans and Stoddart, 1994, p.53)



There is some correspondence between the categories outlined in the Evans and Stoddart framework and the categories of health determinants which emerged during this project. The social and physical environment are common categories, while the individual response specified in the framework may correspond with the individual personality and behaviour category emerging from this project. The findings from this project help to delineate some of the specific factors influencing health within these large categories.

Interestingly, in the Evans and Stoddart framework health care and the presence or absence of disease are conceptualized as separate categories, while these factors are included within the social and physical categories in the findings from this project. Interview participants recognized the influence of health care services and disease on health, but did not emphasize these determinants to the extent that Evans' and Stoddart's framework does.

While some of the categories in the Evans and Stoddart framework agree with the findings from this project, the framework is not intended to explain the multiple variables influencing health at the individual level. The findings from this project may fill in some of the internal structure of the categories of health determinants outlined by the framework.

2.3 The Concept of Resilience

Resilience is defined as "the capability of individuals and systems to cope successfully in the face of significant adversity or risk. This capability develops and changes over time, is enhanced by protective factors within the individual/system and the environment, and contributes to the maintenance or enhancement of health" (Mangham,

et al., 1994, p.1). I chose to discuss the findings from this project in the context of resilience theory because resilience relates closely to one aspect of the definition of health voiced by project participants: health as the ability to cope with problems.

In a summary of the literature on resilience, Mangham et al. (1994) describe both risk factors, which are variables potentially leading to maladjustment, and protective factors, which balance or ameliorate the impact of risk factors.

Many of the risk factors identified in the resilience literature correspond to variables described during the stakeholder interviews in this project; such factors include stressful life events, exposure to abuse, lack of social supports, low income, poor nutrition, lack of safety in the community, and certain personality characteristics. Similarly, protective factors in the resilience literature agree with many of the determinants which emerged in this project. Some of these common protective factors or resources include social supports in the family and community, family modelling, employment and education, recreational activities, cognitive abilities, self-esteem, self-efficacy, an optimistic attitude, and sense of control.

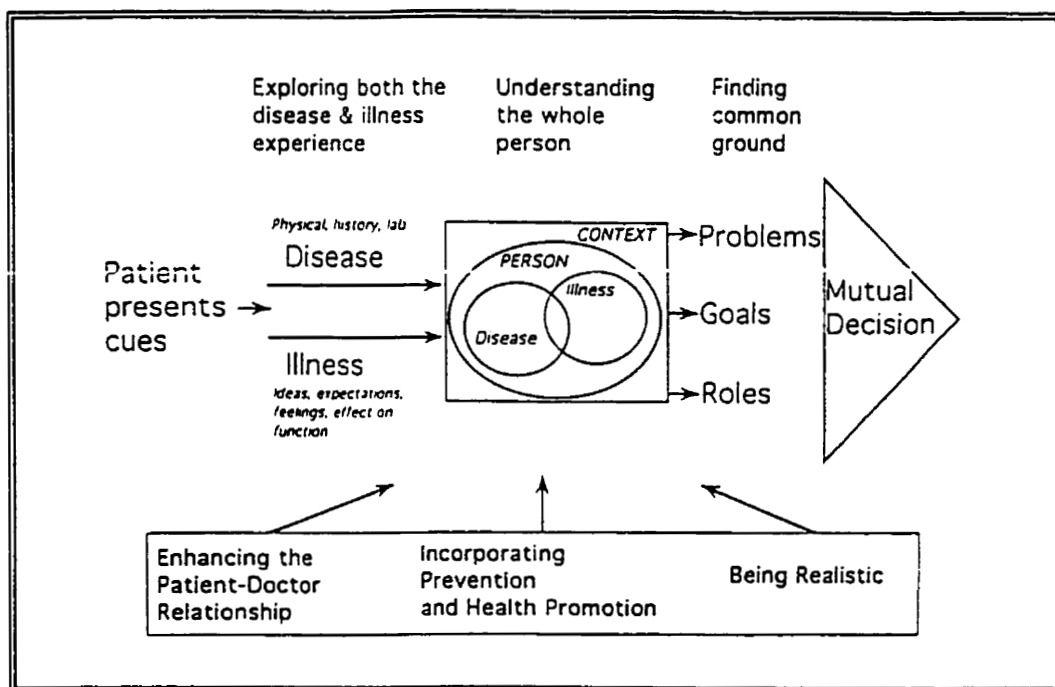
While the term resilience was not used by project participants, comparison of findings from this project with the resilience literature suggest that their definition of coping as a key aspect of health corresponds with the concept of resilience. The determinants of resilience identified in the literature agree with many of the determinants of health described in our findings.

2.4 The Patient-Centred Clinical Model

This model was developed out of a perceived need for a clinical process which goes beyond the traditional biomedical approach to “include consideration of the patient as a person” (Stewart et al., 1995, p.xv). The model contains six components; the first three focus on the process between patient and physician, while the last three relate to the context in which this interaction occurs. Although the model was developed by physicians and for physicians, the methods described could potentially be used by health care providers from various disciplines. I will use the term “physician” as it is presented in the model, recognizing that the term “health care provider” could be substituted.

The model is presented in Figure 6. Its first component is termed “exploring the disease and illness experience” and includes the process of making a differential diagnosis and attempting to understand dimensions of the patient’s illness experience. The next component of the process is “understanding the whole person”; considering both the individual’s life history and the social and physical environments in which she lives. Thirdly is the attempt to find “common ground regarding management”, which involves identifying problems and goals and establishing the roles of the patient and physician. A fourth component is “incorporating prevention and health promotion” into the interaction, while the fifth component relates to “enhancing the patient-doctor relationship” through various strategies. The final component is “being realistic”, which refers to such things as the use of time and personal resources (Stewart et al., 1995, p.25). The authors expand on these various components of the model and how they can be operationalized into a practical method for working with patients.

Figure 6 - The Patient-Centred Model (from Stewart et al, 1994, p.26)



The results of this project could potentially enhance providers' use of the patient-centred method at the Alexandra Community Health Centre. The questionnaire includes items designed to elicit information about the patient's experience of symptoms of illness, the impact of illness on functioning, the social environment, and various health-related behaviours. By using a patient's responses on the questionnaire as a starting-point for further exploration of identified issues, the instrument can aid the provider in exploring the illness experience, understanding the patient as a whole person, and incorporating prevention and health promotion into the encounter. By identifying problems together, provider and patient can use the instrument in setting goals and finding common ground regarding health management. The pilot results suggested that participants felt the time required to review the instrument represented a realistic and efficient use of resources.

I have chosen to discuss the findings from this project as they relate to four concepts in the literature. The results could also be considered in the context of many other models in the medical, sociological, and psychological literature. The instrument content was based on data from project participants, rather than a specific model of health determinants, because existing models did not appear to be at a level specific enough to be operationalized in an instrument. However, various categories and ideas expressed in the models of health determinants, as well as the literature on resilience, triangulate well with the findings from this project. These common features lend credibility to our findings. Practically, the results of the project may also encourage the effective use of the patient-centred approach in the clinical setting.

3. Strengths, Limitations and Transferability

No matter how well-designed, every research project has both limitations as well as strengths, which impact the trustworthiness and usefulness of the findings. The main outcome of this project has been the development of the Health Determinants Questionnaire. This section summarizes both the strengths and limitations of the instrument, and discusses its transferability given these strengths and limitations.

3.1 Strengths

The primary strength of the Health Determinants Questionnaire is its relevance to the stakeholders with whom and for whom it was developed. Feedback from participants suggested that the questionnaire had content validity for them; it reflected their own experiences and understanding of key health determinants. The careful methods used during data collection, analysis and instrument development to ensure the trustworthiness of the findings contributed to the development of an instrument with content validity.

In addition, the instrument was found to be acceptable to stakeholders. Both patients and providers who participated in the development of the instrument expressed the idea that sharing information on individual health determinants would potentially lead to improved care, by allowing the identification of a broad range of issues impacting health and supporting the development of health management plans to address those issues. Participants also identified that the time to complete and review the instrument was appropriate, and that the use of the instrument did not disrupt routine in the clinic.

A further strength is that the instrument fills an identified need at the research site

for a more systematic way to gather information about the factors impacting patients' health. Since an instrument to meet this specific need did not previously exist, the Health Determinants Questionnaire fills a gap for the health centre.

The concept of "sensitivity" summarizes the strengths of the instrument. McDowell and Newell (1996, p.30) describe this as the clinical appropriateness of the instrument: whether its design, content and ease of use fit its task. The project was designed to ensure that the Health Determinants Questionnaire would be as sensible as possible. The feedback from participants suggests that it is a clinically relevant, content-valid, and practical instrument for the setting in which it will be used.

3.2 Limitations

One limitation of this instrument is that it is intended for assessment, rather than measurement, of individual health determinants. When first proposing this project, I had assumed, rather naively, that it might be possible to develop an instrument which would provide a summary measure of health determinants. This type of summary measure would potentially allow comparisons between groups of patients at the AHC and other practice sites, as well as providing a changing measure of the health determinant "levels" of individual patients over time. While collecting and analyzing the interview data, I began to realize that the complexity of the relationships between multiple health determinants, and their potential for interactions, would make it extremely difficult to "measure" health determinants in any meaningful way. Participants reported that for any individual, different health determinants might interact to impact health at any one time, and that

these factors and the weight of their influence would vary over time. Any instrument intended to measure these multiple interactions meaningfully would need to be lengthy and have a complex scoring algorithm to allow weighting of different factors depending on an individual's current circumstances. I felt that this type of instrument would be impractical for use in a health centre with limited time and staffing resources. Its development would also have been beyond the scope of an MSc thesis project.

Instead, the Health Determinants Questionnaire has been developed as a tool to aid providers and patients in assessing a sub-set of health determinants identified as being important to participants. Each item is intended to be considered independently; items are numbered for recording purposes only, not for the intent of providing a summary score.

The questionnaire is not intended as a means of comprehensively assessing *all* potential health determinants for an individual. Participants identified many more factors influencing health than could possibly be included in an instrument of this length. Instead, a limited number of key health determinants were selected based on recommendations from participants as to which determinants were of most relevance to them, as well as being potentially modifiable given the resources of the health centre.

The Health Determinants Questionnaire was not designed as a means of measuring changes in health determinants of individual patients or groups over time. The instrument's use is limited to assessment, rather than monitoring purposes. Using the instrument for monitoring purposes would require that the instrument be sensitive enough to measure changes which might be considered clinically significant. While it is possible that the instrument may be this sensitive, performing sensitivity testing was beyond the

scope of the current project. Therefore, the project focused on developing an instrument which could be used for assessment of health determinants at one point in time, but not for monitoring changes in these determinants over time.

Another limitation is that the instrument is not designed as a means of assessing community capacity or community health needs, but rather individual health determinants. A community is more than the sum of its individual members; it is a group of people and organizations which share common interests (CRHA, 1996a). Appropriate indicators of community capacity might include resources in the community or measures of participation (Goodman, Speers & McLeroy et al., 1998; Wanke, Saunders, Pong & Church, 1995). Patients attending the clinic do not necessarily represent all the cultural or geographic communities potentially served by the ACHC. When individual measures of patient health determinants are compiled, this aggregate data will be useful in identifying common issues among patients at the centre, but will not be presented as a reflection of the health needs of the entire community potentially served by the health centre.

As discussed previously, the Health Determinants Questionnaire was designed to maximize its content validity for the stakeholders who will be using it. However, other types of validity, such as construct and criterion validity, were not addressed during the development of the instrument. The extent to which an instrument has been validated in different settings impacts on whether or not it can be used with confidence outside the setting in which it was developed and tested. The fact that the Health Determinants Questionnaire has been content-validated, and that other forms of validity have not been assessed, influences its transferability. I discuss this idea further in the following section.

3.3 Transferability

The concept of transferability refers to the extent to which findings from a qualitative study can be applied across different people or settings, and depends on the similarities which exist between these different contexts (Johnson, 1997). Corresponding concepts in quantitative research are generalizability or external validity. In order to determine whether results can be transferred to another context and still remain trustworthy, the researcher must provide enough detail about the research setting and the nature of participants to enable others to decide if their settings are reasonably similar.

It is essential to consider to what extent the Health Determinants Questionnaire could be applied with confidence both to different groups of patients within the research setting, as well as to patients in other health care settings. In order to consider this transferability, the context in which the research was carried out needs to be clear.

The research site, an inner-city community health centre, was previously described. The content of the questionnaire was based on the interview results and feedback from a range of providers and patients. Providers included community development workers, counsellors, chiropractors, family physicians, a medical coordinator, a nurse, and receptionists. These providers came from a range of ethnic backgrounds, and they based their responses on their experiences working with people from a variety of cultures, including immigrants and Native Canadians. Patient participants in the interviews and pilot were primarily Canadian-born and of European ancestry, although the sample did include some recent immigrants. Most of the participants were female. Patients varied in age and in their health and illness experiences. There was some variability in socioeconomic

status, although the majority of participants identified themselves as having restricted incomes.

Based on the characteristics of the project participants and the clinical site for which the instrument was designed, the questionnaire would likely have transferable content validity for English-speaking, adult patients in lower-income urban neighbourhoods. It is important to recognize that the instrument has had limited piloting among people from various ethnic backgrounds, and it is possible that health determinants other than those included in the questionnaire might be emphasized among different cultural groups. This is an important consideration for other health centres, particularly if their patient population is not primarily of European background.

The content validity of the questionnaire for patients in other clinical settings is not the only aspect of transferability which needs to be addressed. The applicability of the instrument to the clinical needs, available services, and practice routines of other sites should also be considered. While many primary health care settings might find it useful to assess patient health determinants, others clinical sites which provide more specific services might not have a such a need. For example, at a surgical office or physiotherapy practice providers might only be interested in factors specifically related to the treatment of the patient's presenting problem. Health care settings which provide mainly episodic care, as opposed to ongoing, preventative care, might also conclude that this type of instrument is not relevant for their site.

The resources of the clinical setting should also be considered. The items included in the instrument were selected, in part, based on their potential modifiability given the current resources of the research site. Another clinical setting might have different

resources available, and as a consequence might chose a different set of factors to be included in such an instrument.

Practice routines are a final consideration. At primary health care settings where providers are salaried, such as community health centres, more time is often available to spend with an individual patient than in a fee-for-service setting. The time required to review a patient's questionnaire responses, identify issues, and develop a health management plan to address these issues might results in the instrument not being as practical in some fee-for-service settings.

Before selecting an instrument to use with patients in a clinical setting, it is incumbent on providers to consider carefully the extent to which the instrument is relevant and valid for the context in which they will be using it. Given the transferability limitations of the Health Determinants Questionnaire, and recognizing that the development of the questionnaire has focused on content validity rather than other forms of validity, I would advise providers to be cautious about applying the instrument in practice settings other than the one in which it was developed. While the instrument shows promise as a means of assessing individual health determinants in other primary health care settings with similar clientele and service delivery models, providers may wish to defer utilization until the instrument has undergone further piloting and validity testing. Potential users might also consider transferring the *process* used to develop the Health Determinants Questionnaire to their own site, and replicate this process to develop their own instrument relevant to the needs and context of their clinical setting.

4. Implications for Practice

The results of the project, both anticipated and unanticipated, have potential implications for changing practice at the centre where the instrument was developed. The most obvious outcome of this project is that stakeholders at the centre now have a more standardized way of assessing individual patient health determinants. When working with individual patients, the information gathered and the process of gathering it will potentially lead to improved patient-centred care. By compiling the questionnaire results for groups of patients, staff can more systematically identify key health determinants impacting patients, and can use this information to plan programs and to seek funding for appropriate services to best meet client needs.

The unanticipated findings also have potential implications. The fact that patient interview participants spontaneously voiced concerns regarding specific aspects of service provision, the role of the health centre in the community, and the impacts of health care system policy, suggests that patients are eager to share their concerns and recommendations for change. It also implies that they may not feel there is currently a vehicle for this type of feedback.

At present, the health centre is undertaking an evaluation project which includes extensive interviews with clients and community members. The results of the evaluation project may further illuminate the issue of client perceptions of the health centre and the services it provides. Based on the data from this project, however, I would make some preliminary suggestions. A process could be developed to regularly solicit feedback from clients as to their satisfaction with the services they receive and suggestions for improved service and programs; a client satisfaction survey in the waiting room is one option.

Possible mechanisms for increasing the integration of the health centre within the community might include better advertising of Board meetings and planning days, active recruitment of community members to the Board and staff, the creation of a community advisory group, and increased partnership in community development initiatives. The fact that many patient interview participants identified factors in the broad social environment as being important health determinants suggests that the health centre might also have a role in facilitating community organization to address those factors.

The key implication of this project is its potential for improving health care services at the centre through the utilization of the Health Determinants Questionnaire. Other implications, however, relate to supporting patients and community members in securing a greater voice in directing the services, programs and policies of their health centre.

5. Next Steps

Although the development and piloting of the Health Determinants Questionnaire have been completed, more work is required to design a data entry and retrieval system for the instrument results, to further test and refine the questionnaire, and to disseminate the project's processes and findings.

5.1 Database Design

A computer database is currently being designed at the research site which will enable patients' questionnaire responses to be entered and retrieved. This will allow reporting of the frequencies of each response, mean response, and standard deviation of response to each individual item in the instrument. Aggregate responses can be reported for the entire patient population in the database, or for groups of patients based on demographic variables.

5.2 Instrument Trial

After the completion of the pilot, providers recommended using the instrument for a three month trial with new patients and patients attending the clinical for a complete exam. At the end of the trial, aggregate questionnaire results will be compiled. Providers plan to meet at that point to discuss whether or not they will continue to use the instrument, given the benefits of the information being obtained and the resources required for instrument completion, review and data entry. They may recommend changes to the instrument content and to the way the instrument is being utilized in the clinical setting. The trial will continue from April 3 to June 30, 2000.

5.3 Further Instrument Development and Testing

As previously discussed, it is recommended that the Health Determinants Questionnaire undergo further development and testing in order to assess its reliability and sensitivity, as well as its construct and criterion validity. If carried out in primary health care clinical settings, this testing will provide further guidance as to the transferability of the instrument to sites other than the one in which it was developed.

An instrument's reliability can be assessed in many different ways. For this instrument, test-retest reliability (which considers consistency in responses on the same instrument over time) would be an appropriate aspect of reliability to assess (Anastasi, 1988). Sensitivity testing looks for an instrument's ability to detect meaningful change. Since this questionnaire is designed to subjectively identify multiple potential health determinants, any of which might change independently, assessing this instrument's sensitivity could be complicated and challenging.

Two aspects of validity, criterion and construct validity, were not addressed during this project. Criterion validity refers to the extent to which instrument results correlate with a gold standard. In order to test this type of validity, responses to individual items on the Health Determinants Questionnaire could be compared with results on a health status assessment instrument or quality of life instrument. The challenge in doing this type of testing would be to select a "gold standard" health status instrument which reflected a similar definition of health as that which formed the basis for the Health Determinants Questionnaire. If the definitions of health for the two instruments differed significantly, it would be unlikely that the items on the Health Determinants Questionnaire would predict "health" as measured by the gold standard.

Construct validity refers to the extent to which an instrument measures a theoretical construct. Based on a theoretical model, the instrument results might be expected to correlate positively with measures of other related constructs (convergent validity), or conversely might be expected to show no correlation with measures of unrelated constructs (discriminant validity) (Anastasi, 1988). In order to assess construct validity, responses to individual items on the Health Determinants Questionnaire could be compared to validated instruments which were designed to measure the related construct. For example, patients' responses on the item designed to reflect self-esteem could be compared to scores on an existing self-esteem scale, or responses to the three items addressing social supports could be compared to responses for an existing measure of social support.

These suggestions for ongoing testing and development of the Health Determinants Questionnaire are preliminary, as it was not within the scope of this project to design this further research. A future proposal may address this research in more detail.

5.4 Sharing the Results

Disseminating the findings of the project to participants, as well as a wider audience, is an important next step. Throughout the project itself, I shared the findings at different stages with staff stakeholders at the health centre. In addition, the draft questionnaire was disseminated to the patient participants who took part in the telephone interviews. Now that the project is complete, I will make a summary report available to all staff at the health centre, and to the patient participants who indicated previously that they wished to receive a copy of the results. In addition, a summary report will be

included in the report for the ACHC evaluation, which will be made available to community members as well as to Alberta Health and Health Canada.

Because both the results and the processes used to develop the instrument are of potential interest to health care providers in other primary health care settings, I will consider ways to share the findings with this audience as well. This may include submissions to primary health care conferences and to family medicine and nursing journals. Publications which address qualitative health research are another avenue for dissemination of the project's findings.

6. Reflections on the Project

Many aspects of the completion of this project proved to be challenging. While the use of qualitative research methods allowed me to gain a depth of understanding of participants' perceptions of health and its determinants which would not have been possible using quantitative methods, I did not always find the methods easy to apply. I struggled with the paucity of "rules" for qualitative research, and the need for flexibility as planned methods were modified in response to the emerging data. Roles were sometimes a challenge; I often found myself trying to balance my roles as a clinician and colleague with my roles as a researcher and student. At times, it was difficult to address the need for rigour in the research process, while simultaneously respecting the practical resource limits and requirements of the research site.

At the same time, the project was extremely rewarding. I found that the research process provided me with an opportunity to interact with patients in a refreshing way; with the patient participants as experts and with me as listener and learner. I felt honoured by the openness with which participants shared their experiences. Perhaps most rewarding is the knowledge that these results may contribute to improving the way providers work with patients to support health. The project's findings suggest that there is a will and an enthusiasm among health care providers to provide patient-centred, holistic services, services not only intended to treat illness, but also to address health determinants in order to sustain lasting improvements in health. The findings also reveal the desires of many patients to work actively to address the factors impacting their own health. I sincerely hope that the results of this project will serve as a tool to support these goals, both at the research site, and, with further development, in other primary health care settings.

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Appendix A: Contact Summary Form

Contact Summary Form

Contact type: phone__ visit__ Date of contact__ Today's date__
Contact Name__ Site__

1. What were the main issues or themes that struck you in this contact?
2. Summarize the information you got (or failed to get) on each of the target questions you had:
 - a. Understanding of health
 - b. Factors involved - broad
- specific
 - c. Relationships b/w factors
 - d. Which can patients change?
 - e. Which can staff/CHC change?
 - f. What info is important to you to assess pt. health?
 - e. Preferred means of getting information?
2. Anything else salient, interesting, illuminating or important in this contact?
3. What new or target questions do you have in considering the next contact with this site?

Appendix B: Letter of Invitation for Phase I Patient Interviews
(note: patient copies were printed on ACHC letterhead)

February 1, 1999

Dear :

The Alexandra Community Health Centre is taking part in a research project to develop a question form which will help staff at the centre understand the health needs of patients. The researchers organizing this project are looking for a group of patients help with it. You have been randomly chosen from patients at the Alexandra to be invited to take part in this project.

If you would like to take part in this project, it would involve being interviewed for about 1 hour by a student at the University of Calgary, who is also a family doctor at the Alexandra. The interview could be at your home or at the Alexandra, whichever is better for you. You will be asked questions about health, and what you feel people need to be healthy. If you agree, the interview will be taped. You are free to stop the interview at any time.

It is up to you whether or not you choose to take part in this project. Your doctor or nurse will not know whether you take part. If you do not take part in the project it will not affect the health care that you receive at the Alexandra.

There is a stamped response card enclosed. If you **are** interested in taking part in this research project, please tick off that box on the card and mail it in. A research assistant will then phone you to set up a time for the interviewer to meet with you. If you **are not** interested in taking part in this research project, please tick off that box on the card and mail it in.

If the researchers do not hear from you in two weeks, you will be phoned to make sure you got this letter and to see if you need more information. If you have questions or concerns about this project, please call Dr. Meredith McKague at 266-2622 or Dr. Marja Verhoef at 220-7813.

Thank-you for your help.

Sincerely,

Executive Director
Alexandra Community Health Centre

Appendix C: Patient Interview Consent Form

(note: patient copies were printed on ACHC letterhead)

Consent Form for Research Project

**Title: The Development of a Health Determinant Instrument
for Use in a Community Health Centre**

Investigators: Dr. Meredith McKague and Dr. Marja Verhoef

This consent form, a copy of which has been given to you, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The purpose of this project is to learn what affects the health of patients at the Alexandra Community Health Centre (the Alex). What is learned will be used to make a list of questions which can be used at the Alex to better understand patients' health needs.

If you take part in this project, you will be interviewed by the researcher. You will be asked for your ideas about what makes people healthy. The interview will last 45 minutes to 1 hour. If you are willing, it will be taped. If at any point you do not want to go on, you may end the interview or ask that the tape recorder be turned off.

The list of questions created from this project may be used in the future to help patients at the Alex, and their doctors or nurses, know their health needs better.

If you do not take part in this project, it will not affect the health care that you receive at the Alex. Your doctor, nurse, chiropractor or counsellor will not be told whether or not you take part in this project.

The researchers do not expect there will be any harm to you from taking part in this project. However, in the event that you suffer injury as a result of participating in this research, no compensation will be provided for you by the researchers, the University of Calgary, or the Calgary Regional Health Authority. You still have all your legal rights. Nothing said here about compensation in any way alters your right to recover damages.

The only people who will know what you say in your interview are the interviewer, a person who helps with the analysis, and a person who types up the interviews. Your name will not be used in the interview or in the results. Any tapes or copies of your interview will be kept in a locked cabinet.

This research is being carried out by a student at the University of Calgary, who is also a family doctor at the Alex. It is part of a master's thesis.

If you would like, you will be given a summary of the results at the end of the study.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the investigators, sponsors or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation. If you have further questions concerning matters related to this research, please contact: Dr. Meredith McKague, ph. (403) 266-2622 or Dr. Marja Verhoef, ph. (403) 220-7813. If you have any questions concerning your rights as a possible participant in this research, please contact the Office of Medical Bioethics, Faculty of Medicine, University of Calgary, ph. (403)220-7990.

Participant's signature _____ Date _____

Investigator and/or
delegate's signature _____ Date _____

Witness's signature _____ Date _____

A copy of this consent form has been given to you to keep for your records.

Thank-you for your help with this project.

Appendix D: Patient Interview Guide

1. What do you think it means to be healthy?
2. Thinking about yourself or people you know, what are the things that affect people's health?
 - Can you think of specific things which affect people's well-being?
3. In your experience, how do these things interact or affect each other?
4. Do you think people can change the things which affect their own health?
 - If yes: Which things do you think people can change?
5. Do you think health care providers (like physicians, nurses, counsellors or chiropractors) can change the things which affect peoples' health ?
 - If yes: Which things do you think they can change?
6. Staff at your health centre would like to make a questionnaire to find out about the different things that affect the health of people who come to the clinic. This will be to help your health care providers understand your health needs better, and to be able to understand the health needs of all the patients at the centre in order to help plan programs.
 - How would you feel about this type of questionnaire being used?
 - How do you think we could best get this information - from you filling out the questionnaire on your own, from a health care provider filling it out for you, or from you filling out the questionnaire together with your health care provider?
 - How much time would you be willing to spend filling out a questionnaire, assuming it would not take away from your time with your health care provider?
7. From speaking with you today, I understand that you see the factors involved in a person's health are..... (Summarize interview content).
 - Do you agree with this?
 - Are there points which you do not agree with?
8. Would you like to add anything else that we haven't talked about?

Appendix E: Consensus Group Consent Form
(note: copies were printed on ACHC letterhead)

Consent Form for Research Project

Title: The Development of a Health Determinant Instrument
for Use in a Community Health Centre

Investigators: Dr. Meredith McKague and Dr. Marja Verhoef

This consent form, a copy of which has been given to you, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

1. The purpose of this focus group is to discuss the development of a questionnaire called the Health Determinants Instrument. This questionnaire could potentially be used at the Alexandra Community Health Centre to help clients and staff better assess the different factors which influence the health of clients who attend the Alex.
2. If you would like to participate in this consensus group discussion, you will be asked to discuss the development and potential uses of this questionnaire with other members of the clinical team. A moderator will lead the discussion. The discussion will last about 2 hours, with a break in the middle. The discussion will be taped. Participation is voluntary. If at any point in the discussion you do not want to continue, you are free to stop.
3. There are no expected risks to you from participating in this consensus group. However, in the event that you suffer injury as a result of participating in this research, no compensation will be provided for you by the researchers, the University of Calgary, or the Calgary Regional Health Authority. You still have all your legal rights. Nothing said here about compensation in any way alters your right to recover damages.
5. The information from this discussion will be guarded to protect your privacy and confidentiality as much as possible. The researcher, group moderator, and a transcriptionist who will type up the discussion, will be the only people with access to the information from the discussion. First names only will be used in the discussion, and will be replaced with initials in the transcript. You may be quoted in the results, but without your name being used.
6. This research project is being done by a student at the University of Calgary, Department of Community Health Sciences, as part of her master's thesis. The results may be published in a health care journal.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the investigators, sponsors or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation. If you have further questions concerning matters related to this research, please contact: Dr. Marja Verhoef, ph. (403)220-7813 or Meredith McKague, ph. (403) 266-2622. If you have any questions concerning your rights as a possible participant in this research, please contact the Office of Medical Bioethics, Faculty of Medicine, University of Calgary, ph. (403)220-7990.

Participant's signature _____ Date _____

Investigator and/or
Delegate's signature _____ Date _____

Witness's signature _____ Date _____

A copy of this consent form has been given to you to keep for your records and reference.

Thank-you for your help with this project.

Appendix F: Consensus Group Question Guide

A. Summary of results of provider and patient interviews, including identified broad and specific determinants of patient health, and patient suggestions as to how to integrate the instrument into practice.

B. Questions to trigger discussion:

1. How do you feel these results reflect your experience of the factors that determine patients' health?
2. Do you think it would be worthwhile to develop an instrument to use in the clinic to assess patient health determinants?
 - If yes, why? What uses do you see such an instrument having?
 - If no, why not?
3. What form do you see the instrument taking?
4. Who do you feel should be providing information?
(only patients, only providers, patients and providers each reporting separately, patients and providers reporting together)
5. How do you feel we can integrate the instrument into clinic's everyday routine as effectively and efficiently as possible?

Appendix G: Structured Interview Guide for Telephone Interviews and Pilot

1) Would you be willing to fill in the Health Determinants Instrument from time to time at your appointments at this health centre? (circle number)

Very unwilling	Somewhat unwilling	Somewhat willing	Quite willing	Very willing
1	2	3	4	5

2) If you would be willing to fill in the Health Determinants Instrument from time-to-time, how often would you be willing to fill it in ?

- | | |
|--|---|
| <input type="checkbox"/> Less often than every 2 years | <input type="checkbox"/> 2 - 3 times per year |
| <input type="checkbox"/> Every 1 - 2 years | <input type="checkbox"/> More often than 2 - 3 times per year |
| <input type="checkbox"/> About 1 time per year | |

3) If you see the following health care providers at the centre, how comfortable would you be with your health care provider seeing the information from your Health Determinants Questionnaire? (circle number)

a) your doctor: (☐ Does not see a doctor)

Very uncomfortable	Somewhat uncomfortable	Somewhat comfortable	Quite comfortable	Very comfortable
1	2	3	4	5

b) your nurse: (☐ Does not see a nurse)

Very uncomfortable	Somewhat uncomfortable	Somewhat comfortable	Quite comfortable	Very comfortable
1	2	3	4	5

c) your chiropractor: (☐ Does not see a chiropractor)

Very uncomfortable	Somewhat uncomfortable	Somewhat comfortable	Quite comfortable	Very comfortable
1	2	3	4	5

d) your counsellor: (☐ Does not see a counsellor)

Very uncomfortable	Somewhat uncomfortable	Somewhat comfortable	Quite comfortable	Very comfortable
1	2	3	4	5

7) What do you think about the time it took to fill in the pink questionnaire, the Health Determinants Instrument? How much time did it take you to fill in? _____ minutes

- ☐ Took too much time to fill in
- ☐ Took about the right amount of time to fill in
- ☐ Would have been willing to take more time to fill in a longer questionnaire

8) Were there any questions which did not make sense to you?

For each question which did not make sense, ask:

What about the question did not make sense?

What changes would you suggest for that question? (ie: change wording, give example, delete entire question...)

Question #:	What didn't make sense:	Suggested changes:

9. Were there any questions which you felt uncomfortable answering?

If yes, for each question ask: Why did you feel uncomfortable answering that question?

What changes would you suggest for that question? (ie: delete it, change wording...)

Question #	Why uncomfortable:	Suggested changes:

10. Are there any other questions which are not in the questionnaire which you would suggest adding?

Appendix H: Pilot Cover Letter

(note: patient copies were printed on ACHC letterhead)

We are testing a new questionnaire which may be used at this health centre. The purpose of this questionnaire, called the Health Determinants Instrument, is to better understand the things that affect the health of patients at the centre, such as yourself. This can help you and your doctor, nurse or chiropractor find ways to improve your health by better understanding your health needs. The Health Determinants Instrument is made up of questions about you and the things that can affect your health.

If you would like to take part in the testing of this questionnaire, please do the following:

- 1) Fill in the questionnaire (takes about 10 minutes). If you do not understand a question or do not wish to answer it, you may leave it blank.
- 2) When you have filled in the questionnaire, take it in to your appointment and your doctor will go over your answers with you. Please **do not write your name** on the questionnaire.
- 3) After your appointment, please bring your questionnaire with you and a researcher will meet with you to find out what you thought about it. This will take about 10 minutes.

There are no expected risks to you from taking part in this project. Taking part in the testing of this questionnaire is voluntary. If you do not wish to take part, please return the questionnaire to the receptionist. If you do not wish to fill in the questionnaire, it will not affect your care at this health centre.

If you have questions or concerns about this project, please contact Dr. Meredith Mckague at the Alexandra Community Health Centre, 266-2622, or Dr. Marja Verhoef at 220-7813. They will be pleased to return your call.

Thank-you very much for your time and your help with this project.

Appendix I: Patient Structured Interview Consent
(note: patient copies were printed on ACHC letterhead)

Consent Form for Research Project

Title: The Development of a Health Determinant Instrument
for Use in a Community Health Centre

Investigators: Dr. Meredith McKague and Dr. Marja Verhoef

This consent form, a copy of which has been given to you, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The purpose of this project is to find out from patients at the Alexandra Community Health Centre what they think about the Health Determinants Questionnaire, the questionnaire which you filled in before your appointment. This information will be used to help us decide whether or not we should keep on using this questionnaire at the health centre, and how we can make the questionnaire better.

If you take part in this project, you will be interviewed by the researcher. You will be asked several questions about the questionnaire. The interview will last about 10 to 20 minutes. If at any point you do not want to go on, you may end the interview.

If you do not take part in this project, it will not affect the health care that you receive at the health centre. Your doctor, nurse, chiropractor or counsellor will not be told whether or not you take part in this project.

The researchers do not expect there will be any harm to you from taking part in this project. However, in the event that you suffer injury as a result of participating in this research, no compensation will be provided for you by the researchers, the University of Calgary, or the Calgary Regional Health Authority. You still have all your legal rights. Nothing said here about compensation in any way alters your right to recover damages.

The only people who will know what you say in your interview are the interviewer and another researcher(s) who helps with analysis. Your name will not be used on the form or in the results. Any copies of your interview form will be kept in a locked cabinet.

This research is being carried out by a student at the University of Calgary, who is also a family doctor at the Alexandra Community Health Centre. It is part of a master's thesis.

If you would like, you will be given a summary of the results at the end of the study.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the investigators, sponsors or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation. If you have further questions concerning matters related to this research, please contact: Dr. Meredith McKague, ph. (403) 266-2622 or Dr. Marja Verhoef, ph. (403) 220-7813. If you have any questions concerning your rights as a possible participant in this research, please contact the Office of Medical Bioethics, Faculty of Medicine, University of Calgary, ph. (403)220-7990.

Participant's signature _____ Date _____

Investigator and/or
delegate's signature _____ Date _____

Witness's signature _____ Date _____

A copy of this consent form has been given to you to keep for your records.

Thank-you for your help with this project.

Appendix J: Confidentiality Agreement for Peer Review

I agree to maintain complete confidentiality regarding all information contained in transcripts that I review and discussions that I take part in as a peer reviewer for the research study:

Measuring Individual Determinants of Health: The Development of a Health Determinant Instrument for Use in a Community Health Centre.

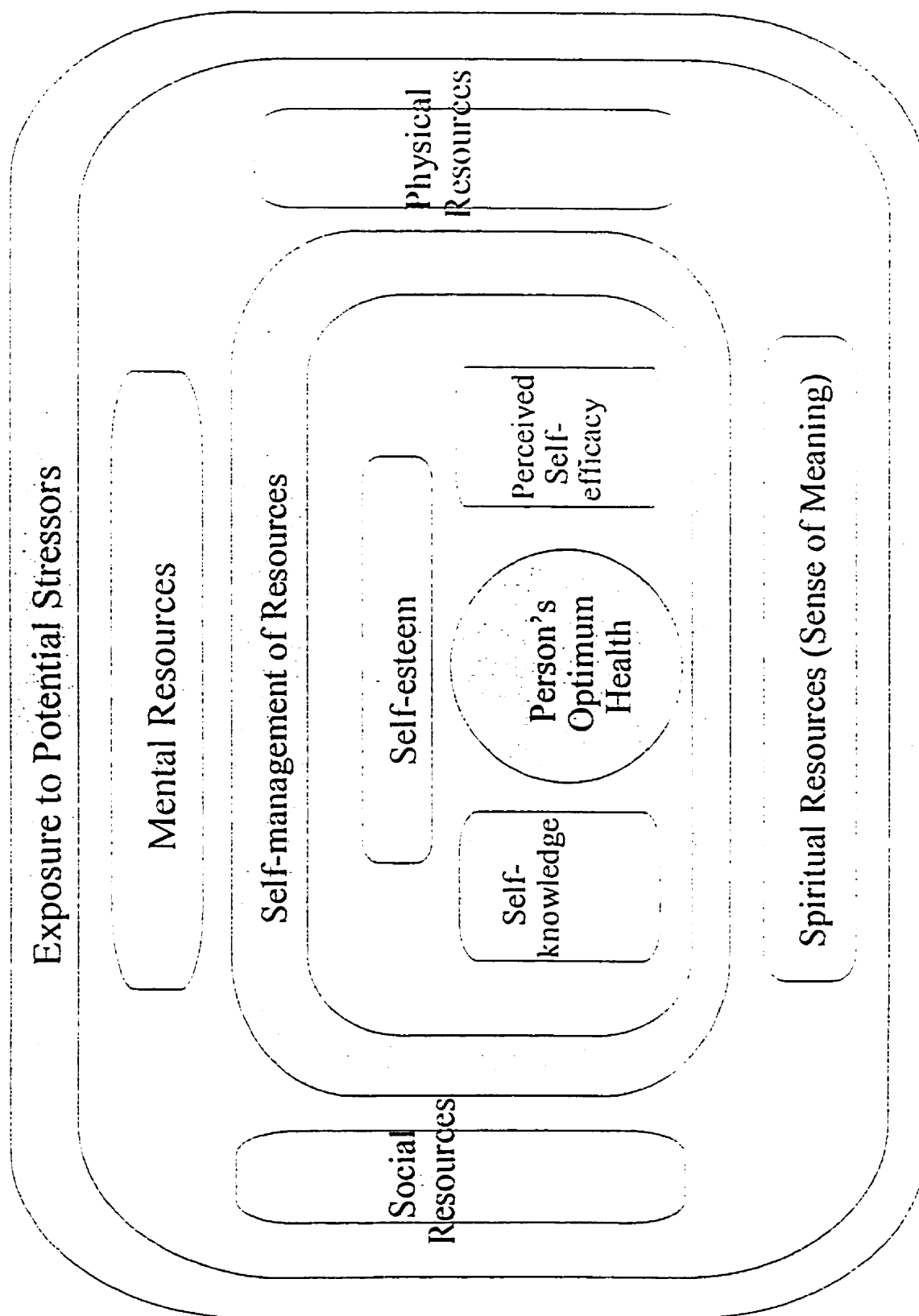
Confidentiality includes the identity of participants and all information that they share regarding their medical care or personal circumstances.

Peer Reviewer: _____

Signature: _____

Witness: _____

Date: _____



Appendix L: The Original Draft Questionnaire

Health Determinants Questionnaire

- Draft Sept. 27/99

Many things can affect people's health - things like illnesses, stress, habits, and even things like how much you earn and where you live. This questionnaire is to find out about how some of these things might be affecting your health.

Thank-you for filling in the questionnaire. If you need help filling it in, please let the receptionist know. If you do not wish to fill in the questionnaire or a specific question, please leave it blank.

Please tick the box under the answer that best fits how you feel.

1. In general, compared with other people your age, would you say your health is:

Excellent

☐

Good

☐

Fair

☐

Poor

☐

The next few questions are about your physical health. Thinking about how you have been feeling during the past few weeks:

2. How much are you bothered by physical symptoms, like pain or tiredness?

Not bothered
at all

☐

Not very
bothered

☐

Somewhat
bothered

☐

Very
bothered

☐

3. How much is your ability to move around, in the home or outside, limited by physical problems?

Not limited
at all

☐

Not very
limited

☐

Somewhat
limited

☐

Very
limited

☐

The next few questions are about how you've been feeling and coping, during the past few weeks.

4. How much are you bothered by emotional problems, like feeling down or feeling anxious?

Not bothered
at all

☐

Not very
bothered

☐

Somewhat
bothered

☐

Very
bothered

☐

5. How confident do you feel that you can cope with the problems that you face?

Very
confident

☐

Somewhat
confident

☐

Not very
confident

☐

Not at all
confident

☐

6. How much do you feel that you are in control of your health?

Very much
in control

☐

Somewhat
in control

☐

Not very much
in control

☐

Not in control
at all

☐

7. How good do you feel about yourself as a person?

Very
good

☐

Somewhat
good

☐

Not very
good

☐

Not good
at all

☐

8. How much purpose do you feel there is to your life?

A lot of
purpose

☐

Some
purpose

☐

Not very
much purpose

☐

Not much
purpose at all

☐

**The next few questions ask about several different things that can affect health.
Thinking about the last few weeks:**

9. Usually, how easy is it for you to get to places you need to go, like appointments, shopping, work or school?

Very
easy

☐

Somewhat
easy

☐

Not very
easy

☐

Not easy
at all

☐

10. How well does the place where you live meet your needs?

Very
well

☐

Somewhat
well

☐

Not very
well

☐

Not well
at all

☐

11. How well does your income meet your basic needs, for things like food, housing and medications?

Very
well
☐

Somewhat
well
☐

Not very
well
☐

Not well
at all
☐

12. How easy is it for you to pay for other things you might want, like leisure activities, trips, or gifts?

Very
easy
☐

Somewhat
easy
☐

Not very
easy
☐

Not easy
at all
☐

13. How satisfied are you with the work that you do (housework, volunteer work or paid work)?

Very
satisfied
☐

Somewhat
satisfied
☐

Not very
satisfied
☐

Not satisfied
at all
☐

Do not
work
☐

14. How satisfied are you with your activities in your leisure time?

Very
satisfied
☐

Somewhat
satisfied
☐

Not very
satisfied
☐

Not satisfied
at all
☐

15. How much can you count on friends or family to help you with problems?

Very
much
☐

Somewhat
☐

Not very
much
☐

Not
at all
☐

16. How much of the time is there someone you can talk to about how you are feeling?

All of
the time
☐

Some of
the time
☐

Not very much
of the time
☐

None of
the time
☐

Sometimes habits can affect health. The next few questions are about your habits.

17. How would you describe your cigarette smoking habits?

Have never
smoked
☐

Used to smoke
but quit
☐

Smoke
occasionally
☐

Smoke
daily
☐

18. Over the past 12 months, how often on average did you usually drink alcohol?

☐ Not at all

☐ Every day

☐ 4-6 times a week

☐ 2-3 times a week

☐ Once a week

☐ Once or twice a month

☐ Less than once a month

19. How concerned are you that you might be dependent on alcohol, prescription medication or other drugs?

Very
concerned
☐

Somewhat
concerned
☐

Not very
concerned
☐

Not concerned
at all
☐

20. Thinking about the past few weeks, how often do you usually exercise? (Brisk walking, dancing, sports, jogging, swimming, aerobics)

☐ Not at all

☐ Less than once a week

☐ 1-2 times a week

☐ 3-4 times a week

☐ 5-6 times a week

☐ every day

21. How healthy do you feel your diet is?

Very
healthy
☐

Somewhat
healthy
☐

Not very
healthy
☐

Not healthy
at all
☐

Thank-you very much for taking the time to fill in this questionnaire.

Appendix M: The Final Form of the Health Determinants Questionnaire

Health Determinants Questionnaire

Many things can affect people's health - things like illnesses, stress, habits, and even how much you earn and where you live. This questionnaire is to find out about how some of these things might be affecting your health. Your doctor, nurse, counselor or chiropractor may be able to help you work on some of these health issues. We also keep track of the results for all patients in order to find out what health issues are important to our patients.

Thank-you for filling in the questionnaire. If you need help filling it in, please let our receptionist know. If you do not wish to fill in the questionnaire or a certain question, please leave it blank.

1. What is your date of birth? day ____ / month ____ / year ____

2. What is your gender? 1) male ☐ 2) female ☐

3. What part of the city do you live in?

- 1)Inglewood☐ 2)Ramsey☐ 3)Victoria Park☐
 4)Other SE Calgary community☐ 5)NE Calgary☐
 6)NW Calgary☐ 7)SW Calgary☐ 8)Other☐

Please tick the box under the answer that best fits how you feel.

4. In general, compared with other people your age, would you say your health is:

- 1)Excellent ☐ 2)Very Good ☐ 3)Good ☐ 4)Fair ☐ 5)Poor ☐

5. When was the last time you had a medical check-up?

- 1)In the past year ☐ 2)1-3 years ago ☐ 3)3-10 years ago ☐ 4)More than 10 years ago ☐ 5)Have never had one ☐

The next few questions are about your physical health. Thinking about how you have been feeling during the past couple of months:

6. How much are you bothered by physical symptoms, like pain or weakness?

- 1)Not bothered at all ☐ 2)Not very bothered ☐ 3)Somewhat bothered ☐ 4)Quite bothered ☐ 5)Really bothered ☐

7. How much are your day-to-day activities in the home limited by physical problems (like a disability, stiffness or pain)?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1)Not limited
at all | 2)Not very
limited | 3)Somewhat
limited | 4)Quite
limited | 5)Really
limited |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

The next few questions are about how you've been feeling and coping, during the past couple of months.

8. How much of the time are you bothered by emotional problems, like feeling down or feeling anxious?

- | | | | | |
|--------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|
| 1)None of
the time | 2)Not very much
of the time | 3)Some of
the time | 4)A lot of
the time | 5)All of
the time |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

9. How confident do you feel that you can cope with the problems that you face?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| 1)Really
confident | 2)Quite
confident | 3)Somewhat
confident | 4)Not very
confident | 5)Not at all
confident |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

10. How good do you feel about yourself as a person?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1)Really
good | 2)Quite
good | 3)Somewhat
good | 4)Not very
good | 5)Not good
at all |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

11. How much of the time do you feel there is a sense of meaning in your life?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------------|--------------------------|
| 1)All of
the time | 2)A lot of
the time | 3)Some of
the time | 4)Not very much
of the time | 5)None of
the time |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

The next few questions ask about some different things that can affect health. Thinking about the last couple of months:

12. Usually, how easy is it for you to get to places you need to go, like appointments, shopping, work or school?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1)Really
easy | 2)Quite
easy | 3)Somewhat
easy | 4)Not very
easy | 5)Not easy
at all |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

13. How well does your housing (apartment, house) meet your needs? (eg. big enough, affordable)

- | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| 1)Really
well | 2)Quite
well | 3)Somewhat
well | 4)Not very
well | 5)Not well
at all | 6)No housing
right now |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

14. How safe do you feel where you live and/or work?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1)Really
safe | 2)Quite
safe | 3)Somewhat
safe | 4)Not very
safe | 5)Not safe
at all |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

15. About how much was your household income last year?

- | | | | | |
|--------------------------|--------------------------|---------------------------|---------------------------|----------------------------|
| 1)Less than
\$7 000 | 2)\$7000 to
\$16 499 | 3)\$16 500 to
\$22 499 | 4)\$22 500 to
\$33 000 | 5)Greater than
\$33 000 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

16. How many people in your family (including yourself) did this income support?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1)One | 2)Two | 3)Three | 4)Four | 5)More than four |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

17. How well does your income meet your basic needs, for things like food, housing, and medications?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1)Really
well | 2)Quite
well | 3)Somewhat
well | 4)Not very
well | 5)Not well
at all |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

18. What is the highest level of education you have finished?

- | | | | | | |
|--------------------------|--------------------------|--------------------------|---------------------------|--|------------------------------------|
| 1)No
schooling | 2)Some
elementary | 3)Finished
elementary | 4)Finished
high school | 5)Finished
College or
Tech program | 6)Finished
University
degree |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

19. How well do you feel your education / training meets your needs?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1)Really
well | 2)Quite
well | 3)Somewhat
well | 4)Not very
well | 5)Not well
at all |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

20. How satisfied are you with the main work that you do (housework, volunteer work or paid work)?

- | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------|
| 1) Really
satisfied | 2) Quite
satisfied | 3) Somewhat
satisfied | 4) Not very
satisfied | 5) Not satisfied
at all | 6) Not
working |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. How satisfied are you with the things that you do in your leisure time (like hobbies, social activities, sports)?

- | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| 1) Really
satisfied | 2) Quite
satisfied | 3) Somewhat
satisfied | 4) Not very
satisfied | 5) Not satisfied
at all | 6) Have no
leisure time |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

22. How much of the time can you count on friends or family to help you with problems?

- | | | | | |
|--------------------------|--------------------------|--------------------------|---------------------------------|--------------------------|
| 1) All of
the time | 2) A lot of
the time | 3) Some of
the time | 4) Not very much
of the time | 5) None of
the time |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

23. How much of the time is there someone you can talk to about how you are feeling?

- | | | | | |
|--------------------------|--------------------------|--------------------------|---------------------------------|--------------------------|
| 1) All of
the time | 2) A lot of
the time | 3) Some of
the time | 4) Not very much
of the time | 5) None of
the time |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

24. How happy are you about your relationships with the people you live with?

- | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1) Extremely
happy | 2) Quite
happy | 3) Somewhat
happy | 4) Not very
happy | 5) Not happy
at all | 6) Live
alone |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Sometimes habits can affect health. The next few questions are about your habits.

25. How would you describe your cigarette smoking habits?

- | | | | |
|--------------------------|------------------------------|--------------------------|--------------------------|
| 1) Have never
smoked | 2) Used to smoke
but quit | 3) Smoke
occasionally | 4) Smoke
daily |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

26. If you are smoking daily, about how many cigarettes do you smoke per day? _____

27. Over the past 12 months, how often on average did you usually drink alcohol?

- | | |
|---|--|
| 1) Every day <input type="checkbox"/> | 4) Once a week <input type="checkbox"/> |
| 2) 4 to 6 times a week <input type="checkbox"/> | 5) Once or twice a month <input type="checkbox"/> |
| 3) 2 to 3 times a week <input type="checkbox"/> | 6) Less than once a month <input type="checkbox"/> |
| | 7) Not at all <input type="checkbox"/> |

28. Have you thought about cutting down on your alcohol or drug use?

- 1) Yes ☐ 2) No ☐

29. Thinking about the last couple of months, how often do you usually exercise? (Things like brisk walking, dancing, sports, jogging, swimming, aerobics, stretching exercises)

- | | |
|---|---|
| 1) Not at all <input type="checkbox"/> | 4) 3 to 4 times a week <input type="checkbox"/> |
| 2) Less than once a week <input type="checkbox"/> | 5) 5 to 6 times a week <input type="checkbox"/> |
| 3) 1 to 2 times a week <input type="checkbox"/> | 6) Every day <input type="checkbox"/> |

30. How much do you think you could improve your diet ? (things like eating less fat, eating more fruits and vegetables, eating regular meals)

- | | | |
|--|---|---|
| 1) Could improve
it a lot
<input type="checkbox"/> | 2) Could improve
it a little
<input type="checkbox"/> | 3) Does not need
improvement
<input type="checkbox"/> |
|--|---|---|

Do you have any goals for the next year to improve your health and well-being?

If so, please write them down below and discuss them with your health care provider.
