



Health Policy Research

Bulletin

Social Capital and Health: Maximizing the Benefits

Research has shown links between social capital and benefits in a number of fields, including health. As a result, Health Canada, as well as several other federal departments, have initiated work in the area. In response to this, the Government of Canada's Policy Research Initiative set out in 2003 to study how public policy could take social capital into account in order to maximize the benefits for Canadians.

Drawing on research on the social determinants of health and on Health Canada's initial work on social capital and health, the Public Health Agency of Canada joined forces with the Population Health Institute at the University of Ottawa in 2004 to provide the first national-level analysis of the relationship between social capital and the health of Canadians. In presenting their work, this issue of the *Health Policy Research Bulletin*:

- traces the evolution of research on the correlation between social relations and health and discusses the impacts of the social capital concept
- highlights different approaches for defining social capital, including the "network" approach that gained consensus among federal departments, and presents an analytical model for measuring the relationship between social capital and health
- describes how this model was used to analyze the 2003 *General Social Survey (GSS) on Social Engagement* and presents the results for the Canadian population as a whole and for selected subpopulations
- examines key policy and program areas where social capital is already playing a role and explores the impacts of recent research

Finally, in addressing whether governments should be involved in shaping the nature of social capital, the Bulletin points out that, to varying degrees, governments already influence the way social relationships unfold—sometimes with unintended consequences. Adopting a social capital policy perspective, therefore, means paying explicit attention to the role of social networks in attaining policy objectives, as well as anticipating the potential impacts of future policies.

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Our mission is to help the people of Canada maintain and improve their health.

Health Canada

The *Health Policy Research Bulletin* is published two to three times a year with the aim of strengthening the evidence base on policy issues of importance to Health Canada and the Public Health Agency of Canada (PHAC). Each issue is produced on a specific theme and, through a collaborative approach, draws together research from across Health Canada, PHAC and other partners in the Federal Health Portfolio. The research is presented through a series of interrelated articles that examine the scope of the issue, provide an analysis of the impacts and potential interventions, and discuss how the findings can be applied in the policy development process.

Following is a list of all of our past issues, available in electronic HTML and PDF versions at: <www.healthcanada.gc.ca/hpr-bulletin>, or by contacting us at: <bulletininfo@hc-sc.gc.ca>.

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About the Health Policy Research Bulletin

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Building Social Capital:

A Role for Public Health Policy?

In this issue, Nancy Hamilton, Managing Editor of the Health Policy Research Bulletin, speaks with James Gilbert (JG), Director, and Solange van Kemenade (SvK), Senior Research Analyst, both from the Strategic Policy Directorate, Public Health Agency of Canada (PHAC).

Q Social capital seems to be an increasingly popular concept in many fields, including the health field. When you use the term “social capital,” what do you mean and what does it encompass?

JG: Social capital has become a popular concept in many fields, with links to economic and social development, labour market outcomes, immigrant integration, poverty and social exclusion, crime and safety, neighbourhood revitalization and civic renewal, and also links to health. As readers probably know, however, the association between social networks or social support and health is not new. That being said, it was not until the early nineties that “social capital” as a concept became widespread in health research and policy making.

Given the relevance of social capital in many spheres, the Government of Canada has encouraged research across departments on its policy use through the Policy Research Initiative (PRI) project, *Social Capital as a Public Policy Tool*. A key outcome of this work has been the consensus among participating departments, including Health Canada and the Public Health Agency of Canada (PHAC), on a common definition of social capital, based on the “network approach.”

SvK: This was an important step—although not necessarily an easy one—since, prior to this, various approaches had been used to define and study social capital. According to the network approach, “social capital refers to the networks of social relations that may provide individuals and groups with access to resources.” Having a common definition has helped focus our research efforts and allowed us to move forward with an analytical model and measurement tools. Although some may believe this approach to be too narrow, it does allow us to take into account both the type and the number of social ties, the access to resources that these ties afford, as well as the resulting benefits and effects. ▶



Q *Why is the concept of social capital important for the health sector?*

JG: The concept of social capital has gained currency in recent years because of the population health approach. As readers are likely aware, the population health approach considers the full range of factors that influence health, including what we call the “social determinants of health.” In the population health approach, social capital research is enhancing our understanding of the influence that relationship networks have on the health of individuals and their communities. Health Canada and PHAC now recognize a dozen determinants of health, two of which are **social environments** (including social support) and **social support networks** (see: <<http://www.phac-aspc.gc.ca/ph-sp/phdd/determinants/index.html#determinants>>).

During our recent consultation to establish national health goals, Canadians highlighted the importance of a sense of belonging, as well as the need to have supportive families, friendships and diverse communities. These viewpoints were reflected in the *Health Goals for Canada*, which were approved by the federal, provincial and territorial Ministers of Health on October 23, 2005. Based on the broad determinants of health, the Health Goals recognize the importance of social capital and include a focus on “belonging and engagement,” considered important for efforts addressing health inequalities and the root causes of illness (see: <<http://www.healthycanadians.ca/NEW-1-eng.html>>).

Q *What is the research, here in Canada and internationally, telling us about the links between social capital and health?*

SvK: As James mentioned, it isn’t new to use social factors to explain community health problems. In his study on suicide in the late 19th century, Emile Durkheim demonstrated the importance of social integration for population well-being. Many years later, longitudinal research in Alameda County in the United States showed that persons with weak or nonexistent social links had

Indexes

In his research, Putnam¹ used a **social capital index** (a statistical indicator), constructed from indicators from a number of data banks and surveys, and a **public health index**. Public health indexes are usually based on indicators such as mortality rate, self-rated health status, infant mortality, low birth weight, premature mortality, hospital discharges, and hours lost because of illness or disability.

a greater probability of dying prematurely than those with strong links. This research was supported by subsequent studies (see article on page 10) that highlighted the close relationship between social networks and mortality rates.

More recently, researchers like Robert Putnam^{1,2} have explored the positive relationship between health and social capital. According to this research, there is a strong positive relationship between the public health index and the social capital index, as well as a negative relationship between the social capital index and the global index of the causes of mortality. Putnam also emphasizes that the positive effects of integration and social support “vie” with the negative effects of known health risks, such as smoking, obesity, hypertension and physical inactivity.

Over the past few years, surveys in many industrialized countries have shown a positive association between social capital and population health. Here in Canada, the Policy Research Division of PHAC (formerly of Health Canada’s Population and Public Health Branch) has been conducting research on social capital and health since 2001, beginning with the development of indicators. Since 2004, the Division has been collaborating with the University of Ottawa’s Institute of Population Health on an analysis of the 2003 *General Social Survey (GSS), Cycle 17* data. Their work has confirmed a positive correlation between social capital and health—matching results of other industrialized countries (including difficulty in establishing evidence of causation).

Q *The research showing the potential health benefits of social capital is interesting, but do governments have a role to play in helping people realize the benefits?*

JG: Absolutely. Governments have an important role to play in promoting social capital-related policies and programs. Although it may be difficult to imagine what governments “could or should do” to develop or improve a community’s social capital, our research and the PRI’s work is helping us better understand

this. Rather than viewing the development of social capital as a policy “goal,” it may be more effective to view it as one “means” or “resource,” among many, that can help governments achieve their objectives. For example, while Health Canada or PHAC would likely never establish a specific strategy on social capital and health, many program areas already incorporate mechanisms that build social capital in as a means for improving health outcomes within a given population (e.g., health and social development of children, healthy aging for seniors).

Governments also encourage the development of social capital by facilitating the conditions that favour it. For example, one only has to look as far as decisions about public transport and recreational facilities, to name a few, to see how government decisions can influence the social connections that people make.

At the same time, government interventions can pose challenges—two examples come to mind. First, existing social capital can be negatively affected when well-intended interventions inadvertently weaken social ties. We have seen this, for example, in some urban renewal projects which, when not well suited to the communities involved, disrupted the social networks and, in some cases, actually destroyed the communities’ social capital. Using a social capital lens may help us avoid such unintended outcomes by gathering information on existing social networks and using this in the decision-making process.

A second challenge is the risk that “building social capital” could be used to justify public disengagement and/or the reduction of public services. For decision makers in the health field, who are guided by the determinants of health, it is important to find the type and level of intervention (e.g., home care service) that will complement, and not displace, existing supports provided by family and friends. The articles on pages 21 and 25 explore these challenges in more detail.

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Q *How can governments use what is being learned about social networks to design policies and programs that improve health outcomes?*

JG: Research sponsored by PHAC on the GSS, Cycle 17 data is proving to be important in terms of policy use. First, as Solange has mentioned, this research has confirmed that Canada shares international trends on the positive relationship between social capital and health. Reinforcing this evidence in the Canadian context is an important step forward. It is especially important for the development and evaluation of community-based programs that foster partnerships and social engagement as a means to achieve improved health outcomes (see article on page 28).

SvK: Second, our most recent analysis of GSS data (see article on page 16) has allowed us to know more about the importance of social capital for populations at risk of isolation or exclusion. For example, while social networks seem to be particularly important for both immigrants and seniors, the size and type of networks that are the most important for health differ for these two groups. It is hoped that these results will prove useful for programs, like many of our community-based health programs, which already have a social capital focus.

JG: PHAC and Health Canada have played a key role, in partnership with the PRI and others, in responding to social capital as an emerging policy priority.

We are pleased to have this opportunity to present the results of our research in this issue of the *Health Policy Research Bulletin*. As this is the first publication of the results of our most recent analysis, it will be important for Health Canada and PHAC to review these findings and to reflect on the new questions that they raise. While social capital is not a panacea for improving population health, this new Canadian research increases our evidence base for applying a “social capital” lens to the development of our policies and programs. 🌐

@ *Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>.*

What Is SOCIAL CAPITAL

Sandra Franke, *Policy Research Initiative, Government of Canada*

and Why Is It Important to Health Research and Policy?

Various definitions and approaches have emerged in the development of social capital theory. Establishing a common definition and approach to social capital has been part of a Government of Canada project conducted by the Policy Research Initiative (PRI). This article describes the “network approach” adopted by the PRI and explains how it provides a mechanism for understanding how public intervention and government services can take social ties into account to achieve their goals, particularly in the areas of disease prevention and health care.

A Collaborative Effort

In January 2003, a committee of Assistant Deputy Ministers from 12 federal departments requested that the PRI investigate the role and contribution of social capital in Canadian public policy research, development and evaluation.

Through its project *Social Capital as a Public Policy Tool*, the PRI developed an operational definition of the concept,¹ proposing a framework for the analysis and measurement of social capital in a government context² and identifying key policy and program areas where social capital could play an important role.³ The PRI also put forward a number of major recommendations with respect to the utility of social capital as a concept in the public policy context.⁴

Perspectives on Social Capital

Literature on the subject distinguishes between different broad perspectives or approaches to social capital; while each has a different emphasis or focus, they have important aspects in common, such as the notions of participation, cooperation and solidarity.

However, there are differences in how each one considers such ideas as social cohesion, engagement, trust, reciprocity and institutional efficacy. Of the main approaches, one focuses on the propensity for people or organizations to cooperate to attain certain objectives⁵—looking at what motivates them to form associations, the types of associations they form and their perception of collective issues (reflecting cultural beliefs and influences).⁶

Another focuses on the conditions, both favourable and unfavourable, for cooperation—placing emphasis on the social and political structures of a community that convey values and norms, such as trust and reciprocity, which in turn create conditions for social



and civic engagement.⁷ A third, a “network approach” which the PRI has pursued, emphasizes the structures that may enable cooperation—the network structures that provide access to key resources.

While presenting interesting and varied views on social capital, the development and use of different approaches have contributed to skepticism about the value of social capital as a concept, and sometimes to its being underutilized as a research instrument. This is one reason that the PRI has worked extensively across the federal government to achieve consensus on the definition of social capital.

Using a Network Approach for Public Policy

Through the PRI’s collaborative project, the network approach has emerged as a common perspective to help understand social capital in a public policy context. Understanding how networks give individuals and groups a way of obtaining useful resources and studying how they access and mobilize these resources productively provides considerable useful material for public policy practitioners. Opting for this approach, the PRI recommended that the Government of Canada adopt the following definition: *Social capital refers to the networks of social relations that may provide individuals and groups with access to resources and supports.*⁴

The network approach is based on the notion that the structural and dynamic aspects of social relationships provide access to certain resources, including information, social support and material aid.^{8,9,10} It considers both **individual social capital** (the social networks through which an individual finds the resources he or she needs), as well as **collective social capital** (the networks formed by social groups within a community to achieve the resources needed to attain their goals).

In order for the network approach to support social

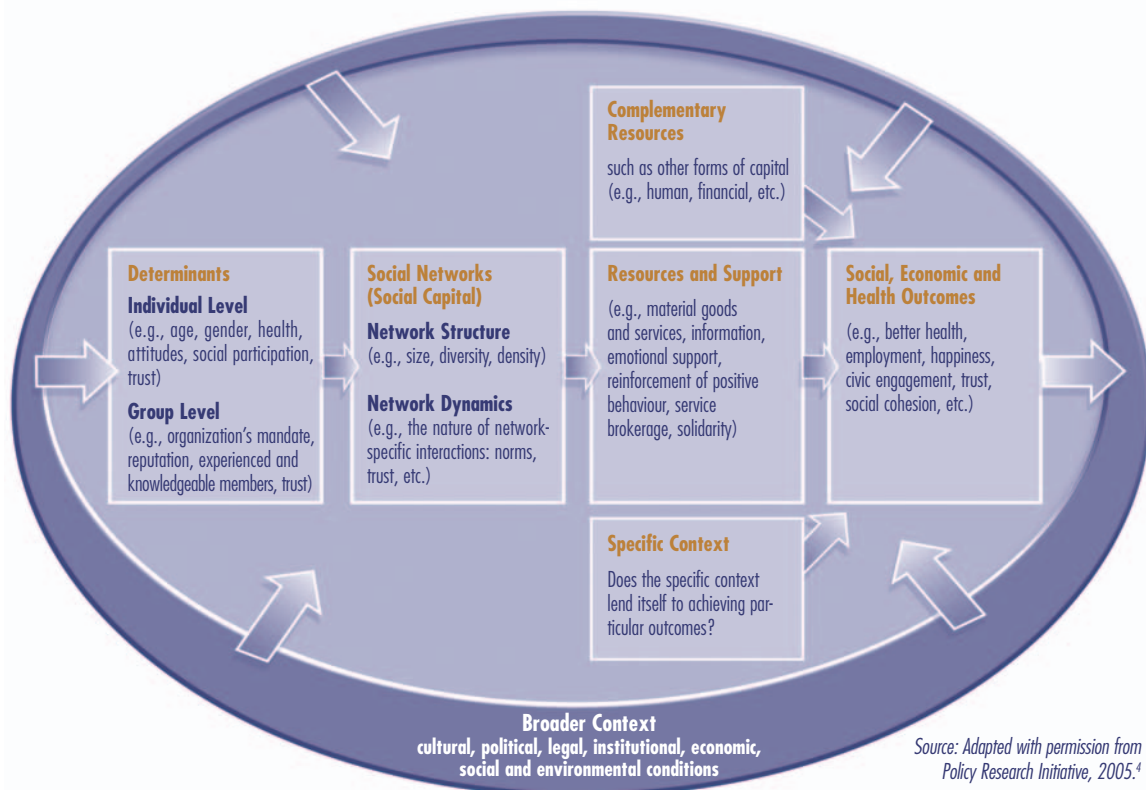
capital research as an effective tool, it must be considered within a much broader context. Rather than viewing social networks in isolation, they need to be considered in combination with other resources that operate in different ways, depending on their context. The PRI developed a framework that captures this broader context.

The PRI framework distinguishes what social capital *is* (i.e., structure and operation of networks) from what it *does* (i.e., has direct effects and results), while identifying its sources (i.e., its determinants). It positions social capital as an independent variable—and not as an end in itself—so that its contribution to attaining results can be studied in any field of research, making it a very useful tool for public policy.

Social Networks: A Form of Capital

Most people do not think of the ties they create as an investment like their savings or their education. However, from a public policy perspective, it may be an appropriate way to look at how people rely on their social networks to resolve difficult situations or to get ahead. The term “capital” is merely an expression of the idea that, in certain situations, relationships can be a resource and viewed in a similar way as financial, human or

Figure 1: PRI Framework for the Analysis of Social Capital



Source: Adapted with permission from Policy Research Initiative, 2005.⁴

physical resources. A better understanding of the synergy between the various forms of capital throughout a person's life (i.e., the complementarity, substitution or leverage of one form of capital relative to another) supports the design of policies and programs that are tailored to people's needs.

In essence, the network approach looks at social ties as a vehicle for delivering needed resources and supports. These include: tangible resources (material goods, financial assistance, services, information or advice); social support (emotional support, presence, friendship); influence (reinforcement of positive behaviours); capacity building (ability to deal with adversity, self-control, self-determination); and service brokerage (effective access to services for those who are unable or unwilling to access services by themselves).

Stocks and Flows

It is also useful to use the concept of capital stocks and flows to look at the way social capital operates to produce results.¹¹ **Social capital stocks** refer to the presence and different types of an individual's social relationships in their various forms and combinations. One useful typology distinguishes between bonding, bridging and linking, but other typologies may be more appropriate, depending on the field under study. Each type of relationship gives access to a different range of resources.

Social capital flows refer to the way social relationships come into play in a given situation. Social capital *inflows* involve investments (emotionally, in time, in effort, etc.) that allow an individual to accumulate a stock of social capital. These investments are the conditions or processes that create and maintain social ties. Social capital *outflows* are the conditions and processes that allow individuals to use that stock to achieve socioeconomic and health benefits.

How Is Social Capital Created and Used?

A network perspective of social capital that is considered in a broader analytical context, as discussed earlier, allows researchers to identify, describe and measure the entire set of variables that come into play in examining the instrumental role of social relationships. However, in specific situations, the determinants of social capital are not always easy to identify. Nor is it always easy to

establish with certainty the direction of the relationship between social capital and the outcomes.

Take, for example, the creation of social capital at the individual level. Does social engagement help to create social capital for individuals? Considering the question in the context of the network model shows that the answer depends; in some circumstances, membership in a group may indeed contribute to the social capital of an individual—if it leads to concrete social relationships. Here, social engagement could be considered as a *determinant* of social capital. But this is not always the case—some forms of involvement, such as voting, do not *necessarily create* new ties.

Another example sheds light on the difficulty of determining causality—in this case, at the collective level. Is social cohesion in a community the *result* of thriving networks, or is it an *input* that creates the networks? In a particular community, cohesion may be the result of networks, but it is not necessarily because a community is rich in networks that it is cohesive. It all depends on the end purpose of the networks.

Such examples point to the importance of avoiding the use of social engagement or social cohesion (or other concepts, such as trust) as a proxy for social capital. They also reinforce the importance of carefully considering the research hypothesis and clearly grounding it in an analytical framework. Moreover, validating the hypothesis allows the researcher to better understand in which circumstances social capital is created, and in which circumstances it is used to produce specific results. Data from longitudinal or very detailed surveys provide the best evidence.

Health Policy and Social Capital

The question of whether or not governments should intervene or play a role in shaping social capital has been asked increasingly in recent years. In fact, to varying degrees, governments *already* influence the way social relationships unfold—the configuration of and access to public spaces, programs of mentoring and home care, support for community groups and natural caregivers, and partnerships with community organizations—to name a few. Adopting a perspective based on social capital simply means paying explicit



attention to the role of social relationships in attaining policy objectives and, inversely, looking at the effects of policies on social relations. A social capital perspective is particularly relevant and useful in three social policy areas⁴—helping populations at risk of social exclusion, supporting individuals in major life transitions, and encouraging and promoting community development.

Vulnerable Populations

We know that there is a close association between the existence and quality of interpersonal ties and mortality, morbidity, convalescence and adjustment to chronic disease or limitations on activity.^{12,13} For example, the type of social environment into which a person is integrated has a direct relationship on health-related behaviours, for better or for worse (e.g., use of tobacco, drugs or alcohol, diet, physical activity, sleep, use of medications).¹⁴ Good social integration generally makes for good social support, or at

least the feeling that it is accessible. On the other hand, social isolation is associated with a deterioration in health, particularly mental health, because of the negative effects associated with it, including alienation.¹² Health policies need to look at the extent to which those populations most at risk for suffering

from social exclusion and isolation could make better use of social networks to achieve improved health. Such populations include people who have a disability or illness, older persons, recent immigrants and those living in poverty or in marginalized communities—in particular, some First Nations and Inuit communities.

Major Life Transitions

A better understanding of the evolution of an individual's social networks and the different roles they play at key points in life phases is equally important for the development of health policies. For example, family ties have implications for child development that affect lifelong habits; peers are influential during the transition to adult life; the passage into parenthood creates pressures (maternity, neonatal care); and social support comes into play in episodes of illness, sudden limitations on activities, as well as in the aging process.

There is still much to be understood about the specific structure and dynamics of the social networks relating to these processes, as well as about which populations make the best use of their social capital under these circumstances.¹²

Health and Community Development

The role of social networks in community health is also an avenue of interest for health policy development. What is important here is the quality of cross-sectoral cooperation among community stakeholders, specifically those whose interventions are aimed at improving population health and reducing health inequalities.¹⁵ This approach calls for interventions that go beyond the health sector to include action on poverty, education, employment conditions, quality of the natural and built environments, safety, access to information and other dimensions—all of which have an impact on health at the community level.¹⁶ In this sense, the quality of cross-sectoral cooperation is essential. There are a number of strategies that can help to maximize the ability of stakeholder alliances to achieve health policy objectives. These include looking at the types of collective networks and at the relationships among organizations in a community, identifying and creating favourable conditions for them, and eliminating barriers that limit their reach.

Potential of the Network Approach

It is hoped that adoption of a single model—specifically the network approach—by the federal government will dispel confusion about the social capital concept, while maximizing its contribution to policy and program research, development and evaluation. The approach holds potential in a number of issue areas, including immigrant integration, the fight against poverty and social exclusion, professional development, public safety, civic participation, community development and health. The network approach can be tailored to a wide range of areas, and can be used more directly or less directly, depending on the issue and the desired results. Some articles in this issue delve into specific applications; others outline the approach's broader potential. 🌀

@ Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>.

Research Traditions:

An Overview

Louise Bouchard, Ph.D., Researcher, Institute of Population Health, University of Ottawa; Jean-François Roy, Doctoral Candidate, Institute of Population Health, University of Ottawa; and Solange van Kemenade, Ph.D., Policy Research Division, Strategic Policy Directorate, Public Health Agency of Canada

The consideration of social relations in the field of population health has been relatively well established over the past 30 years. Recently, researchers are increasingly interested in the links between individual and collective social actors and the resources that circulate among their networks. This article traces the evolution of the research and highlights the main traditions that have emerged.

The study of social relationships, social capital and health is rooted in two main research traditions. The first, established in the 1970s, is concerned with the notion of networks of **social support**. The second tradition appeared during the 1990s and deals with the concept of **social capital**.

Social Support and Health: Deep Roots

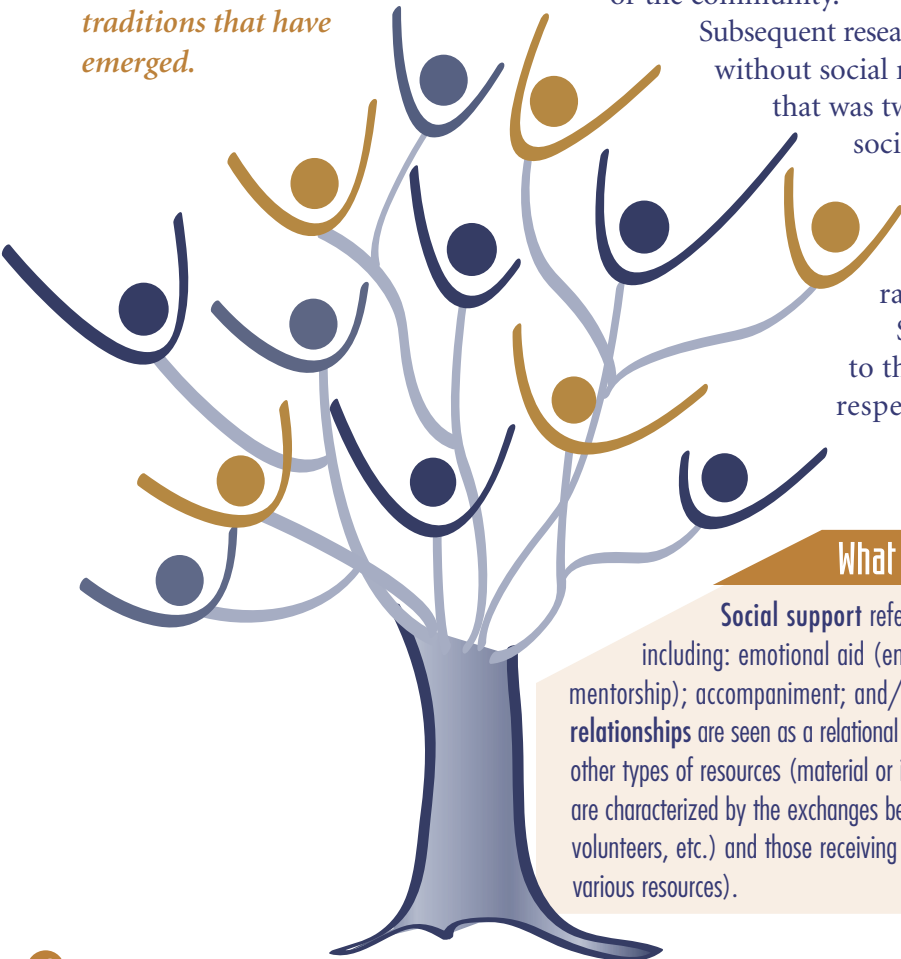
Over the years, several studies have demonstrated that social support networks are positively associated with maintaining good health and a longer life expectancy. A pioneering study in Alameda County in the United States demonstrated in a nine-year follow-up that rates of premature death were higher among people who did not have social ties with family, friends or the community.¹

Subsequent research supported these results and showed that people without social networks had a probability of premature mortality that was two or three times greater than for people who had social networks.² This relationship was reinforced in several population studies and was demonstrated for mortality associated with various diseases (including cardiovascular diseases, cancers, respiratory and gastrointestinal diseases).

Studies also showed that social networks are related to the adoption of preventive behaviours (e.g., with respect to cancer screening, dialysis, tobacco and

What do we mean by . . .

Social support refers to the beneficial elements resulting from social relationships, including: emotional aid (empathy); instrumental and concrete aid; information (counselling, mentorship); accompaniment; and/or reinforcement of a sense of belonging and solidarity. **Social relationships** are seen as a relational resource in their own right, with the potential to transmit or exchange other types of resources (material or information) helping to meet particular needs.^{3,4} **Support networks** are characterized by the exchanges between those people providing assistance (family, friends, neighbours, volunteers, etc.) and those receiving assistance (the elderly, those who are unwell, people lacking in various resources).



alcohol abuse⁵), as well as the ability to cope with existing illness by reducing isolation and increasing social integration.

Social Networks Are Not Always Positive for Health

It is also well known that social relationships do not always function as protective mechanisms for health, but can increase levels of stress and weaken people's resilience and their ability to cope. Consider, for example, sexual abuse, family or workplace conflicts, physical and psychological violence, mental harassment and male power networks ("old boys clubs"). We also know about the influence of peer networks, especially when it comes to certain risky health behaviours engaged in by some youth (driving while impaired, alcohol and drug abuse, degrading sexual practices), and of groups that impose extreme or unreasonable rules of conformity on their members.⁶ Even though these rules allow people to be part of a group, the goals of such groups are not always in the best interests of society.⁷

The research has also allowed us to understand the physiological mechanisms by which support networks have positive or negative effects on the health of individuals. We have a better understanding of the neuroendocrine and immune systems that condition stress responses. Research has clearly demonstrated the impact of chronic stress on aging and premature death.⁸

Social Capital and Health: Different Approaches

The concept of social capital originated in the groundbreaking work of Bourdieu,⁹ Coleman¹⁰ and Putnam^{11,12} and, since then, has become a major factor for examining public health and the health of populations. Within the health field, two broad views of the concept have emerged—one defining social capital as the network of social relationships that provides access to resources; the other, as the norms of reciprocity, social and civic participation and trust.

It was the latter definition that was first used by Wilkinson¹³ to introduce the concept of social capital into health studies—with social capital linked to social cohesion. Wilkinson suggests that those societies which are more egalitarian (in terms of income distribution) and more socially cohesive also have a better life expectancy. By comparing different geographical regions—Eastern Europe, England, Japan and the

The Story of Roseto^{12,13}

Beginning in the 1950s, Roseto, a small town in Pennsylvania founded by immigrants from the same southern Italian village, became the subject of more than 40 years of research. Initially, medical researchers found that the Rosetans' heart attack rate was less than half of that of those in neighbouring towns. However, none of the usual factors (e.g., diet, genetics, exercise) provided an adequate explanation. So, when researchers began looking into the social dynamics of the community, they discovered that the town had developed as a tightly-knit community with many social activities and organizations. Additionally, the residents depended on each other for resources and support. The researchers soon suspected that this level of social involvement, while not called social capital at the time, was the reason for the Rosetans' lower heart attack rate. They became concerned about what would happen if, over time, the younger generation rejected the "tight-knit" ways of their parents. As it turned out, by the 1980s, the next generation had a heart attack rate higher than residents in a nearby, demographically similar town.

American town of Roseto—he concluded that greater social cohesion equals better health. The story of Roseto, Pennsylvania (see sidebar), provides a striking illustration of the link between social cohesion and mortality.

The concept of social capital grew in importance in social epidemiology and was used in various studies to understand the association between social inequalities and mortality rates (see also *Did You Know?* on page 33).

For example:

- Further studies by Wilkinson¹⁴ revealed a strong correlation between mortality, income inequalities and violent crime.
- Putnam¹⁵ demonstrated that health status is better in American states with higher social capital.
- In Scandinavia, Hyppä and Mäki¹⁶ found that the Swedish-speaking Finnish minority had a better life expectancy and that its social capital was a contributing factor.
- Lomas¹⁷ highlighted the positive influence that social networks have on health compared to that of other types of public health interventions. ►

Measurement Traditions

In the 1970s, Berkman, a known researcher in the field of social relationships and health, developed a **social network index** for measuring networks of family and friends (in terms of both quantity and frequency), social participation (associative, community, religious, charitable) and social support (both emotional and instrumental).^{1,18} Since then, national health studies in Canada have continued to explore these different dimensions of social capital.

In the tradition of epidemiological research relating to social capital, measurement relies on ecological variables such as income inequality indexes (Robin Hood Index), interpersonal trust levels, reciprocity norms and the vigour of civic society (social participation by the individual).¹⁹ Lochner et al.²⁰ surveyed a series of such measurement

instruments, including, among others, **neighbourhood cohesion**, and Bandura's measurement of collective efficacy—defined as a “sense of collective competence shared among individuals when allocating, coordinating and integrating their resources in a successful concerted response to specific situational demands.”²¹

Very recently, in the “network approach,” Van Der Gaag and Snijders²² have developed a tool known as “Resource Generator” which does not yet appear to have been used in health studies. This tool for measuring social capital questions respondents about their access to various resources, as well as about types of bonds that permit access to these resources (acquaintances, friends and family). The instrument covers four dimensions of resources: prestige and education, political and economic skills, social skills and social support.

- Studies by Szreter and Woolcock²³ showed that communities with weak social capital have higher levels of stress and social isolation, and are less able to respond to environmental risks and public health interventions.

Over time, however, this conceptualization of social capital has come under criticism at a number of levels^{24,25}—theoretically (because of its definition by effects), methodologically (for the diversity of its content) and politically (for its potential to transfer the responsibilities of the state to individuals and overshadow structural determinations).

More recently, the view that social capital is defined by social networks and the resources in these networks appears to be enjoying consensus²⁵ in a number of fields and, as described in the previous article, has been recommended by the federal government's Policy Research Initiative. While the network model is not without its critics, consensus on a definition is focusing federal research efforts and facilitating the development of measurement and analytical tools—an important step, since just as different definitions have emerged, so too have different measurement tools and approaches (see sidebar above).

The Potential of Social Capital

During the past three decades, researchers have explored the influence that social factors have on the health of individuals and their communities. As interest in the “determinants of health” has grown, so too has interest in the concept of social capital. While social capital has been approached in different ways, its positive connection to health suggests that it has potential as a strategy for health promotion and public policy development.

Moving forward with research—based on a common definition and approach—is an important step in achieving this policy potential. While the network-based approach has been adopted at the federal level, its use as a policy tool in health issues has yet to be fully realized. However, as described in the articles that follow, having a common definition has served as a springboard for the development of indicators for use in national health surveys, thereby permitting the first methodological effort in Canada to articulate the relationship between social networks and health.²⁶ 🌐

@ Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>.

Developing an Operational Model Based on Networks

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Working from a definition of social capital based on networks, a research team from the Public Health Agency of Canada and the University of Ottawa has developed an operational model that facilitates the measurement of both the structural and resource content of social networks—as well as their potential benefits and effects. The research team's recent analysis of the data from the 2003 General Social Survey (GSS), Cycle 17 provided the first Canadian evidence on the positive link between social capital and health. This article presents an overview of how the operational model was developed and applied.

Exploring the Link between Social Capital and Health

Since 2001, Health Canada and the Public Health Agency of Canada have been conducting a research project on social capital. Analysts in the Policy Research Division (PRD) have contributed to the development of knowledge that defines both the concept, as well as indicators for measurement. They have also examined the usefulness of the concept—specifically, its potential for program and policy development and evaluation. In 2004, the PRD joined forces with researchers at the Institute of Population Health of the University of Ottawa to analyze data from the 2003 *General Social Survey (GSS), Cycle 17 on Social*

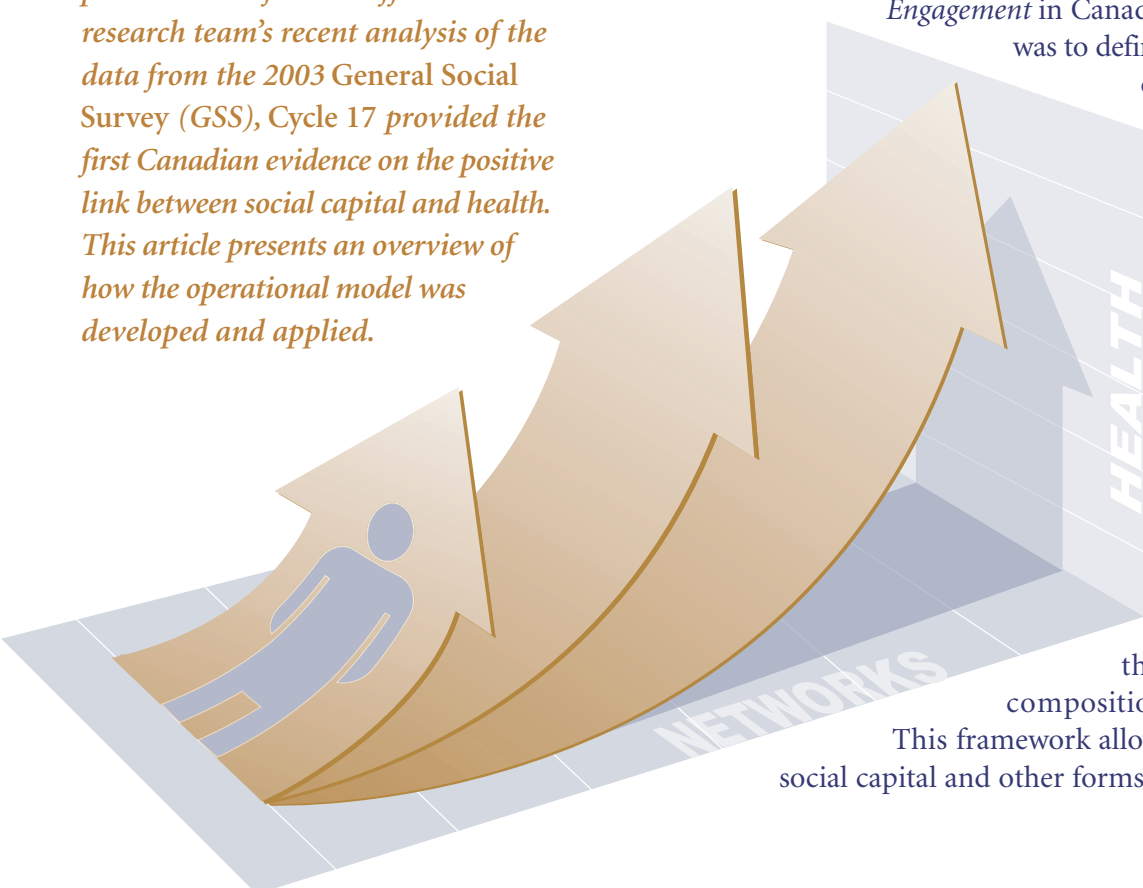
Engagement in Canada. The objective of the study was to define a conceptual model of social capital based on networks, using GSS data as a starting point, and to operationalize it to examine the relationship between social capital and the health of Canadians.

The Potential of Networks

The conceptual framework (as inspired by Berkman and Glass¹) provides an opportunity to examine the structure of networks,

their dynamics and their composition, in terms of resources.

This framework allows us to distinguish between social capital and other forms of capital, such as human



capital (education), and material and financial capital (income). Social capital is strictly defined as a network of social relationships and its related resources:

- The **structure** of the network refers to the number, scope and diversity of a person’s connections, the nature of these ties, including strong (family, friends) and weak (acquaintances) ties.
- The **dynamics** of these relationships are measured by the frequency and reciprocity of exchanges. Social engagement and volunteerism represent an attempt to widen one’s networks in order to meet certain needs.
- The **nature** of these exchanges refers to the resources that circulate within the networks. These resources may be emotional and affective, material, informational or instrumental.

The structural analysis of the network is systemic and sheds light on the characteristics and attributes of the social links and the exchanges. In this way, the analysis allows us to anticipate the intended results, which are individual and collective well-being, social integration, the demand for services and attainment of political objectives.

Constructing an Analytical Model

Using the conceptual framework of social capital based on networks and their resources, the research team constructed an analytical model that would support the analysis of data from the GSS, Cycle 17 (see sidebar above). The team drew on the conceptual framework of Berkman and Glass,¹ as well as on the survey questions, in order to

About the 2003 *General Social Survey, Cycle 17 on Social Engagement*

The survey was designed to collect comprehensive information on the many ways that Canadians engage in civic and social life, including social contacts with family, friends and neighbours; involvement in formal organizations, political activities and religious services; level of trust in people and in public institutions; sense of belonging to Canada, province and community; volunteer work and more. For the summary report, visit: <http://www.statcan.ca/english/freepub/89-598-XIE/2003001/article.htm>.

ensure that the analytical model was compatible with both.

Taking into account the GSS variables, the resulting model (see Figure 1) examines two dimensions of social capital—network structure and network resources—and includes indicators designed to measure both aspects:

- For **network structure**, four indicators were developed: *size of network of strong ties outside the household*; *size of network of ties to organizations* (ethnic organizations, sports or social clubs, associations, etc.); *reciprocity* within the networks (provided assistance to, and received assistance from, neighbours, family or friends); as well as *volunteerism* (volunteering at least once in the preceding year).
- For **network resources**, two indicators were developed: *total social support index* (assistance with

Figure 1: **Social Capital Analysis Model**

Social Capital Dimensions	Indicators
Network Structure	Size of the network of strong ties outside the household <ul style="list-style-type: none"> ▶ small (0–11 ties) ▶ medium (12–23 ties) ▶ large (24–35 ties) ▶ very large (36 or more ties)
	Size of network of ties to organizations <ul style="list-style-type: none"> ▶ 0 ▶ 1 ▶ 2 or more
	Reciprocity <ul style="list-style-type: none"> ▶ have received and provided assistance ▶ have not received or provided assistance
Network Resources	Volunteerism <ul style="list-style-type: none"> ▶ volunteer participation ▶ no participation
	Total social support index (composed of six variables—assistance in transportation, child care, housework, emotional support, practical advice and other types of assistance) Instrumental support index (composed of three variables—assistance in transportation, child care and housework)

transportation, child care, housework, emotional support, practical advice, other types of assistance), and an *instrumental social support index* (assistance with transportation, child care and housework).

Applying the Model

Use of the above model to analyze data from the GSS, Cycle 17 enabled the first national-level analysis in Canada of the relationship between social capital and health. The GSS collected data from 24,951 individuals aged 15 years and up from across the country. However, because only respondents aged 25 years and up were included in the current analysis, the sample size used was 21,785.

Data were collected on social capital variables as identified by the indicators in the model as well as on socio-demographic variables (sex, age, education, life status, type of household) and perceived health. Perceived health was established as the dependent variable and divided into two categories for the purposes of analysis: good health (self-reported health rated by GSS respondents as “excellent,” “very good” and “good”) and poor health (self-reported health rated as “average” and “poor”). Regression analysis was then used to determine if there was a significant relationship between any of the social capital variables and self-reported health.

The Results: A Pan-Canadian Analysis

By testing for a series of potentially differentiating factors (sex, age, education, life status, type of household), the results of the regression analysis demonstrate a significant relationship between social capital and the health of Canadians, even though the results do not permit the establishment of causality links.² For

By testing for a series of potentially differentiating factors (sex, age, education, life status, type of household), the results of the regression analysis demonstrate a significant relationship between social capital and the health of Canadians, even though the results do not permit the establishment of causality links. For example, the findings show that most social capital indicators are positively related to the self-reported health of respondents.

example, the findings show that most social capital indicators are positively related to the self-reported health of respondents:

- People with larger networks of strong ties outside the household have a greater possibility for accessing diverse resources.
- A medium to large network of strong ties is associated positively with self-reported health.
- People who belong to or participate in two or more organizations are more likely to report good health than the rest of the population.
- Reciprocity among members of a network appears to be beneficial—those who both give and receive assistance from family, neighbours or friends are more likely to report good health.
- There is a positive relationship between volunteering and good health (although the mechanism for establishing this relationship is hard to determine because of the problem of causality).
- Instrumental social support (help received to carry out daily activities) tends to be related with self-reported good health, even though the relationship is not significant.

A more complete story of how the model was developed, and the results of its application to the GSS, Cycle 17, is included in the full report² of the research, available at:

<http://policyresearch.gc.ca/page.asp?pagenm=pub_wp_abs#WP0010>. The research team has carried out additional analyses, focusing on specific population groups—the subject of the next article. 🌐

@ Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>.

Social Networks *and* Vulnerable Populations:

Findings from the GSS

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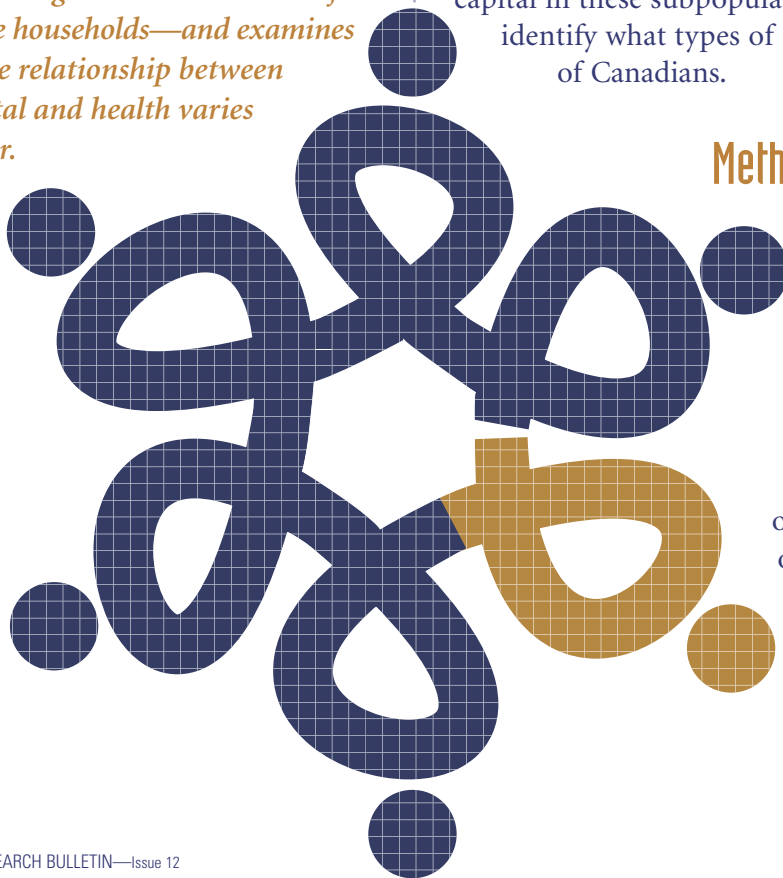
Continuing their research on social capital and the health of Canadians, the research team from the Public Health Agency of Canada and the University of Ottawa presents results from a further analysis of data from the 2003 General Social Survey (GSS), Cycle 17 on Social Engagement. This new research examines which aspects of social capital are important to the health of selected Canadian population groups—seniors, immigrants and members of low-income households—and examines whether the relationship between social capital and health varies with gender.

The relationship between social capital and the health of Canadians was briefly described in an earlier article. The research team applied the knowledge gained from their previous analysis to more specific analyses of the data for three subpopulations: seniors, immigrants and members of low-income households. These subpopulations are vulnerable groups that, depending on their individual and collective experiences, can experience a “disaffiliation” (i.e., a partial or complete rupture of their social links).¹ This results in a depletion of social capital stock whereby individuals that have been cut off from their social networks can no longer benefit from the resources available to those who belong to such networks. The authors set out to learn more about the links between health and various aspects of social capital in these subpopulations. The results of these analyses help identify what types of support are most beneficial to the health of Canadians.

Methodology

The GSS sample consists of a total of 24,951 individuals aged 15 years and older from all 10 Canadian provinces.

Only respondents aged 25 years of age and up were included in the analysis, for a total of 21,785 in the general population, including: 4,486 seniors (those aged 65 years and older); 4,109 immigrants (those born outside of Canada, excluding those whose parents are Canadian citizens); and 3,548 members of low-income households (individuals who live in households where the total household



income is below the low-income cut-off, taking into account both size of household and whether they live in an urban or rural community).

Adults under age 25 years were excluded because the researchers considered that social networks accessible to this age group are different. The resources in these networks are used quite differently than is the case for adults 25 years and over.

The operational model of social capital described in the article on page 13 was used to verify the presence of relationships between *perceived health* and *social capital* for individual Canadians. To this end, data were analyzed using logistic regression analysis models for the Canadian population and for the three subpopulations. In all analyses the effects of sociodemographic characteristics of respondents (sex, age, education, professional situation, marital status, type of household) were controlled. Given the sociodemographic circumstances of seniors, the categorization of certain variables was different in this subpopulation, specifically for age, professional situation and type of household. Results were weighted using the “bootstrap” method to control for the complex survey design (see *Using Canada’s Health Data* on page 37).

What the Findings Show

The results of the statistical analyses are presented in Table 1 in the form of score ratios for each of the social capital indicators in the model. (See previous article for a definition of all social capital indicators.) Score ratios are provided for men and women in the general population and for each of the subpopulations studied.

Reading the Score Ratio Table

The score ratio indicates the ratio between the probability of an event—in this case, good health—in one group, to its probability in another group. A number greater than one indicates a positive association, while a number less than one indicates a negative association. Take, for example, the reciprocity index for the general population. The score ratio tells us that the respondents who responded yes, when asked if they have at least one reciprocal assistance relationship in their social network, are 1.317 times more likely to report being in good health than are those who do not have a reciprocal assistance relationship. A p-value

(probability value) of less than or equal to 0.05 indicates that the result is statistically significant.

Across the Indicators . . .

A review of Table 1 reveals the following overall findings:

- In general, the **size of a network of strong ties** is positively associated with health in the general population, as well as in all subpopulations studied. However, the relationship is strongest for women in the general population, for immigrants and for men living in low-income households. The most notable difference appears to be for seniors, where the relationship between perceived health and the size of network of strong ties is significant only among women.
- There is a positive relationship between **network ties with organizations** (consisting of two or more ties) and health in the general population as well as in all the groups analyzed—except for the low-income group, where the relationship is not significant. Networks of links with organizations demonstrate the strongest associations with health for men in the general population and for immigrant women and senior men.
- **Volunteerism** is positively associated with health in the general population, those in low-income households and immigrant men.
- There is also a positive relationship between the **reciprocity index** and the health of women and men in the general population, as well as for immigrant women.
- Finally, the results indicate that there is a negative relationship between the **social support index** and health for the general population, and for immigrant women. In the same way, there is a negative association between the **instrumental support index** and the health of senior men. These results are possibly explained by a problem with the measurement of social support in the GSS data (see “Limitations of the Analysis,” later in this article).

The analyses of the GSS data provide a wealth of information about the relationship between social capital and health. Nevertheless, in the context of public policy, follow-up work is needed to further explain the findings and to confirm them through analysis of other data banks. ►

A Closer Look at Vulnerable Populations

Seniors

Recent studies (see article on page 21) show that three types of networks are important for people aged 65 years and older: social networks, support networks and care networks.² The composition of the networks evolves and adapts at the same time as an older person's physical condition changes. While initially seniors' networks are large and diversified,² smaller care networks appear to become increasingly important as seniors develop functional limitations.

Analysis of the GSS data confirms the important relationship between social capital and seniors' health. Results show that there is a positive relationship between the size of an older person's *network of strong ties* and health—but only for women. Senior women

who belong to a *medium* or *large network* of strong ties are more likely to report good health than those whose network size is smaller. At the same time, it is among seniors that the relationship between health and *very large networks* of strong ties is the weakest. This supports the thesis that small, close networks are more important for seniors needing care.

With respect to networks of organizations, results point to a positive relationship between the *size of these networks* and the health status of seniors; the relationship is stronger than that observed among the other subpopulations and the general population. In other words, seniors who are involved in one or more organizations are more likely to report good health than those who are not as involved.

The only group for which the instrumental support index is associated with health is seniors, and the

Table 1: Self-Reported Health and Social Capital—Score Ratios for the General Population and Selected Subpopulations

Social Capital Indicators	Score Ratios for the General Population and Selected Subpopulations											
	General Population			Seniors (65 Years and Older)			Immigrants			Members of Low-Income Households		
	Total	Women	Men	Total	Women	Men	Total	Women	Men	Total	Women	Men
Size of Network of Strong Ties Outside the Household												
Small—0 to 11	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Medium—12 to 23	1.469***	1.596***	1.326*	1.443**	1.590**	1.225	1.694***	1.506*	1.952**	1.465**	1.500**	1.542*
Large—24 to 35	1.795***	1.875***	1.730***	1.663***	1.880***	1.335	2.036***	2.182**	1.926*	1.885***	1.748**	2.447**
Very large—36 and up	1.457***	1.537***	1.360**	1.270	1.730*	0.920	1.931***	1.691	2.347**	1.788***	1.555*	2.498***
Size of Network of Organizations												
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1	1.085	1.074	1.109	1.272*	1.175	1.384	1.290	1.193	1.615*	0.966	0.949	0.971
2 and up	1.601***	1.524***	1.704***	1.776***	1.665**	1.878**	1.698**	1.908*	1.700*	1.185	1.172	1.095
Reciprocity												
No	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Yes	1.317***	1.356***	1.236*	1.190	1.300	1.043	1.277	1.904**	0.762	1.268	1.350	1.109
Volunteerism												
No	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Yes	1.247**	1.230*	1.263*	1.243	1.337	1.151	1.247	0.812	2.361**	1.524***	1.546**	1.640*
Total Social Support Index	0.787***	0.757***	0.835**	0.919	0.852	1.043	0.781*	0.639***	1.051	0.873	0.904	0.805
Instrumental Support Index	1.105	1.097	1.101	0.783*	0.864	0.648*	0.957	1.134	0.721	0.993	0.886	1.233

Note: Data tables detailing confidence intervals and sociodemographic variables may be obtained by contacting <bulletininfo@hc-sc.gc.ca>.

* $p \leq 0.050$ ** $p \leq 0.010$ *** $p \leq 0.001$

Source: GSS, Cycle 17.

association is negative. Seniors who had received help carrying out day-to-day activities are more likely to report poor health than those who had not had such support. This is likely due to the fact that, in the GSS data, instrumental support becomes an indicator of seniors' limited capacity to carry out activities. Secondary analyses confirm this hypothesis. So, when seniors who report activity limitations are excluded from the analysis, the relationship between instrumental support and perceived health is negligible.

Immigrants

Research supports the importance of social capital to the integration of immigrants.^{3,4,5,6} Having access to close networks of people of the same cultural origin—as well as to programs that support these networks—is associated with the social and economic integration of immigrants in the host country and with their well-being. Networks of friends and family for new immigrants in Canada represent an extremely important support, whether for finding accommodation, training or education, employment or aid.⁶ The most important sources of assistance for immigrants, according to the results of the *Longitudinal Survey of Immigrants to Canada* (LSIC), are parents or family members (already established in Canada), friends, organizations working with immigrants, educational institutions and health workers.

Results of current analysis of the GSS support the above findings that social capital is a major determinant of health for immigrants to Canada, and reinforce results of the LSIC:

- There is a positive association between the size of networks of *strong ties* and reported good health among immigrants. The association is more pronounced for immigrants than for any of the other groups studied, as well as for the Canadian population overall.
- There is also a positive association between the number of *ties with organizations* and immigrants' self-reported health. Immigrants with a high number of ties to organizations perceive their health to be

The most important sources of assistance for immigrants, according to the results of the Longitudinal Survey of Immigrants to Canada (LSIC) are parents or family members (already established in Canada), friends, organizations working with immigrants, educational institutions and health workers.

good—a trend that is in keeping with results for the Canadian population overall.

- Except for the general population, immigrant women are the only group for which the results of the analysis indicate a significant relationship between reciprocity in social networks and perceived health. Immigrant women who say they had at least one reciprocal support relationship within their social networks were more likely to say they are in good health than their peers without such a relationship.
- The results show that for immigrant men, volunteerism and perceived health are strongly linked. Immigrant men who volunteered in the year preceding the survey are more than twice as likely to say they are in good health as their peers who had not participated in volunteer activity.
- The situation is different for the *social support index* and self-reported health. Immigrants who say they had received at least one form of social support in the year preceding the survey are more likely to report poor health. This result is likely explained by a limitation in measurement of social support inherent in the GSS data which is discussed in greater detail at the end of this article. This negative relationship holds for the overall Canadian population as well.

Members of Low-Income Households

Some researchers hypothesize that poverty and increasing social inequality engender negative stress which, in turn, can have a negative impact on the physical and emotional health of individuals.^{7,8} Recent studies show that when solutions and the ability to adapt to stress are limited, people become more vulnerable to a whole range of diseases that affect the immune system and the hormonal system.⁸ In this context, as in many other difficult life circumstances, networks can serve as moderators in attenuating adverse living conditions, helping people to remain healthy or to increase their resilience.⁹

Results of the GSS analysis feature the following key points:

- For members of low-income households, there is a positive association between perceived good health

and the size of *networks of strong ties*. Those with *medium* or *large* networks are more likely than those with smaller networks to report good health. The relationship is stronger for men than for women in this group.

- Counter to the general trend, the perceived health of people living in low-income households is not related to networks of ties with *organizations*.
- The positive relationship between volunteering and perceived health is significantly stronger for those living in low-income households than is the case for the general population or all other groups studied. In fact, only among immigrant men is there a stronger association between volunteer participation and health.

The results of these analyses provide a first empirical pan-Canadian snapshot of the relationships between social capital and the health of women and men in three vulnerable population groups.

Limitations of the Analysis

Even though the findings from the analysis of the GSS data do not allow for the establishment of causality, the current study demonstrates that social capital indicators that are closest to a network approach (i.e., networks of strong ties and networks of ties with organizations) are significantly linked to the perceived health status of Canadians. At the same time, the data available in the GSS present some important challenges.

The first is a problem often encountered by researchers when they analyze secondary data (that they did not collect): how to operationalize a model that relies on a theoretical framework that is *different* from the one used to guide the development of the database used. In general, researchers faced with this challenge have access to fewer data on which to carry out their analysis.¹⁰ This was true in the current case, where the adoption of a theoretical framework on social capital based on the network approach limited the choice of indicators of social capital available for analysis. While the resulting analyses have clearly produced interesting results that merit attention, the data available in the GSS are not sufficient to complete a full analysis of social capital based on a network approach.

Useability of GSS data posed challenges as well. The GSS, Cycle 17 does not use the more complex social support measurement tools usually used in large databases, such as that of the *National Population Health*

Survey (NPHS), which include measures of respondents' perception of the availability of social support resources. Instead, the GSS measures social support with six variables that identify respondents who have used a form of social support in the year preceding the survey. Since it measures *use* of social support instead of the *perception of its availability*, the social support index derived from the GSS data becomes, by definition, an indicator of poor health. The integration of more sophisticated tools to measure social capital in the large databases (such as Resource Generator)¹¹ would be helpful in informing public policy.

Another limitation of the findings is related to use of the indicator of "perceived health." While it is a reliable indicator of mortality,^{12,13,14} the variable is not as objective as a composite variable of health, such as the Health Utility Index (HUI).

Next Steps . . . What the Findings Mean

The results of these analyses provide a first empirical pan-Canadian snapshot of the relationships between social capital—as operationalized in the model described here—and the health of women and men in three vulnerable population groups.

Even though these analyses offer much food for thought, more research is required to explore and better understand the meaning behind the results. For example, why are older men the only group of men for which networks of strong ties are not significantly related to perceived health? Why are networks of ties to organizations most important to the self-reported health of seniors and immigrants? What is the nature of the relationship between volunteerism and good health?

The next few articles take a closer look at the role of social capital in the context of specific vulnerable populations, and how social capital research is informing the development of policies and programs. 🌐

@ Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>. Researchers may be contacted through <bulletininfo@hc-sc.gc.ca>.

Healthy Aging

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The author acknowledges the assistance of Norah Keating, Jennifer Swindle and Deborah Foster from the University of Alberta.

As a population group, seniors face a number of major life-course transitions that can put them at risk of social isolation and exclusion. A social capital perspective focusing on seniors' networks is, therefore, especially relevant when developing policies and programs that support healthy aging. Highlighting recent research on social capital and "aging well," this article examines the different types of seniors' networks and the role they can play in reducing social isolation, providing quality care and creating supportive community and voluntary sector opportunities and services.

Canada's Aging Population

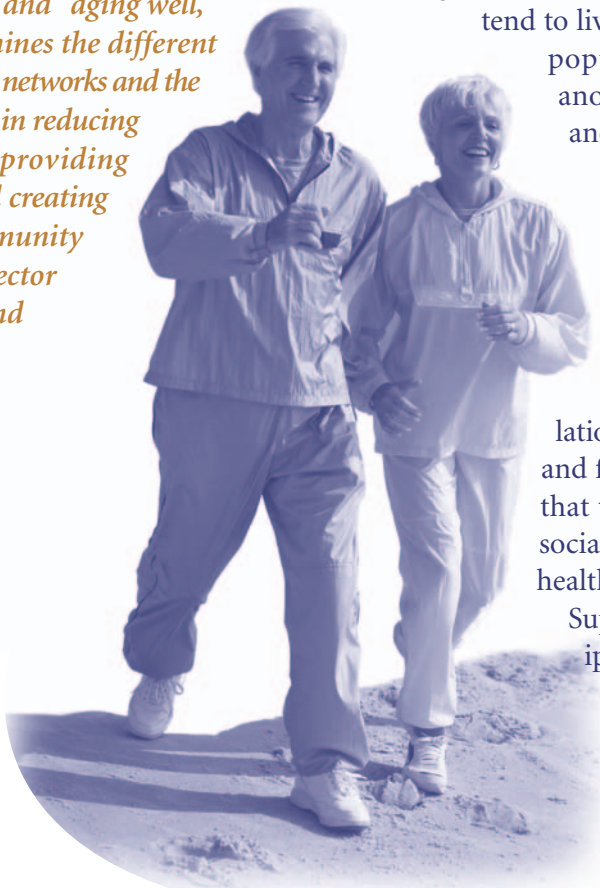
Seniors are the fastest growing population group in Canada. This population group will continue to grow as the "baby boomers" begin turning 65.¹ By the year 2015, seniors will outnumber children.¹

In 2005, seniors represented 13%² of the total population, and by 2031 it is expected that they will account for approximately 23% (see Figure 1 on page 22).³ "Oldest" seniors are the fastest growing segment; by 2056, one out of ten Canadians will be 80 years or older, compared to one in thirty in 2005.¹ More and more seniors are also "aging in place," with over 90% aged 65 and older living in the community.⁴ Women in Canada tend to live longer than men and make up 57% of the aging population.^{2,5} At age 65, a woman can expect to live another 20.8 years, whereas a man can expect to live another 17.4 years.⁵

A Time of Transitions

Many seniors undergo major life transitions in their later lives—such as retirement, declining health, forced relocation and the death of loved ones—that can strain their social networks.^{6,7,8} Social isolation also tends to increase as people age, and as family and friend networks become smaller.⁹ Research shows that those who remain actively engaged in life and socially connected are happier, physically and mentally healthier, and better able to cope with transitions.

Supportive social relations (e.g., family, friends, participation in local groups) have positive and protective effects on health,^{10,11} and people with increased social contacts and stronger support networks have lower premature death rates, less heart disease and fewer health risk factors.¹² A focus on social capital



is, therefore, particularly relevant for policy and program initiatives aimed at healthy aging. As described in the article on page 6, social capital refers to “the networks of social relations that may provide access to needed resources and supports.”

Social Networks and Aging Well

In “The Role of Social Capital in Aging Well,” Keating et al.¹³ use social capital theory to understand the different types of seniors’ networks and how they relate to aging well. The authors offer three main views of healthy aging and explore the role that networks play:

- **Maintenance of physical and cognitive health:** Do networks provide the needed resources and access to services necessary to maintain and enhance physical and cognitive status?
- **Engagement in work and community activities:** Do networks constrain or enhance these opportunities?
- **Person-environment fit:** How do networks assist in ensuring a good person-environment fit?¹³

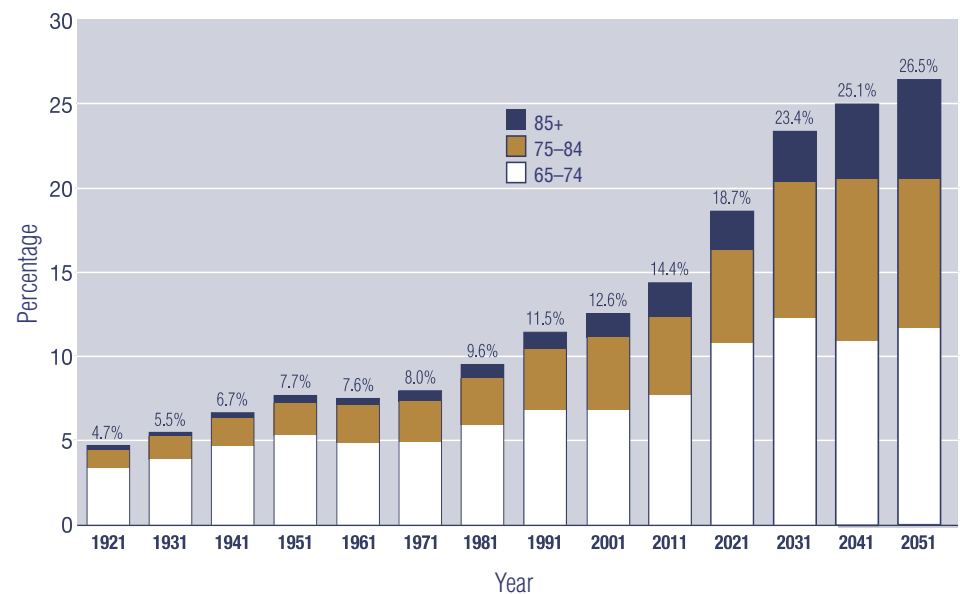
Seniors’ networks differ considerably in their composition and the resources they provide. They are categorized by Keating et al. as: **social networks** (groups of twelve to thirteen people with whom seniors have close links); **support networks** (helpful connections that include day-to-day social interactions and/or instrumental activities, such as help with chores, transportation—five to ten people); and **care networks** (networks of three to five people who provide support to seniors with long-term health problems or limited functional capacity).

Highlights of existing research offer some useful and interesting information about seniors’ networks (see sidebar on page 23).

Balancing Formal and Informal Care

Whether seniors receive formal care from professionals, rely on informal care provided by family and friends, or receive no care at all depends mainly on the size

Figure 1: Canadian Seniors by Age Subgroups, 1921–2051³



Source: Statistics Canada, 1999–2005.

(number of friends and family members), quality (of the relationship) and proximity (living close by) of their social networks.¹⁴ Although the nature of the Canadian family has changed, estimates suggest that approximately 80% of all care is still provided by close friends and family.¹⁵

An analysis of the 2002 *General Social Survey (GSS), Cycle 16 on Aging and Social Support*,¹⁶ examined the relationships between social networks of non-institutionalized seniors and whether they received formal, informal or no care.¹⁴ The findings confirmed the importance of care networks:

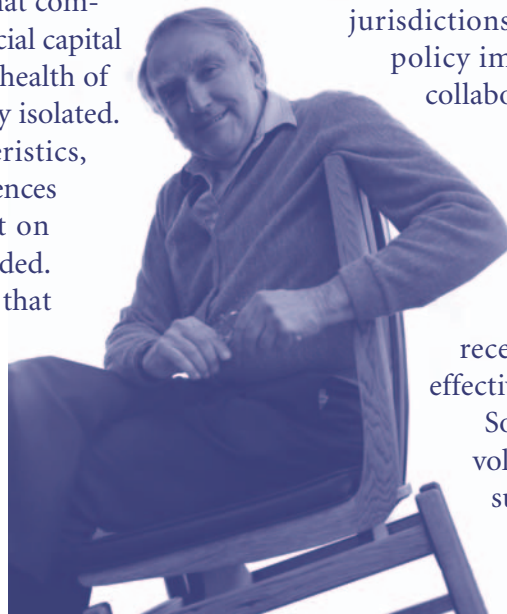
- Of seniors receiving care, 45% relied exclusively on informal networks.
- Decayed social networks owing to advanced age (even for those in stable health) and death of a spouse were related to the need for more formal care.
- Those with a large support network pool (e.g., a large family, and those who were part of a faith community) relied more on informal care.
- Those with higher levels of education and more connections within their communities relied on more formal care networks, possibly because they are better able to negotiate the institutional channels that sometimes present barriers for seniors with lower literacy. Education is also correlated with lifetime earnings and wealth, suggesting that people with more education have the means to pay for formal assistance.¹⁴

Reducing Social Isolation: Social Networks Play a Role

Social networks can benefit seniors by enhancing their sense of well-being and control and by decreasing the risk of social isolation. While social isolation tends to increase as people age, other factors play a role, including: poor health, disabilities, gender (more women are socially isolated than men¹⁸—taking into account that they live longer), loss of a spouse, living alone, reduced social networks, transportation barriers, place of residence, distrust of others, poverty and low self-esteem.^{18,19,20} It is important to recognize, however, that factors affecting one senior may not affect another in the same way. For instance, living alone does not necessarily mean someone is lonely or unsupported.⁸ Moreover, seniors who have fewer social contacts as they age may not necessarily feel dissatisfied or lonely. Research suggests that the quality of social contacts is more strongly associated with well-being than the quantity.²¹

With more seniors “aging in place,” addressing social isolation takes on a greater importance. Although research has consistently demonstrated a strong association between social isolation and health, the direction of causality between social support and health is unknown—while the lack of support networks may lead to ill health, ill health itself may lead to a reduction in social support.¹⁹ Nonetheless, programs and services can play a role in reducing isolation by promoting seniors’ participation and inclusion in their communities. Evidence suggests that communities with “high stocks”²² of social capital are better equipped to protect the health of their citizens, including the socially isolated.

More evidence on the characteristics, risk factors and potential consequences of social isolation and its impact on the quality of life of seniors is needed. A greater understanding of policies that may influence social isolation and social integration of seniors should also be examined.¹⁹ To address these information needs, the Federal/Provincial/Territorial Ministers Responsible for Seniors acknowledged social isolation as an emerging issue and directed



Some Facts about Seniors Networks . . .

- Age is an important determinant of social and support networks—older seniors have smaller, more kin-focused social networks.
- Gender influences network composition—older women have larger support networks than older men. Much of the research on care suggests it is female-dominated, though recent findings from a national survey suggest that proportions of women and men who provide care are similar (54% are women, 46% are men).¹⁷
- Unmarried people tend to have smaller networks.
- Higher education is associated with a greater number of ties to younger friends and neighbours, while low education is associated with support from family.
- People with a higher income and better health have more ties to the wider community.
- Having higher proportions of women in their networks, higher proportions of kin and larger network size are important factors in whether seniors receive personal care.
- Highly supportive communities are relatively small in size, have higher proportions of seniors and individuals who have lived in the community for a long time, and are typified by relatively higher hours of unpaid work done by community members.¹³ Consequently, residing in a cohesive community may provide individuals with access to resources even when personal networks are lacking.

officials to study it, to share information across jurisdictions, to identify potential program and policy implications, and to develop options for collaborative work.²³

Volunteering and Healthy Aging

Volunteer activity has been shown to increase the well-being of those who volunteer, as well for those receiving services.²¹ Volunteering is also an effective means to deal with losses as one ages.²⁴ Social capital can be generated through volunteering—high levels of social capital support and maintain the health of older persons, provide informal support in times of need, reduce or delay the onset of illness and death, and enhance

overall quality of life.^{25,26} Volunteer activity throughout one's adult years also promotes healthy aging by providing people with the potential for multiple roles in older ages. It is suggested that having multiple roles in life (e.g., friend, worker, spouse, volunteer) increases social integration and aids in coping with stress.²⁷

While the proportion of seniors who are formal volunteers is lower than the national average, Canadian seniors donate the highest number of volunteer hours.^{28,29} Contributions made by seniors are vital to Canada's volunteer sector, notably to various community organizations including those created by and for seniors. It is important to recognize the value of volunteering and expand opportunities as people age to participate in meaningful volunteer activities, especially for those with health, income or transportation restrictions.³⁰

Building Social Capital

While not intentionally developed using a social capital lens, many current federal seniors' programs (e.g., Compassionate Care Leave Program, New Horizons for Seniors Program) have the potential to build social capital in order to enhance aging well. These programs contribute to the development of the three types of social capital: bonding—relations that help people “get by” with day-to-day activities; bridging—connecting people to “external assets” that may help them “get ahead”; and linking—fostering connections among networks.⁶



Bonding: Being part of an informal care network of family and friends can be stressful due to possible financial, health and emotional costs. However, formal supports to seniors (e.g., home care and community services) can alleviate some pressures on members of the informal care network. Formal supports enhance bonding social capital since they allow seniors to “age in place” while staying positively connected to their social network.¹³

A social capital perspective focusing on seniors' networks is especially relevant when developing policies that promote healthy aging. More research is needed to identify those approaches that are most effective in fostering various types of health-promoting networks.



Bridging: Programs that provide access to resources can help seniors maintain their social networks and reduce the risk of social isolation. An example is Social Development Canada's New Horizons for Seniors Program (<http://www.sdc.gc.ca/en/isp/horizons/toc.shtml>), which supports local projects that encourage seniors to contribute to their communities through social participation and active living.¹³



Linking: Programs that foster linkages among voluntary organizations and/or various levels of governmental programs can improve the access to resources for seniors and families. The Canadian Caregiver Coalition is a national organization that supports care networks and links caregiver organizations, researchers and governments on issues of public policy on caregiving (<http://www.ccc-ccan.ca/>).¹³

Looking Forward

A social capital perspective focusing on seniors' networks is especially relevant when developing policies that promote healthy aging. Some potential public policy challenges include the need to better understand the weak ties of older adults and the purposes they serve; to further examine how linkages in “physical” and “virtual” communities can be useful to older adults; to determine the place of families and care networks in aging well; and to emphasize the importance of program evaluation.¹³

The Public Health Agency of Canada “plans to use a social capital lens to better understand how social relations affect seniors' health and to examine the effectiveness (and appropriateness) of policy interventions in supporting these relations.”³¹ More research is needed to identify those approaches that are most effective in fostering various types of health-promoting networks. 🌀



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A Snapshot of Emerging Research

Sean Van Liempt, *Primary Health
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As illustrated in the previous article, the evidence suggests that care networks are integral to positive health outcomes for seniors. While the literature indicates that home care is most often provided by “informal” caregivers (family, friends and neighbours), little is known about the level of informal care support in First Nations and Inuit communities. In order to expand the knowledge base on care networks in these communities and to understand the gaps in service, the Government of Canada is funding continuing care research in First Nations and Inuit communities.

An Opportunity for Building Social Capital

For First Nations and Inuit, “informal” care networks provide an opportunity to support professional “formal” care (nursing care, home care, home support, respite care, etc.) in a manner that respects First Nations and Inuit traditional and holistic, as well as contemporary, approaches to healing and wellness. Since informal caregivers come from the social networks of those receiving care, the support provided is a direct result and a tangible benefit of the social capital embedded in these networks. The benefits flow both ways. For instance, when elders receive support to age in place, their traditional wisdom, language and cultural knowledge remain available to the community.

Currently, Health Canada and Indian and Northern Affairs Canada fund a range of continuing care services for First Nations and Inuit communities. However, gaps and challenges remain, particularly for those clients who require more time-intensive home

supports or facility-based care and who want to receive this care while remaining in their own communities.

The Emerging Evidence Base

A collaborative study, *An Assessment of Continuing Care Requirements in First Nations and Inuit Communities*, is currently underway and, when completed, will be used as evidence in identifying policy responses to address gaps in service.¹ Because ►



families' needs and the care that they provide are critical considerations in any policy, an important part of this research is an analysis of the type and level of support provided by care networks of informal (family) caregivers in First Nations and Inuit communities.

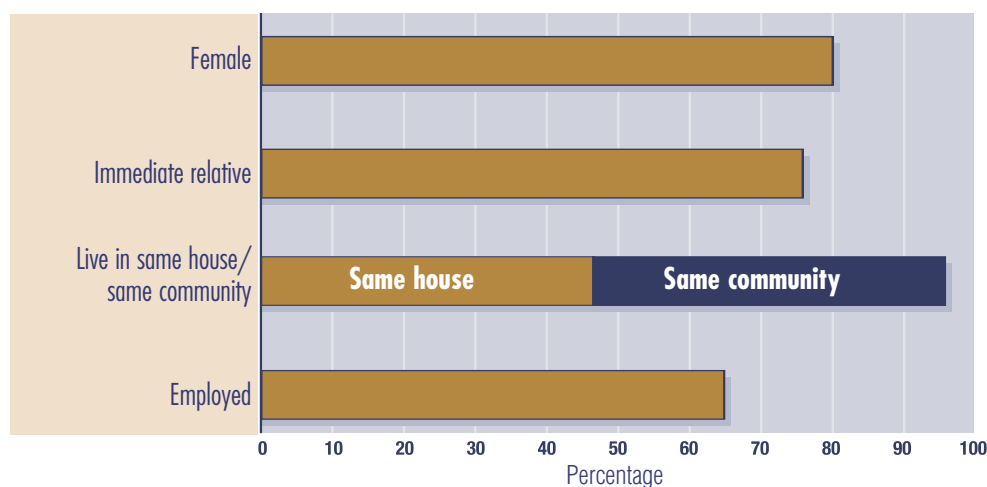
A total of 230 informal family caregivers and 450 clients (family members who receive the care) from 11 communities across three regions participated in this study. Initially, some of the data were to be collected by means of family caregiver diaries. However, community advisory groups recommended that retrospective interview tools—already available in the literature^{2,3,4,5,6}—be adapted and used instead of the diaries. One factor taken into consideration in determining the most appropriate method of data collection was related to the cultural view of caregiving—for example, participants in the Inuit communities often do not perceive caregiving as a discrete and hours-based function.

The data for this study have now been collected, and a preliminary snapshot of the results is available. As the project moves forward, results of the interviews will be used to derive a quantitative estimate of the level of informal care and support in First Nations and Inuit communities across Canada.

A Research Snapshot

A preliminary look at the data indicates that the vast majority (95%) of clients would like to receive support in their own community, from their families. The data also show that family caregivers are committed to providing care and play a critical role in ensuring clients receive the services they need, for as long as needed.

Figure 1: Selected Family Caregiver Characteristics



Source: *An Assessment of Continuing Care Requirements in First Nations and Inuit Communities, 2006.*¹

Because families' needs and the care that they provide are critical considerations in any policy, an important part of this research is an analysis of the type and level of support provided by care networks of informal (family) caregivers in First Nations and Inuit communities.















Family Caregiver Characteristics

Eighty percent of the participants indicated that they are the client's primary caregiver. Results of the interviews, some of which are depicted in Figure 1, provide a profile of family caregivers in the study communities:

- Most family caregivers are female (79%), immediate relatives (76%), and are living in the same house (47%) or community (49%).
- Most caregivers are also employed outside the home (65%), with about one fifth (21%) indicating that caregiving duties have had an effect on their work.
- Most caregivers are between 18 and 54 years of age (95%); about 2% are over 75 years of age; and 3% are under the age of 18 years.
- More than one third (39%) of the caregivers provide care to more than one person; about half of these caregivers provide care to five or more persons.
- Nearly two thirds (63%) of family caregivers have been providing care for five years or more.



Table 1: Family Caregiver Activities

Activity	% of caregivers assisting
 Eating, meal planning, meal preparation	47
 Personal care (e.g., bathing, dressing, toileting)	35
 Communication (e.g., vision, being understood by others)	34
 Financial tasks (e.g., budgeting, bill payments, completing forms)	52
 Light housekeeping and home maintenance (e.g., light cleaning, laundry)	65
 House maintenance inside (e.g., heavier cleaning, painting)	62
 House maintenance and chores outside (e.g., shovelling snow)	60
 Mobility inside the house/facility (e.g., walking inside)	28
 Mobility outside the house/facility (e.g., getting to other places)	57
 Nursing or medical care (e.g., foot care, medications)	40
 Identifying professionals who can provide services and/or medical equipment	35
 Coordinating and arranging medical appointments and health services	42
 Obtaining medical equipment, medical supplies and medications	41
 Obtaining traditional healer/traditional medicines	4

Care and Support Provided

Findings reveal that family caregivers assist with a broad range of tasks (see Table 1), including personal care (35%) and nursing or medical-type care (40%), but are generally most actively involved in maintaining the client's home (60%–65%).

Support for Informal Caregivers

While most caregivers (87%) receive help from other family members, and some caregivers (28%) receive help from the formal care system directly, the findings point to a high potential for the primary family caregivers to experience stress and burnout. However, as mentioned in the previous article, these negative effects may be offset somewhat by the benefits of expanding or enhancing caregivers' networks (i.e., building social capital), resulting from, for example, increased assistance from other family members or from the formal care system.

Looking Forward . . .

The evidence arising from this study will help to model the needs of those clients requiring higher levels of care, including facility-based care, and will support current policy development collaboration among First Nations and Inuit, Health Canada and Indian and Northern Affairs Canada. Applying a social capital lens to this project draws out information about current care networks and potential benefits of and strains on these networks. This perspective will be valuable in developing policies on continuing care services and identifying how best to support informal caregivers and their families.

As this research is without precedent in Indigenous communities worldwide, it was presented at the 13th International Congress on Circumpolar Health in Siberia in June 2006. 🌐

@ Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>.

Applying Social Capital Research in Community-Based Evaluations

Carl Bertoia, Departmental Performance Measurement and Evaluation Directorate, Chief Financial Officer Branch, Health Canada, and Lauranne Matheson, Division of Childhood and Adolescence, Centre for Healthy Human Development, Public Health Agency of Canada

Evaluating the long-term results of community-based health programs in terms of improved health outcomes poses many challenges. This article draws on social capital research to support community-based program evaluation that is both timely and effective and makes use of intermediate outcomes, such as the ability to influence the social networks of participants and communities.

Confronting the Challenges

In an era of increased accountability and transparency, initiatives funded by all levels of government must demonstrate effectiveness and bring value to citizens. In support of this, the Government of Canada recommends that a Results-Based Management and Accountability Framework (RMAF) be completed at the outset of any new policy, program or initiative. An RMAF defines the logical sequence of results that is expected to occur from a given investment over the immediate, intermediate and long term.

Traditionally, evaluations of health initiatives have been compelled to demonstrate long-term results. However, carrying out the long-term evaluations necessary to show improvements in health outcomes is challenging. Moreover, it is difficult to attribute an improvement in a specific health outcome (e.g., a decrease in the proportion of Canadians who acquire HIV/AIDS or diabetes) to a *single* initiative, particularly within the time-sensitive pressures that shape government plans, priorities and resource allocations. In this context, it may be useful to also measure those intermediate changes that will logically lead to long-term impacts.

Social Capital: A Useful Tool

As discussed in earlier articles, while it is difficult to establish causality in the relationship between social capital and health, researchers have clearly demonstrated an empirical link between increased levels of social capital and improved health outcomes.^{1,2}



Putnam¹ has put forward a number of plausible explanations: social networks may provide tangible assistance (e.g., money, convalescent care or transportation), they may reinforce healthy norms and they may help people to mobilize health resources.




Since some community-based health initiatives have already adopted principles and strategies with the potential to influence social capital, measuring this impact over time may strengthen both the evaluation and delivery of these programs. To this end, social capital is an effective conceptual tool that can be incorporated into a program’s logic framework, explaining how the key elements of a program will achieve the intended outcomes.

The example of a community-based breastfeeding program helps to illustrate the dynamics involved (see page 30). An overview of a logic framework shows how social capital can be considered both an outcome of program activity and a determinant of longer term behavioural and health outcomes.

Evaluating CAPC and CPNP

Several community-based programs of Health Canada and the Public Health Agency of Canada actively incorporate a “determinants”³ approach to health and demonstrate an affinity to the concept of social capital. These include, among others, the Community Action Program for Children (CAPC) and the Canada Prenatal Nutrition Program (CPNP). These two programs provide long-term funding to community-based organizations and coalitions with the aim of strengthening the social connections and improving the health of potentially isolated pregnant women, mothers, children and families. Both foster the development of networks and partnerships, thereby increasing the community’s

Three Dimensions of Social Capital and Types of CAPC/CPNP Evaluation Questions

Social Capital Dimensions ⁴	Types of CAPC and CPNP Evaluation Questions
 <p>Bonding Social networks of people from similar backgrounds—such as family, loved ones, friends and similar acquaintances—homogeneous communities that bond together with strong, close ties.</p>	<p>Questions related to style of program delivery, including opportunities for participants to gather in collective activities with their children, partners or peers, provide information on enhancing bonding social capital.</p>
 <p>Bridging Relationships with people from diverse backgrounds where ties are weaker—heterogeneous networks that bridge social differences and often act as key sources of social leverage, providing access to resources that are quite different from one’s own.</p>	<p>Questions about the make-up of project committees, the number and types of volunteers, and the communities served reveal information about the opportunities for creating more diverse networks that extend beyond strict geographic or cultural boundaries.</p>
 <p>Linking Relationships with people in positions of power—enables individuals to leverage resources, ideas, information and knowledge within a community or groups. Partnering also creates potential for organizations to leverage resources and influence policy decisions.</p>	<p>Questions on the specific roles of participants and the nature of partnerships provide information about participants’ access to power and the development of vertical networks at the community level.</p>

capacity to provide access to a comprehensive range of services for a population living in conditions of risk.

A closer look at the programs provides insight into the strategies being employed to influence social capital and the evaluation efforts undertaken to detect influence on social capital. CAPC and CPNP have employed multiple methods to monitor their performance and evaluate their reach, relevance, implementation and impact. For example, both programs require each funded project to complete an annual administrative survey—the National Project Profile (NPP) for CAPC and the Individual Project Questionnaire (IPQ) for CPNP. While these survey instruments were not intentionally designed to measure social capital, a closer examination shows that both surveys include questions related to the capacity of projects to foster the three dimensions of social capital—bonding, bridging and linking (see sidebar above).

A further analysis of the evaluation tools provides quantitative and qualitative data that both CAPC and

Showing by Example: Applying Social Capital Theory to Community-Based Breastfeeding Programs

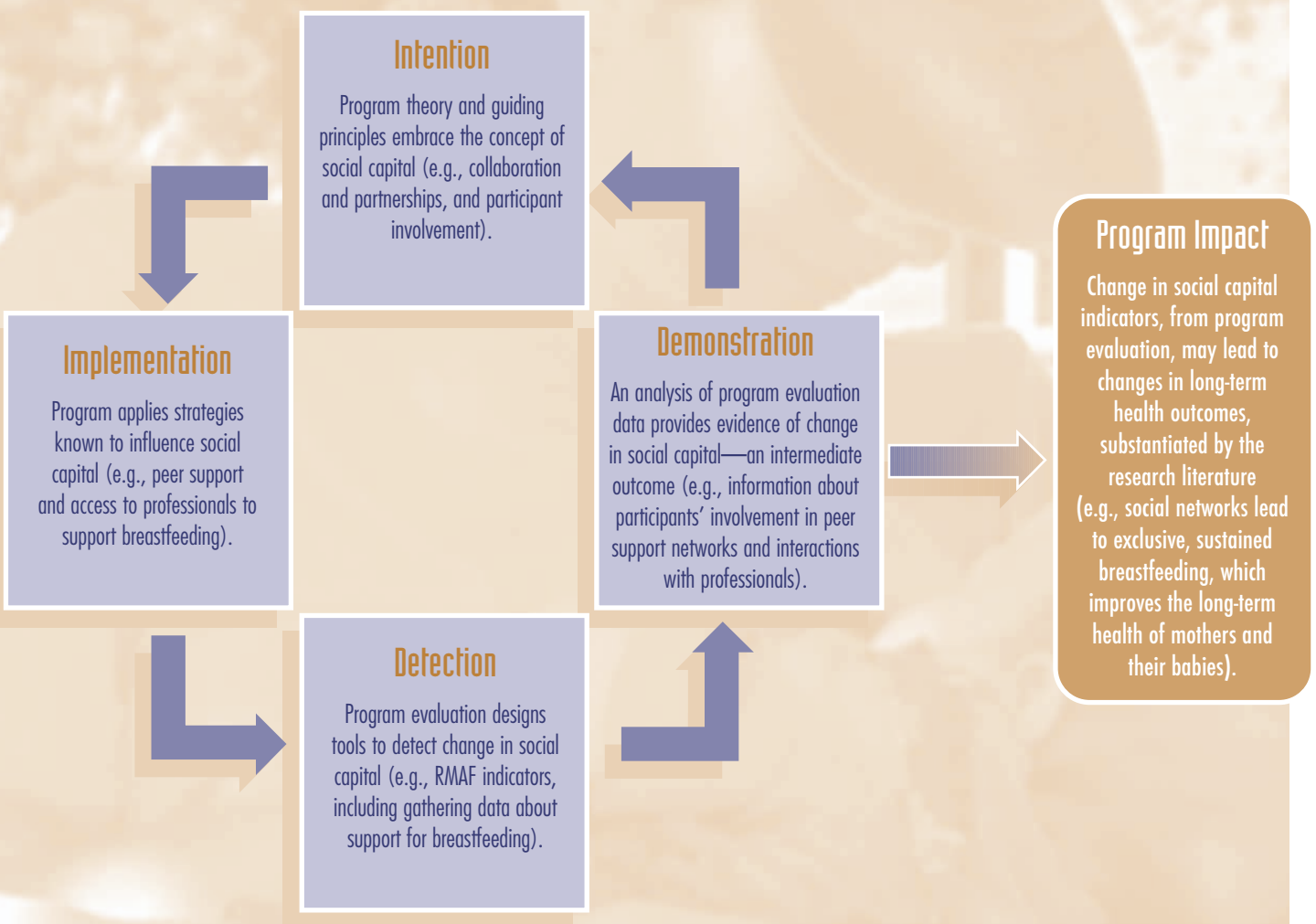
The link between exclusive and sustained breastfeeding and positive health outcomes for both mother and baby has been clearly established.⁵ Promoting breastfeeding, therefore, has become an important component of many community-based prenatal programs. Such programs employ multiple strategies, some of which have the potential to enhance the social capital stock of program participants (e.g., peer support, access to professional support).

Traditionally, program effectiveness has been assessed by tracking and measuring the breastfeeding practices of participants. However, in

light of recent evidence suggesting that the decision to initiate and sustain breastfeeding may be influenced by social capital,⁶ programs are designing evaluations to also detect changes in social capital—in this case, changes to the level and nature of *support* for breastfeeding.

The logic framework below helps to illustrate the value of and approach to applying social capital to community-based programs—both to inform and shape the program, and as an intermediate outcome that can be measured.

Social Capital Theory in Program Logic



CPNP are having an impact on the social capital at the individual (program participant) and collective (project) levels.

Building the “Bonding” Dimension

In the delivery of activities, CAPC and CPNP both provide physical and social spaces for participants to engage in group activities (e.g., food preparation, community gardens, collective kitchens, sewing circles) and encourage opportunities for reciprocal exchange of experience and information. In CPNP, 96% of projects responding to the IPQ (2003–2004) reported offering some form of social group programming. In addition, 99% provided food supplements, 90% transportation and 71% on-site child care. Each of these supports helps overcome barriers so that otherwise isolated women can increase their social networks.

Comments from CAPC parents suggest how forming these close social ties can build social capital:

“The program gave me an opportunity to make friends too. When I moved into (the city) from (the town), I was in a ‘shell.’ The program helped me to meet people who had things in common with me.”

“When I am at the Centre I feel like I am a part of something. It has also extended my social life on a personal level by meeting other parents that I could relate to . . . the motto that the people go by is that ‘it takes a village to raise a child.’”

Enhancing the “Bridging” Dimension

CAPC and CPNP collect data on the extent to which participants are involved, as volunteers, with project activities, committees or governing bodies. Through such involvement, participants are exposed to a more diverse group of people than they may have otherwise met. Data from CAPC’s NPP (2004–2005) show that participants:

- volunteered with project activities in 75% of projects
- were involved on committees in 54% of projects
- were members of the project’s governing body in 55% of projects

Many CPNP projects have developed formal roles for trained peers (outreach workers) or “resource mothers.” A project coordinator explains:

“The Peer Outreach Worker has ‘been there, done that’ and provides a sincere and trusted bridge to the program. Her training . . . converge[s] effectively with personal experience. The outcome is that she has become a valued resource for both the participants and her team.”⁷

A CAPC Participant’s Story

“I went to a convention in the city in 1999 as a program parent representative. While there, I took in a session which dealt with the learning disability that my son has since been diagnosed with . . . As a result of attending the convention, I was able to obtain information that directed me to the right resources that could be of help to my son. It has been a battle ever since but at least I know now what to do. There is not enough praise that I can give to the program. They supported me through all of this and I will never forget it. The program helped me in so many ways. Not only was I a resource mother and volunteer, I had the chance to serve on the Board as well and to take part in such things as the Annual General Meeting and planning days.”

Expanding the “Linking” Dimension

CAPC and CPNP projects are encouraged to partner with other organizations as a way to help manage, coordinate and deliver activities. Partnering also broadens the potential networks of program participants. The NPP shows that an average project has 16 partners, the most common being health organizations, educational institutions, neighbourhood community organizations and family/early childhood resources. The linking aspect of social capital is also demonstrated through referrals. In the 2003–2004 IPQ data, 95% of 181 CPNP projects surveyed made 46,000 referrals to other agencies or services, including health professionals, food banks, prenatal classes, early childhood

intervention programs, parenting courses, social services, housing agencies and substance abuse programs.

Implications and Benefits

By establishing empirical links between increases in social capital and improved health outcomes, social capital research supports the efforts of community-based programs to measure and report changes in social capital as intermediate outcomes that may lead to long-term improvements in health outcomes.

► **Applying Social Capital Research in Community-Based Evaluations,**
continued on page 41

How Can Social Capital Inform Public Health Policy?

Sandra Franke, Policy Research Initiative, Government of Canada

While the previous articles have discussed the application of social capital within specific program areas, this article provides a broad summary of the various ways in which governments can consider social capital in the development of health policies and programs.

Governments have a number of opportunities for taking social capital into account in public health policy and program development. Depending on the issue, one or more of the following approaches might be appropriate.¹

Building and Supporting Networks

Many government programs already incorporate explicit measures to influence or promote network formation as a means for achieving program objectives. For example, public health promotion initiatives often contribute to the building of connections between program participants, between community partners or among users and non-users of services. An explicit consideration of social capital effects may mean that we more systematically track and evaluate how these measures have contributed (or not) to the expected outcomes of the program, and that we have information on which to adjust programs and policies to emphasize certain kinds of networks in particular situations.

Tapping into Existing Social Networks to Deliver Programs

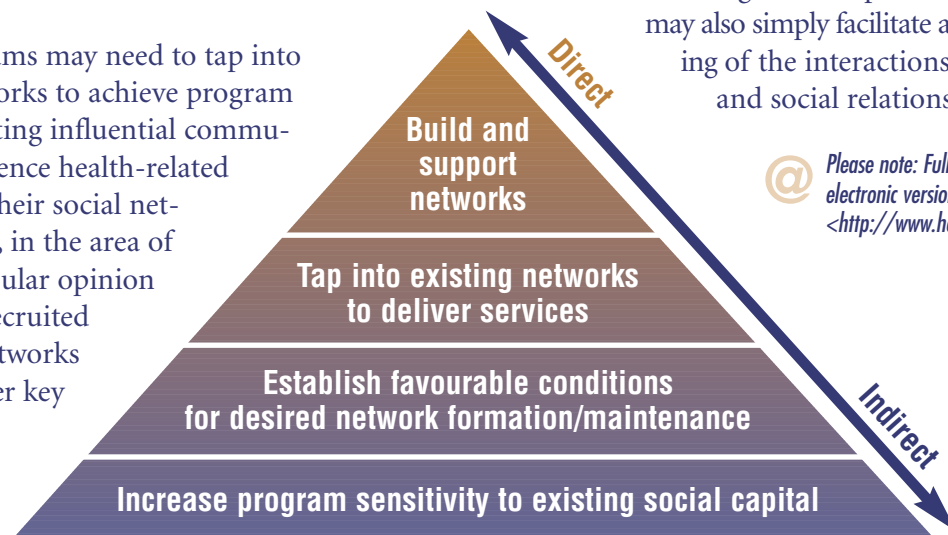
Government programs may need to tap into existing social networks to achieve program objectives by recruiting influential community leaders to influence health-related behaviours within their social networks. For example, in the area of HIV and AIDS, popular opinion leaders have been recruited within the social networks of gay men to deliver key health messages to their peers.²

Establishing Favourable Conditions

In some cases, it may be more fruitful for public programs to invest in establishing broad, favourable conditions for the generation of social capital rather than attempting to directly shape network development. This can be done through the assistance of social “brokers” or “entrepreneurs,” by investing in public space and infrastructure which, in turn, supports opportunities for social interaction. Alternatively, local leaders or specific public service representatives can be supported in their efforts to create linkages and mobilize community networks.

Increasing Program Sensitivity to Existing Patterns of Social Capital

This approach involves gathering and integrating information about existing social networks into health policy and program design, implementation and evaluation—raising the awareness of policy and decision makers about the potential impacts of new interventions or changes in policy directions on the existing social capital. A social capital lens may also simply facilitate a better understanding of the interactions between policies and social relationships. 🌐



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Figure 1: Influencing Public Policy with Social Capital

Source: Adapted with permission from Policy Research Initiative, 2005.¹



Did You Know? is a regular column of the Health Policy Research Bulletin examining aspects of health information, data and research that may be subject to misconception. In this issue we focus on “trust” and examine some interesting observations and viewpoints on its relationship to social capital and health.

Social Capital, Trust and Health Inequalities

Richard Duranceau, Policy Division, Health Policy Branch, Health Canada

The author would like to acknowledge the input of Mark Wheeler, Linda Senzilet, Derek McCall and Talia DeLaurentis, all from the Policy Division, Health Policy Branch, Health Canada.

Trust is defined as “the belief or confidence in the . . . skill, or safety of a person, organization or thing.”¹ Social capital theorists describe trust as a relationship that creates both an obligation and expectation, in which trust is seen as a type of “credit” that imparts a sense of security in relationships.¹

When looking at social capital, it is important to consider trust at two sub-levels:

- interpersonal relationships
- relationships with institutions¹

While trust has been identified as an indicator of social capital, measurement has proven to be challenging because the precise nature of the relationship is disputed. However, some interesting evidence suggests that trust is a factor in social capital, good health, and individual and societal prosperity.

Trust and Social Capital: Outcome or Precondition?

While some researchers see trust as an outcome of social capital, others consider it to be a precondition. This difference in viewpoints may depend upon the distinction between interpersonal trust and trust in institutions. Robert Putnam² defines social capital as: “The characteristics of the social organization such as

networks, norms and social trust that facilitate coordination and cooperation for mutual benefit.” Putnam’s view of trust is society-centred, as he is interested in how interpersonal trust is created through social interaction. Alternatively, Woolcock³ argues that: “trust . . . is important in its own but [it] . . . is more accurately understood as an outcome of repeated interactions, of credible legal institutions, or reputations.” Woolcock views trust as being created through institutions—that credible political institutions can build trust. While both authors see social capital and trust as closely related concepts, Putnam argues that trust (interpersonal or institutional) can be seen as an indicator of social capital. Therefore, variations in the levels of interpersonal trust or trust in institutions may reflect differences in the level of social capital.

Interpersonal Trust and Health: Is There a Relationship?

Drawing on social capital research regarding the norms of reciprocity, social and civic participation, and trust, social epidemiological studies have investigated the relationship between trust, mortality rates and self-reported health status. Research by Kawachi et al.,⁴ for example, has shown a link between levels of interpersonal trust and age-adjusted mortality by region in the United States, with higher mortality rates in states that had high percentages of respondents indicating that: “Most people would try to take advantage of you

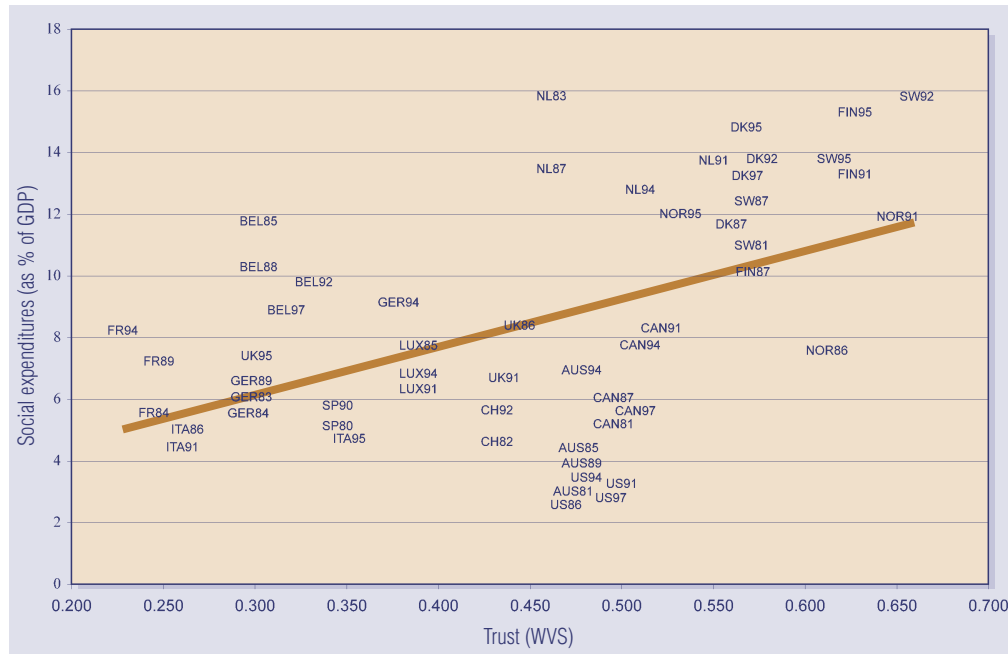
if they got the chance.”

Southern U.S. states such as Louisiana, Mississippi, Alabama, Georgia and Oklahoma had the highest percentage of respondents reporting lower levels of interpersonal trust. Kawachi and Kennedy⁵ suggest

that these states are characterized by values that support a minimal role for government in the reduction of health inequalities. The authors state that: “The social and political culture of these places truncate the range of social opportunities available to people with lower incomes, and thereby increase their vulnerability to ill health.” ▶



Figure 1: Social Expenditures as a Percent of GDP for Selected Countries, by Level of Trust



Reading the Graph

Based on the trust index from the World Values Survey (WVS)—a worldwide survey of sociocultural and political change—and social expenditures as a percentage of GDP, the countries represented in Figure 1 are discussed in the text below. Several waves of the WVS have been conducted and, where available, are indicated for the respective countries by year.

Source: Adapted with permission from Schwabish et al., 2004.⁶

Trust and Socioeconomic Inequalities: Is There a Link?

Interestingly, societies with low levels of trust also appear to have greater socioeconomic inequities and lower levels of social expenditures. In cross-national studies on the effects of inequality and trust on social expenditures, Schwabish et al.⁶ found that there was a strong and positive association between different measures of trust and social spending. For example, as Figure 1 illustrates, the Scandinavian countries (Denmark [DK], Sweden [SW], Finland [FIN] and Norway [NOR]) that have devoted considerable resources for social expenditures have also reported a higher level of trust compared to Canada (CAN), Australia (AUS), the United Kingdom (UK) and the United States (US). The position of the Czech Republic (CH) in the mid-range of the graph is interesting, given that it was part of the former Communist bloc and is comparable with some Western European countries on the graph. Some of the countries such as Spain (SPA), France (FR), Italy (ITA), Germany (GER), Belgium (BEL), the Netherlands (NL) and Luxembourg (LUX) have lower levels of trust but higher levels of social expenditures. Further research is needed to understand the dynamic at play in these countries.

It should also be noted, however, that the issue of reverse causality cannot be ruled out. Social expenditures may well influence the levels of trust and social capital within these societies. More research will be

needed to understand the causal pathways between trust and social expenditures. However, Figure 1 does provide some provocative, if tentative, conclusions.

Trust, Inequality and Health: What Are the Dynamics?

While research on the “gradient” has established a link between the level of socioeconomic and health inequalities within a society, the dynamic of this relationship has been the subject of much discussion and debate.⁷ However, the research on “trust” offers some interesting insights.

Researchers have noted that people living in societies that accept inequalities and social hierarchy as natural are at greater risk for health problems as a result of their social location. Richard Wilkinson⁸ has theorized that competition, conflict and high stress levels can contribute to poorer health outcomes. Wilkinson concluded that societies with high levels of income inequality and low levels of trust are important contributors to health inequalities. *But why?*

A Question of Institutional Trust

Research has indicated that there are numerous social factors (stress, social exclusion, work, unemployment, social support and food) which can contribute to poor

▶ *Did You Know?*, continued on page 41



Who's Doing What?

Who's Doing What? is a regular column of the Health Policy Research Bulletin that looks at key players involved in policy research related to the theme area. This column highlights some of the groups and organizations generating and using research on social capital.

Julie Creasey, *Applied Research and Analysis Directorate, Health Policy Branch, Health Canada*

The author acknowledges the assistance of **Sandra Franke**, *Policy Research Initiative, Government of Canada*, and **Solange van Kemenade**, *Policy Research Division, Strategic Policy Directorate, Public Health Agency of Canada*.

Government of Canada

Policy Research Initiative (PRI)

The PRI contributes to the Government of Canada's medium-term policy planning by conducting horizontal research projects, and by harnessing knowledge and expertise from within the federal government and from universities and research organizations. In 2003, the PRI launched an interdepartmental project to investigate the relevance and usefulness of social capital as a public policy tool. This two-year project has culminated in three major publications:

- *Social Capital as a Public Policy Tool: Project Report* <http://policyresearch.gc.ca/doclib/SC_Synthesis_E.pdf>
- *Social Capital in Action: Thematic Policy Studies* <http://policyresearch.gc.ca/doclib/SC_Thematic_E.pdf>
- *Measurement of Social Capital: Reference Document for Public Policy Research, Development and Evaluation* <http://policyresearch.gc.ca/doclib/Measurement_E.pdf>

In addition, themes and articles on social capital have been featured in a number of PRI publications.

Visit the PRI website (http://policyresearch.gc.ca/page.asp?pagenm=rp_sc_index) to access these articles and for additional information on PRI social capital research activities and events, including information from an international conference—The Opportunity and Challenge of Diversity: A Role for Social Capital?

Health Canada and the Public Health Agency of Canada (PHAC)

Policy Research Division (PRD), Strategic Policy Directorate, PHAC

The PRD (formerly part of Health Canada's Population and Public Health Branch) has been conducting research on social capital since 2001. This research has contributed to:

- identifying and documenting reference material on social capital, as well as works produced by Canadian researchers and government initiatives
- developing a module of survey questions for use by Statistics Canada in health and other surveys
- developing social capital indicators for evaluating community intervention projects funded by Health Canada and PHAC (e.g., Effectiveness of Community Interventions Project)

Some of this PRD research is featured in the following publications:

- *Social Capital as a Health Determinant: How is it Defined?* <http://hc-sc.gc.ca/sr-sr/pubs/hpr-rpms/wp-dt/2003-0207-social-defin/index_e.html>
- *Social Capital as a Health Determinant: How is it Measured?* <http://hc-sc.gc.ca/sr-sr/pubs/hpr-rpms/wp-dt/2003-0208-social-meas-mes/index_e.html>
- *Can Public Policy Address Social Capital?* <http://policyresearch.gc.ca/page.asp?pagenm=v6n3_art_07>

In 2004, the PRD joined with the University of Ottawa's Institute of Population Health to analyze the data from the 2003 *General Social Survey (GSS), Cycle 17*—to examine the relationship between social capital and health. In addition to the results presented in this issue of the Bulletin, their research has been published in:

- *What Impact Does Social Capital Have on the Health of Canadians?* <http://policyresearch.gc.ca/page.asp?pagenm=pub_wp_abs#WP0010>
- *An Analysis of Social Capital and Health Using a Network Approach: Findings and Limitations* <http://policyresearch.gc.ca/page.asp?pagenm=v8n2_art_18>

Office of the Voluntary Sector, PHAC

Canada's non-profit and voluntary sector, comprised of 161,000 organizations, is a significant player in the growth and development of social networks. Through its reach into Canadian communities, the sector uses virtual and physical networks at the local, regional and national levels to generate and disseminate knowledge, expertise and programs, and to engage Canadians on policy issues and mobilize volunteers and professionals to provide services. To find out more, visit:

- Voluntary Sector Forum
<<http://www.voluntary-sector.ca>>
- Human Resource Council for the Non-Profit Voluntary Sector <<http://www.hrcouncil.ca>>
- Health Charities Coalition of Canada
<<http://www.healthcharities.ca>>

Two projects provide examples of key areas of social capital public policy in action—helping populations at risk of exclusion and promoting community development:

- The Canadian Federation for Sexual Health (Planned Parenthood Federation of Canada) engages youth in health policy and expands youth volunteerism (visit: <<http://www.ppfca.ca>>).
- The Best Medicines Coalition encourages participation of Canadians living with chronic diseases in health regulatory policy decision making (visit: <<http://www.bestmedicines.ca>>).

Statistics Canada

- Social engagement and civic participation: Are rural and small town populations really at an advantage? (*Rural and Small Town Canada Analysis Bulletin*, 6(4), available from: <<http://www.statcan.ca/english/freepub/21-006-XIE/21-006-XIE2005004.pdf>>).

Data from the 2003 GSS, Cycle 17, were used to determine whether residents of rural and small towns are more likely than residents of larger urban centres to be involved in organizations; to establish and maintain social relationships with friends, relatives and neighbours; to volunteer; to be involved in various social and political activities; and to express trust toward other people.

Other National Governments

- The Australian Bureau of Statistics develops social capital related statistics and tests new surveys. Work is underway to include social capital and voluntary work topics in the 2006 Australian General Social Survey (visit: <<http://www.abs.gov.au/websitedbs/d3310114.nsf/Home/themes>>).
- The U.K. Office for National Statistics (ONS) has a social capital project that includes a literature review, measurement research, and a Social Capital Question Bank reference tool based on an ONS survey matrix (visit: <<http://www.statistics.gov.uk/socialcapital/default.asp>>).

International Organizations

- The Organisation for Economic Co-operation and Development (OECD) is working to define social capital and generate research focused on nationally comparable indicators (visit: <http://www.oecd.org/document/33/0,2340,en_2649_34543_1850913_1_1_1_1,00.html>).
- The Inter-American Development Bank Initiative on Social Capital, Ethics and Development produces an online weekly bulletin (visit: <http://www.iadb.org/etica/documentos/Blt_23Enero2006-I.htm>).
- The World Bank has taken a lead in examining social capital from an international social development perspective. Efforts are being made to stimulate social capital research to enhance understanding of the concept, and to increase the potential for programs and policies to reduce poverty, improve social stability, and aid in economic development (visit: <<http://www.worldbank.org/poverty>>).

Internet Resources

- The Social Capital Gateway is a personal, non-profit website that provides access to extensive, categorized reading lists on social capital, information on news and events, and links to other online research information (visit: <<http://www.socialcapitalgateway.org/index.htm>>).
- The Networks Digest provides access to websites, articles and book summaries on network information (visit: <http://www.chsrf.ca/knowledge_transfer/networks_digest_e.php>).



Using Canada's Health Data is a regular column of the Health Policy Research Bulletin highlighting some of the methods used in analyzing health data. In this issue, we examine the challenge of using data from complex surveys.

Elena Tipenko, Applied Research and Analysis Directorate, Health Policy Branch, Health Canada

The author would like to acknowledge the input of **Allan Gordon**, Applied Research and Analysis Directorate, Health Canada, **Chris Oster**, Office of Nutrition Policy and Promotion, Health Canada, and **Julie Creasey**, Applied Research and Analysis Directorate, Health Canada.

Challenges with Complex Surveys

Complex surveys, such as the *Canadian Community Health Survey (CCHS)*, the *National Population Health Survey (NPHS)* and the *General Social Survey (GSS)*, provide valuable data to the health policy research community. But surveys such as these collect data via complex survey design, so extra care must be taken at the analysis stage. Many researchers and those who use complex survey information may not be aware of the important steps that must be followed.

Complex Survey Design: Sampling Methods

Ideally, survey data would be collected from every unit (e.g., respondent) in a given population, so the analysis could be based upon the true population values. But surveying an entire population is impractical, time-consuming and expensive, so data are gathered from a sample of the population and **estimates** of the true population parameters (e.g., mean, standard deviation) are made. The challenge is then to assess the reliability of these estimates—a difficult task given the types and combinations of sampling methods used in complex survey design.

Complex survey design often includes stratification and cluster sampling (see sidebar) in one or more stages, where the clusters may be sampled with unequal probabilities of selection. Consequently, most statistical computer programs cannot accurately process data from complex surveys because the programs are designed solely for data collected from simple random sampling. This can lead to several problems.

Failure to account for complex survey design leads to an underestimating standard error (measure of variability of an estimate) which then leads to invalid conclusions, including conclusions about the reliability of the estimates. For example, an analysis that does not take the required steps for complex survey data may show statistically significant relationships when they do not exist.

Three Common Sampling Methods

Simple Random Sampling

- the most basic form
- select a number of sampling units, such as respondents, at random from the total population

Stratified Sampling

- use if the units in the population are quite different (e.g., income of men and women)
- group units of interest into subgroups called strata, then draw a random sample from each stratum

Cluster Sampling

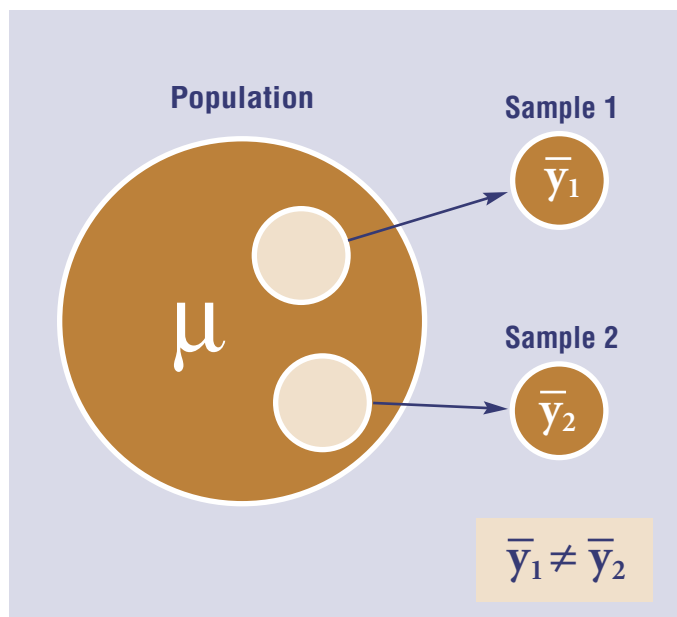
- randomly select large sampling units or clusters (e.g., high schools); within the clusters, survey the observation units (e.g., students)

The Importance of Accuracy and Precision

Both accuracy and precision are key to assessing the reliability of estimates. Accuracy of an estimate is closely related to systematic errors (e.g., non-response or misleading questionnaires) and helps to reveal how close an estimate is to the true population parameter. Statistics Canada invests considerable time and effort toward reducing systematic errors.

Precision refers to the amount of variability in estimates that are made from different samples, as different samples from the same population produce different estimates. As Figure 1 illustrates, two different samples have been drawn from the population in order to estimate an unknown true population mean (μ). However, the estimates from these samples (\bar{y}_1 and \bar{y}_2) will most likely be different. **Standard error** is the measure of the variability among estimates

Figure 1: Different Samples Yield Different Estimates



derived from the different samples and, therefore, is an indicator of the precision of the estimates. When the standard error is small, estimates made from different samples will be closer in value and more precise. The value of the standard error depends on:

- population variance (or spread of the population)
- the number of observations (N) in the population
- the number of observations (n) in the sample
- the sampling method through which the random sample is chosen

Assessing Reliability

Standard error provides some insight into the precision of estimates. However, in order to assess the reliability and quality of an estimate, a measure of the relative variability of an estimate called the **coefficient of variation** (CV) of an estimate is needed. The CV of an estimate is the standard error of the estimate divided by the estimate itself. For estimating the mean, the coefficient of variation is:

$$\text{coefficient of variation (CV)} = \frac{\text{standard error of the mean}}{\text{mean}} \times 100\%$$

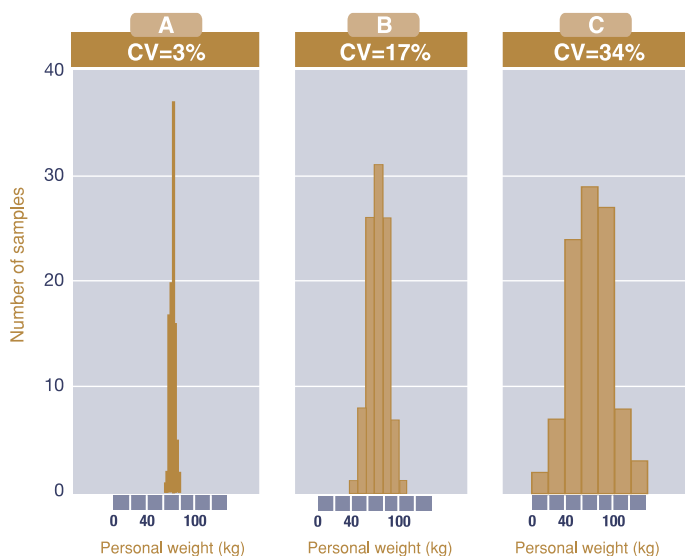
A Closer Look at Sampling Distribution

Suppose that *all* possible samples of a specified size (n) were drawn from a population. Further, suppose that a **statistic** (e.g., a mean, proportion, standard deviation) is computed for each of these samples. The probability distribution of this statistic is called the **sampling distribution**.

The Value of CVs: Through Example

Figure 2 shows three hypothetical **sampling distributions** of personal weight mean, along with the corresponding CVs of the estimates. The CVs indicate the relative variability of each estimate. A smaller CV, as in Figure 2A, indicates that the way the sample is drawn (e.g., sampling method, sample size) will lead to a precise and reliable estimate, since estimates from all samples drawn in the same way will be close in value. If the CV of an estimate is too large, as in Figure 2C, estimates will be unreliable and unacceptable, since the different samples can produce very different estimates. Therefore, the greater the relative variability in the estimates from sample to sample, the less reliable the estimates are.

Figure 2: Personal Weight Mean—Three Sampling Distributions



The Steps

With the challenges of complex surveys and the importance of precision in mind, there are some key steps to be aware of and to follow.

Step One: Ensure that the number of sampled units in the calculation of the estimate is greater than 30. If the number of sampled respondents is less than 30, the

Table 1: Statistics Canada's Sampling Variability Guidelines

Type of Estimate	CV (%)	Guidelines
Acceptable	0.0–16.5	Estimates can be released.
Marginal	16.6–33.3	Estimates can be released with a warning about high sampling variability associated with the estimates.
Unacceptable	>33.3	Recommend not releasing estimates, as conclusions based on these data will be unreliable and most likely invalid.

Source: Statistics Canada, adapted from CCHS, Cycle 1.1, 2000–2001, Public Use Microdata File Documentation.

estimate should not be released, because the CV of the estimate based on a small sample size is too unpredictable to be presented.

Step Two: **Find the approximate coefficient of variation for categorical-type estimates (the measurement scale consists of a set of categories, i.e., yes/no questions) and proportions using CV tables.** For Statistics Canada surveys, CV values for categorical estimates can be found by using the Approximate Sampling Variability Tables, commonly referred to as “CV Tables.” The CVs are based on the size of the estimate, and are approximations derived from the variance formula for simple random sampling, incorporating a factor that reflects the multi-stage, clustered nature of complex survey design.

Step Three: **Use guidelines to assess the coefficient of variation for an acceptable range.** With an approximate CV, assess the acceptability of the estimate using Statistics Canada guidelines (see Table 1).

Step Four: **If required, calculate the exact coefficient of variation.** Calculating the exact CV for complex survey data is not an easy task, but it may be required if:

- CV tables are not available or do not provide the required information
- an estimate of more sophisticated statistics such as the coefficient of correlation, or estimates of coefficients from linear regression are required

- an estimate of quantitative variables (variables measured on a numeric scale, such as weight) is needed
- the CV found using the CV table is in the 16.6%–33.3% range

Unfortunately, there is no simple mathematical formula to calculate standard error in complex surveys, so finding an exact CV of an estimate can be difficult.

The **bootstrap method** is recommended to calculate CVs when working with Share Files of most health surveys, and the **adjusted average weight** method is recommended when working with Public Use Microdata Files. Information on both methods is available through Data Help Service at: <data_données@hc-sc.gc.ca>.

Unfortunately, there is no simple mathematical formula to calculate standard error in complex surveys, so finding an exact CV of an estimate can be difficult.

Meeting the Challenge

When using estimates from complex survey data, it is important to understand the challenges that underlie these surveys and to be aware of the additional steps required to assess any results. The steps outlined in this article are important to follow, especially before releasing and/or publishing estimates. By taking these precautions at the analysis stage, both researchers and information users can have increased confidence in the quality and reliability of results from complex surveys. 🌀



New and Noteworthy is a regular column of the Health Policy Research Bulletin showcasing policy research in the health field. In this issue, we highlight research funded through Health Canada's Health Policy Research Program.

Support for Health Policy Research

Health Canada's Health Policy Research Program (HPRP) supports a range of initiatives including primary, secondary and synthesis research, and policy research workshops, seminars and conferences. Since the program's inception in 2001, 25 initiatives have been funded; six recently completed research projects are summarized below. For more information about HPRP, or to obtain summaries of any of these reports, contact <RMDDinfo@hc-sc.gc.ca>.

Governance for Patient Safety: Lessons from Industry (Dr. Sam Sheps, University of British Columbia)

Researchers assessed governance and safety of several high-reliability industries to identify what structures and processes are relevant to health care. Their study included a critical appraisal of the literature, discussions with industry experts (in aviation, nuclear power, rail and health care), and attendance at industry meetings and conferences. Key recommendations include the creation of a Canadian Patient Safety Agency as an independent entity reporting directly to Parliament.

The Socioeconomic Gradient in Health: Evidence from Nova Scotia and Newfoundland, 1985–2001 (Dr. Ronald Colman, Genuine Progress Index Atlantic Society)

This study focused on “unpacking” the gradient in Atlantic Canada to identify which health determinants make the largest contribution to measured health inequality, and

where efforts to reduce the gradient should be directed. Results revealed that income is the single most important contributor to socioeconomic inequality in health for the Newfoundland and two Nova Scotia communities studied.

Unpacking the Health Gradient: A Canadian Intra-Metropolitan Research Program (Dr. Nancy A. Ross, McGill University)

This research program consisted of three interrelated projects conducted over two years. Researchers found that gradients vary by gender, outcome and urban context; neighbourhoods have a greater influence on individuals' behaviour than they do on actual health outcomes; and the type of income earned (i.e., transfer payments or earned income) has an influence on individual-level health.

Determinants of Social and School Adaptation: A Study of Twins (Dr. Michel Boivin, University of Laval)

Researchers linked with l'Étude de Jumeaux Nouveau-nés du Québec (a study on newborn twins in Québec) used longitudinal data to examine the factors

involved in the development of social and school problems for entry into the school system. The results indicated that behavioural and school difficulties originate in the preschool years. Some children, particularly those from more disadvantaged family environments, do not do as well in school for the most part because they begin school less well prepared, but also because they demonstrate externalized problems.

Public Perception and Acceptable Level of Health Risk (Dr. Daniel Krewski, University of Ottawa)

Using several methods, including data from a national survey on risk perception, investigators found that Canadians believe risks to be acceptable as long as

Health Regulation Research Conference Update

Health Canada hosted the Health Regulation Research Conference in Ottawa on March 22 and 23, 2006. The objectives were to:

- 1 support effective collaboration between policy makers and the academic community
- 2 facilitate the building of multidisciplinary research teams focusing on health regulation
- 3 work toward the development of a health regulatory policy research agenda

The event resulted in very positive feedback; participants included 47 academics and 42 federal policy officials. Health Canada is now exploring options for following up on the lessons learned, and HPRP is planning a Request for Applications for regulation research for the fall of 2006.

they are voluntary and that, over the last decade, Canadians have made large increases in trust and dependence in the ability of government and experts to make decisions and regulate health risks.

Family, Community and Health in the Context of Economic Change (Dr. Roderic Beaujot, University of Western Ontario)

Investigators conducted a number of studies, using data mainly from Statistics Canada surveys, to better understand the influence of families and communities on population and individual health. The studies presented findings on: the family structure and mental health of adults and children; income and health; community characteristics, social cohesion and health; and timing and trajectories to parenthood, and the values of children. 🌀

▶ ***Applying Social Capital Research in Community-Based Evaluations,*** *continued from page 31*

For example, in addition to the longer term efforts required for measuring child health functioning, parent caretaking skills and attributes of parents and families,⁸ community-based programs could benefit from a more deliberative approach to measuring social capital. By reviewing their evaluation measures in light of social capital indicators, such programs could strengthen and increase the usefulness and reliability of their evaluation instruments and results.

Social capital questions and variables from the *General Social Survey* (GSS), Cycle 17, as well as tools such as the *Social Capital Impact Assessment*⁹ provide a good starting point. Questions from these sources could be adapted to suit the evaluation needs of community-based programs like CAPC and CPNP. Additionally, the construction of program theory could take advantage of what is being learned about the links between social capital and health and build this knowledge into RMAFs, logic models or other evaluation tools. Finally, the increasing interest in the network approach to social capital and related body of research holds promise for community-based programs interested in strengthening and measuring their network-building capacity at the participant and project level. 🌀

@ Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>.

▶ ***Did You Know?***, *continued from page 34*

health outcomes for people of low socioeconomic status. As a consequence, social expenditures to reduce labour market disparities and unemployment, improve the stock of housing and enhance neighbourhood social supports may also enhance the health and well-being of a given population.

As Figure 1 on page 34 shows, more cohesive and trusting societies appear willing to support social expenditures. In less trusting societies, people may have decreased confidence in the abilities of institutions to make investments in social programs that will be effective in reducing inequalities. On the other hand, societies that view social inequalities as unjust and intolerable are more likely to implement policies to reduce income inequality and its harmful effects upon the well-being (including the health) of individuals and families.

A Question of Interpersonal Trust

The work of Wilkinson and Kawachi,^{4,5,7,8} among others, suggests that social values which are supportive of social inequalities can create competition, stress and conflict, which in turn may lead to lower levels of interpersonal trust (and lower levels of social capital). Societies with high levels of interpersonal distrust may lack the capacity to create the kind of social supports and connections that may promote population health. However, societies that value more egalitarian social and economic relations may be more likely to have higher levels of interpersonal trust and higher levels of social capital, which have been linked to improved health outcomes. It may be easier to create the kind of social supports and networks that may promote the collective health and well-being of their communities when individuals trust each other.

To Sum Up

Some researchers suggest that trust is a useful indicator of the presence or absence of social capital. A number of studies have revealed some interesting findings on the influence that both interpersonal and institutional trust may have over the extent of health inequalities within society. Ideally, future research will determine the nature of the relationship between social capital (trust) and health inequalities. 🌀

@ Please note: Full references are available in the electronic version of this issue of the Bulletin: <<http://www.healthcanada.gc.ca/hpr-bulletin>>.



Mark Your Calendar

What	When	Theme
Journées annuelles de santé publique 2006: 10 Years of Boundless Knowledge	October 23–27, 2006 Montréal, QC < http://www.inspq.qc.ca/jasp/default.asp?A=7&Lg=en >	Sharing information on Québec, Canadian and international public health practices
23rd Statistics Canada International Methodology Symposium	November 1–3, 2006 Gatineau, QC < http://www.statcan.ca/english/conferences/symposium2006/index.htm >	Methodological issues related to producing reliable information on population health
Integrated Chronic Disease Prevention: Building It Together	November 5–8, 2006 Ottawa, ON < http://www.cdpc.ca/ >	Focusing on key elements required to build a coordinated system to promote health and reduce disease burden in Canada
4th Biennial Rural Health Conference	November 9–11, 2006 Kananaskis, AB < http://www.health-in-action.org/library/pdf/Conferences/Nov%2006/Rural_health_2006.pdf >	Linking front-line practitioners and researchers on rural health: from practice to research
6th International Healthy Workplaces in Action 2006	November 31–December 1, 2006 Markham, ON < ">http://www.rnao.org/Page.asp?PageID=1209&ContentID=707&SiteNodeID=244&BL_ExpandID=> >	The winning formula for healthy work environments in health care settings
38th Conference of the Asia-Pacific Academic Consortium for Public Health	December 3–6, 2006 Bangkok, Thailand < http://www.apacph2006.org/index1.html >	Highlighting the need for communities and institutions to be equal partners for the development of human security and health
Today's Information for Tomorrow's Improvements	February 16–18, 2007 Victoria, BC < http://itch.uvic.ca/ >	An international conference focusing on information technology and communication in health
Greying Nation: Transitions of Care in Later Life	March 21–23, 2007 Edmonton, AB < http://www.capitalhealth.ca/NewsAndEvents/ConferenceAndEvents/The_Greying_Nation_Conference.htm >	Addressing how the health care sector can adapt to the population's changing needs in later life
Family Centred Care in Context—Meeting at the Intersection: Strengthening Child, Family and Professional Partnerships	April 29–May 1, 2007 Calgary, AB < http://www.sacyhn.ca/pages/fccbackground.html >	Bringing together parents, professionals, policy makers and researchers to develop a common understanding of family centred care
19th World Conference on Health Promotion and Health Education—Health Promotion Comes of Age: Research, Policy and Practice for the 21st Century	June 11–15, 2007 Vancouver, BC < http://www.iuhpeconference.org/ >	Reviewing and critically reassessing health promotion's progress since the <i>Ottawa Charter</i> and setting the course for new challenges in an increasingly globalized world