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CANADIAN HEALTH CARE MATTERS
BULLETIN 1

Safer Health Care for "Sicker" Canadians: International Comparisons of Health Care Quality and Safety

Health Council of Canada | Conseil canadien de la santé

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INTRODUCTION

High-quality health care is important to Canadians, and safety — which has been defined as "freedom from accidental injury"[1] — is one essential element of quality care. Indeed, "quality and safety in health care are inextricably linked," as Accreditation Canada notes in a recent report.[2] Safety problems such as medication mix-ups, poorly coordinated care, and preventable infections erode patients' confidence in the health care system, while creating unnecessary delays and added costs.[1]

Patient safety, electronic health records, and a greater focus on preventing and managing chronic health problems are among the reforms that governments across Canada have targeted to improve the quality and sustainability of their health care systems. In the 2004 *10-Year Plan to Strengthen Health Care*, the federal, provincial and territorial governments directed the Health Council of Canada to monitor and report on (among other things) the outcomes, or results, of health care particularly in the context of reforms underway.[3]

One of the ways the Health Council of Canada carries out this mandate is by working with Canadian agencies and those in other countries to survey people about their recent experiences with health care. Reporting on Canadians' perceptions of their care contributes to our understanding of where quality-improvement efforts seem to be making progress and where more work is needed. International comparisons help to highlight the areas where we can learn from other countries, and where others can learn from Canada.

How do "sicker" Canadians — those who have recently had substantial health care needs — perceive the quality of the care they receive, and how do their perceptions compare to those of patients in other countries? In this bulletin, we analyze data from the 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults to present Canadians' responses to questions about safety problems and the quality of care, and we compare them to responses to the same survey in seven other countries. We take an even closer look at the Canadian data to see if patients' experiences with safety problems are related to how they rate the quality of their care.

The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults opens a window into the relationship between patient safety, quality of care, and the intensive use of health care services. Like many countries, Canadian jurisdictions struggle to cope with the rising complexity of health care needs. From our past research, we know that Canadians with complex chronic health conditions are among the most intensive users of health care services.[4] As an earlier analysis of the 2008 Commonwealth Fund survey data noted, patients with complicated health problems often see multiple providers at different locations, increasing the risks of error and poor coordination. That analysis found that patients with more complex chronic illness were more likely to experience errors in their care,[5] which in turn can lengthen and deepen their need for health care services. The survey's focus on adults in the poorest health, including those with chronic illness, is critically important for the future of health care in Canada.

About the survey

The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults interviewed people in eight countries between March and May 2008. This survey asked 9,632 adults in poor health in eight countries (Australia, Canada, France, Germany, the Netherlands, New Zealand, the United Kingdom, and the United States) a series of questions about the health care they had received. There were 2,608 Canadian participants. All of the samples were weighted in order to more accurately represent the populations of the countries they came from.

People were considered eligible to participate in the survey if:

- they described their health as fair or poor, or
- they reported having a serious illness, chronic illness, injury or disability that required a lot of medical care in the past two years, or
- they were hospitalized for something other than routine childbirth in the past two years, or
- they had major surgery in the past two years.

The Health Council of Canada co-sponsored the Canadian portion of this survey along with the Ontario Health Quality Council and the Quebec Health and Welfare Commissioner (Commissaire à la santé et au bien-être du Québec). Our combined funding enabled us to ask additional questions relevant to Canada as well as to expand the Canadian sample to enhance the reliability of the Canadian data.

For this bulletin, we report overall results for Canada and the significant differences between Canada and countries with the best and worst results on each of the quality and safety questions included in this analysis. A technical appendix, including 95% confidence intervals and descriptions of the statistical analyses, is available on request.

As with all surveys, there are some limitations. The data are based on people's own reporting of their experiences (self-reports) and may contain biases. However, the fact that we are using a large, random sample should help to reduce the effect of biases. Seriously ill people may be under-represented because they would not have been reached by a telephone survey if they were in a hospital or other health care institution.

This bulletin explores just some aspects of the abundant information available from this international survey. In an upcoming bulletin, we will report on the responses of Canadians with chronic health conditions in relation to their primary health care. Other organizations reporting on this survey include:

- Ontario Health Quality Council. (2009). *Q Monitor: 2009 Report on Ontario's Health System*. Analysis from the perspective of Ontario participants in the survey is woven throughout the Ontario Health Quality Council's report. www.ohqc.ca.
- Quebec Health and Welfare Commissioner. An analytical report focusing on the experiences of patients in Quebec is coming soon. www.csbe.gouv.qc.ca.
- Schoen C, Osborn R, How SKH et al. (2008). In chronic condition: experiences of patients with complex health care needs, in eight countries, 2008. *Health Affairs* (web exclusive, 13 Nov 2008): w1-w16.

More information on this and other surveys in the annual series coordinated by The Commonwealth Fund is available at www.cmwf.org.

SURVEY FINDINGS

QUALITY RATINGS: PATIENTS' PERSPECTIVES

How do people in relatively poor health rate the overall quality of their health care system? Half of Canadian respondents (51%) felt that the health care system needed fundamental changes (*Figure 1*).

When asked to rate on a five-point scale (1 = poor, 5 = excellent) the quality of the health care they personally received in the past year, Canadian respondents gave it an average rating of 3.7 out of five, with 86% saying that they felt their care had been good, very good, or excellent (*Figure 2*).

FIGURE 1

Which of the following statements comes closest to expressing your overall view of the health care system in this country?

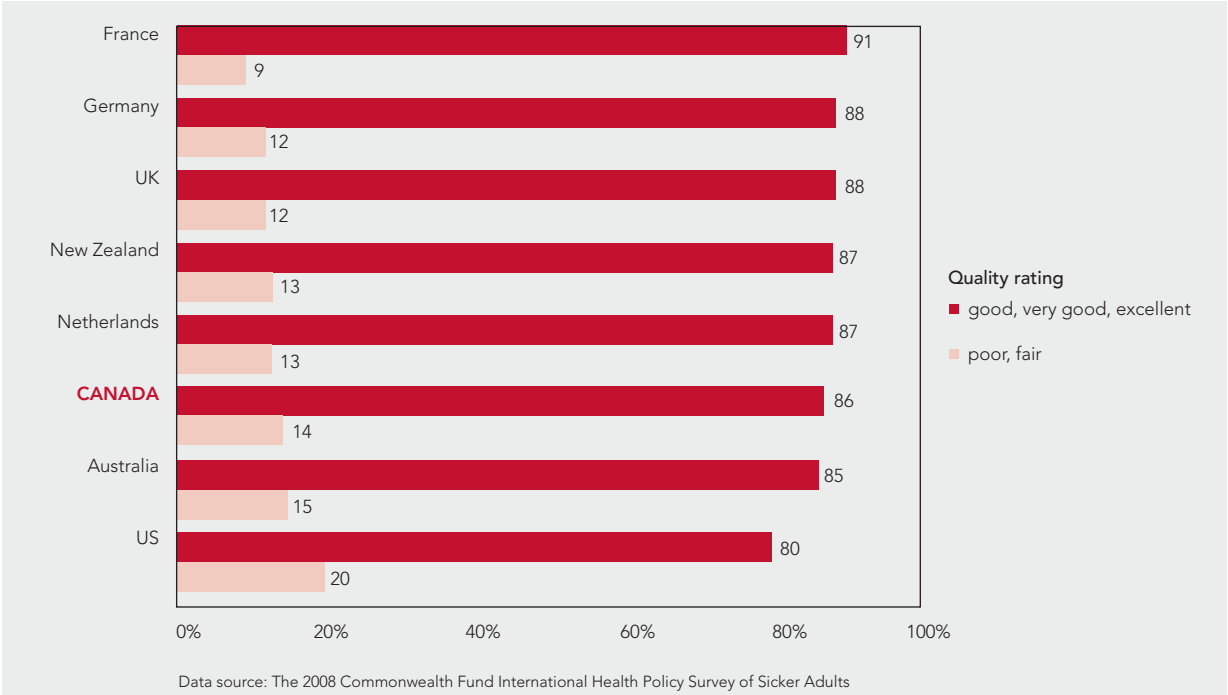
Percentage of respondents selecting each option			
Country	Minor changes needed %	Fundamental changes needed %	Need to completely rebuild system %
CANADA	**34**	**51**	**15**
Australia	25	57	19
France	43	34	23
Germany	24	51	25
Netherlands	42	51	7
New Zealand	30	51	19
UK	37	50	12
US	23	46	31

Data source: The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults.
Numbers may not sum to 100% due to rounding.

FIGURE 2

Overall, how do you rate the quality of medical care that you have received in the past 12 months?

Percentage rating their care as good to excellent, or poor to fair



Data source: The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults

Lessons from the Netherlands

In this survey, respondents in the Netherlands reported consistently low levels of medical mistakes, including diagnostic and lab errors and medication errors. On the other hand, among those people who experienced an error in their health care, those in the Netherlands were the most likely to say the errors had "very serious" consequences.

Despite our different populations and health care systems, what can Canada learn from the Netherlands? Health care providers in the Netherlands are required to document the quality of care they provide, with reference to evidence-based guidelines and performance indicators.[28] In addition, the medical community is reported to highly value evidence-based guidelines for medication prescribing and to largely adhere to such guidelines.[31]

Many hospitals in the Netherlands have at least to some extent implemented the country's Safety Management System. Some key elements of the system include: a risk inventory; blame-free incident reporting; an evidence-based method for analyzing risks, errors, incidents; and a method for implementing changes and improvements based on incident analyses.[29]

The Netherlands achieves this while spending a lower percentage of their GDP on health care compared to many countries,[30] with particularly low spending on drugs.[31]

PATIENT SAFETY AS AN INDICATOR OF QUALITY

Mistakes in health care can have serious consequences and are an important indicator of the quality of care. In 2004, a landmark study estimated that between 9,000 and 24,000 Canadians die each year due to preventable medical errors.[6] Medication errors, mix-ups in laboratory or diagnostic tests, and hospital-acquired infections are among the common concerns with a range of potential consequences.

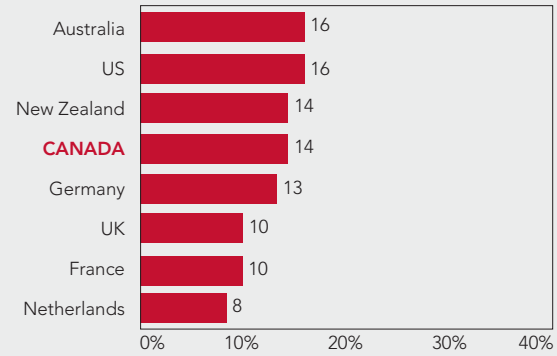
Participants in the 2008 survey of sicker adults were asked generally about whether they had experienced a medical mistake during their care in the last two years and about the consequences of that error. They were also asked specifically about errors in tests and medications, as well as about infections while in hospital.

Nearly one in seven (14%) of sicker Canadians surveyed said they had experienced a medical error in the past two years. This is significantly higher than the 8% of respondents from the Netherlands who reported that a medical mistake had occurred in their care. There was no significant difference between Canada and the worst countries on this measure, Australia and the US (*Figure 3*).

FIGURE 3

Have you believed a medical mistake was made in your treatment or care in the past 2 years?

Percentage reporting medical mistakes were made



Data source: The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults

Safety and quality: a closer look at Canada

Although sicker Canadians rate the quality of the health care they receive highly, medical mistakes are related to how patients rate their care. Those who experienced errors in their care in the last two years rated the quality of their care significantly lower (average rating of 2.8 out of five, or in the "fair" to "good" range) than those who did not report experiencing an error (average 3.9, or "good / very good").

What types of errors did patients experience?

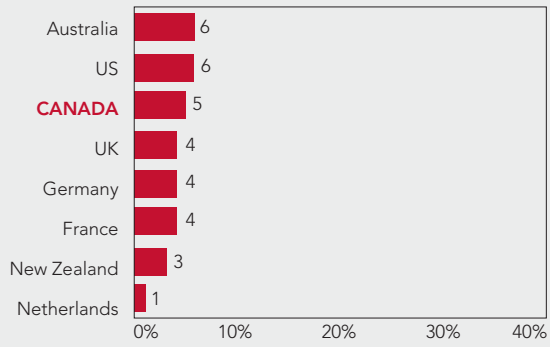
Laboratory and diagnostic tests

When asked if they had received incorrect test results or someone else's results by mistake, 5% of Canadian participants indicated that this had happened to them. Internationally, Canada falls in the middle of eight countries participating in this survey with regard to this type of error. Canadians were significantly more likely to experience this error compared to respondents from the Netherlands (who reported the fewest errors) but not significantly less likely than those in Australia and the US (who reported the most) (*Figure 4*).

FIGURE 4

In the past 2 years, have you been given incorrect results for a diagnostic or lab test? This could include getting someone else's test results.

Percentage reporting an error in diagnostic/lab tests



Data source: The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults
Question was asked of people who had a diagnostic or lab test in the past 2 years (N = 8,525).

Safety and quality: a closer look at Canada

Canadians who received the wrong test result rated the quality of their health care as significantly lower (average of 2.6 out of five) than those who did not experience this mistake (average 3.8).

Patient safety initiatives across Canada

In addition to the role of governments in protecting public health, here are some of the major Canadian organizations and initiatives involved in improving patient safety at a number of levels:

Accreditation Canada

Accreditation Canada is working with health care institutions to implement and evaluate a set of patient safety criteria called Required Organizational Practices (ROP) for safer health care. Hand-hygiene education is the most frequently adopted ROP with 94% of institutions complying, a positive step toward reducing hospital-acquired infections. However, more than 20% of organizations continue working to meet other ROPs: disclosing medical errors to patients and families, educating and training patients about their role in safety and prevention, preventative maintenance on equipment, and reporting quarterly on patient safety.[2]
www.accreditation.ca

Canadian Patient Safety Institute (CPSI)

CPSI collaborates with other organizations to build a culture of patient safety and quality improvement across Canada. CPSI facilitates educational initiatives, research, key interventions, and the development of tools and resources for improving patient safety across various health care settings.[24]
www.patientsafetyinstitute.ca

Canada Health Infoway

Infoway's recent research with CPSI explored the gaps and opportunities for electronic health records to enhance patient safety. They found that few potential benefits have been well demonstrated and significant challenges exist. Reducing medication errors and improving the flow of information across transitions of care were identified as priority issues.[25]
www.infoway-inforoute.ca

Canadian Institute for Health Information (CIHI)

CIHI has led the development in Canada of a new quality-of-care measure called the hospital standardized mortality ratio (HSMR), now being reported annually for eligible facilities and health regions in all provinces outside Quebec.

The HSMR compares the actual number of deaths in a hospital with the national average, after adjusting for several factors that may affect in-hospital deaths, such as the age, sex, diagnoses and admission status of patients. When tracked over time, the ratio can be a motivator for change leading to improved patient care. The measure was developed in the UK and has been used in the Netherlands and the US.[26] www.cihi.ca

Institute for Safe Medication Practices Canada (ISMP Canada)

Reduction of medication errors requires an accurate and comprehensive reporting system. Currently only hospitals and health care practitioners report errors using the Canadian Medication Incident Reporting and Prevention System (a new system being developed collaboratively by Health Canada, ISMP Canada, and CIHI). ISMP Canada is developing a web-based system for patients and caregivers to report medication errors.[27] Because medication errors can also be detected by or made by patients,[16] the new system will include resources for the public on the safe use of medication and strategies for preventing harm from medication errors. www.ismp-canada.org

Health care quality councils and centres

Several provinces have created organizations to implement initiatives that will improve patient safety and the overall quality of the health care system and/or to monitor progress in these areas within their jurisdictions. These organizations include:

- BC Patient Safety & Quality Council www.bcpsqc.ca
- Impact BC www.impactbc.ca
- Health Quality Council of Alberta www.hqca.ca
- Health Quality Council of Saskatchewan www.hqc.sk.ca
- Ontario Health Quality Council www.ohqc.ca
- Centre for Healthcare Quality Improvement www.chqi.ca
- Quebec Health and Welfare Commissioner www.csbe.gouv.qc.ca
- New Brunswick Health Council www.nbhc.ca

Medications

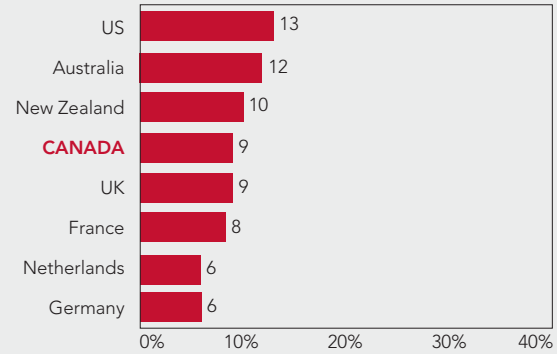
When asked if they had received the wrong medication or dosage, 9% of sicker Canadian respondents reported that they had. Canadians were significantly more likely than Germans, and significantly less likely than Americans, to experience this type of error (*Figure 5*).

As the Health Council of Canada discussed in our 2009 update on Canada's National Pharmaceuticals Strategy, medication errors are a concern for the general population as well as those who use a lot of health care.[7] In a similar survey in 2007 — this one interviewed adults generally, not just sicker people — 6% of Canadians said they had been given the wrong medication or wrong dose by a health care provider in the past two years.[8]

FIGURE 5

Have you ever been given the wrong medication or wrong dose by a doctor, nurse, hospital or pharmacist when filling a prescription at a pharmacy or while hospitalized in the past 2 years?

Percentage reporting a wrong medication or dose



Data source: The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults

Safety and quality: a closer look at Canada

Canadians who had experienced this error rated the quality of their health care significantly lower than those who had not experienced this error (averages of 3.2 vs. 3.8 out of five, respectively).

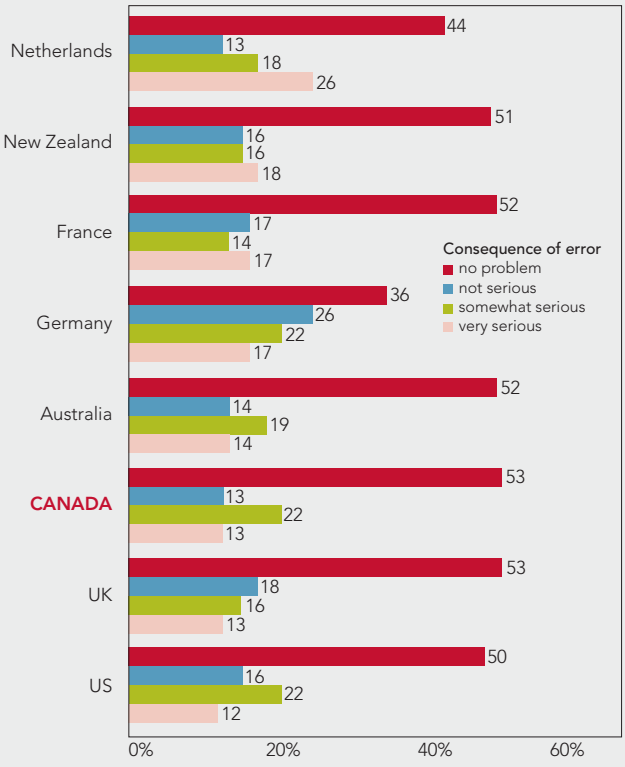
Consequences of errors

Many of the mistakes made did not have major consequences. When sicker Canadians were asked about the consequences of the mistake they experienced, 53% reported it created no problem. On the other hand, 13% of Canadians reported experiencing a very serious problem. This was significantly below the Netherlands, which reported the highest proportion of "very serious" consequences from health care errors (*Figure 6*).

FIGURE 6

Did this mistake, medication error, or diagnostic test error cause a very serious health problem, somewhat serious health problem, not serious health problem, or no health problem at all?

Percentage of respondents selecting each option



Data source: The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults
Question was asked of people who reported an error in their care (N = 2,114).

Infections acquired while in hospital

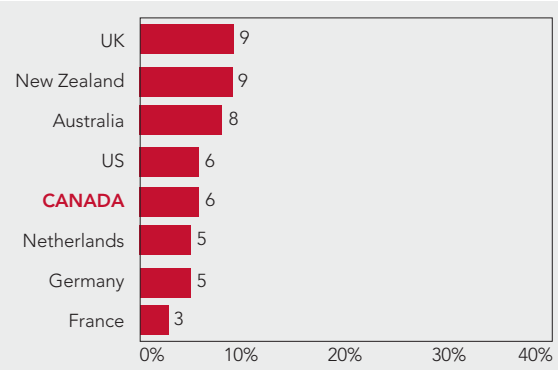
Cases of infection acquired during hospital stays, such as *C. difficile*, receive much media attention and are a global concern. The World Health Organization (WHO) reports that "at any given time 1.4 million people worldwide suffer from infections acquired in hospitals." [9]

Among Canadians who had been hospitalized in the past two years, 6% reported developing an infection while in hospital. Compared to Canadians, the French reported a significantly lower rate of hospital infections, while respondents in the UK and New Zealand reported significantly higher rates than Canadians did (*Figure 7*).

FIGURE 7

While in the hospital, did you develop an infection?

Percentage reporting they developed an infection while in hospital



Data source: The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults
Question was asked of people who had been hospitalized in the past 2 years (N = 4,877).

Safety and quality: a closer look at Canada

Canadians who developed an infection while hospitalized rated the quality of their health care significantly lower (an average of 3.3 out of five) than those who did not acquire an infection (average rating of 3.9).

Lessons from France

French patients reported significantly fewer hospital infections compared to Canadians in this survey, and the vast majority of French patients gave a high rating to the quality of their health care (91% rated it "good" to "excellent").

One reason may be France's national program of monitoring how well hospitals are fighting infections, with the goal of reducing rates of infection and improving the management of infections that do occur. Indicators for quality include: a measure of activities undertaken to fight infections; yearly use of hand-washing products; incidence of antibiotic resistance; incidence of surgical site infections; and use of antibiotics.[32]

SAFETY PROBLEMS ARE COSTLY AND PREVENTABLE

The WHO estimates that patient safety problems have cost some countries between US$6 billion and $29 billion annually in additional hospitalization, litigation costs, lost income, disability, and medical expenses.[9] Medication errors and hospital-acquired infections lead to longer hospital stays and greater costs. For example:

- An infection outbreak in one Spanish hospital meant that patients stayed an average of 70 additional days, resulting in a 66% increase in the cost per patient.[10]
- A US study of nationwide trends in *C. difficile* infection among patients with two types of inflammatory bowel disease found that the infection was associated with hospital stays 46% and 65% longer and a similar increase in average hospital charges.[11]
- A study of hospital-acquired infections, using data from systematic reviews, estimated that infections led to extra hospital costs in one US state amounting to US$233 million to $275 million in a single year. This was considered a conservative estimate and the authors said costs could actually reach as much as $470 million annually.[12]
- A study of two large US hospitals estimated that preventable adverse drug events cost them $2.8 million per hospital annually.[13]

Safety problems do not happen only in hospitals. In fact, another analysis of this 2008 Commonwealth Fund survey found that, in all the countries surveyed, most patients said that the mistake they experienced did not occur while they were hospitalized. For example, among the sicker Canadians with chronic illness surveyed, 29% said they experienced a medical, medication, or test result error, and 83% of these errors happened outside of a hospital stay.[5]

Many of these types of medical errors are preventable;[6] at least 50% of medication errors can be prevented.[14, 15, 16] There is a wide range of good evidence of what works to improve patient safety. The WHO recommends nine solutions for patient safety including hand-washing, avoiding multiple uses of injection needles, and ensuring accurate information follows patients through the various transitions in their care.[17] One very effective way to prevent errors and improve the quality of care is to improve patient information systems. Several studies have found that when physicians and pharmacists share electronic records, medication errors decrease.[18, 19, 20] Other suggestions for reducing errors include having a pharmacist review patients' medication[21] and labeling equipment more appropriately.[22] Clinical decision-support systems (interactive computer programs that assist health care providers with decision-making about patient care) have been shown to help providers avoid medication errors.[21] In recent Canadian research, primary health care that is consistent, accessible, and well-coordinated was associated with fewer medical errors and greater patient confidence in the quality of their care.[23]

CONCLUSIONS

Although the vast majority of sicker Canadians feel the quality of the health care they personally receive is good to excellent, half feel that our health care system requires fundamental changes to improve it. These survey results suggest that these fundamental changes would need to include effective policies around patient safety and specific strategies to reduce errors, both in hospitals and community care settings. Patients in this survey who experienced safety problems gave significantly lower ratings to the quality of their care. Besides the distress that mistakes cause for patients and their families, there are real dollar costs associated with preventable errors — costs that compete with the delivery of essential health care services.

Across Canada, a number of organizations are working to improve patient safety and to monitor progress, as part of improving the overall quality of care (see "Patient safety initiatives across Canada" p. 5). There may be much to learn from countries that demonstrate low rates of medical error (see "Lessons from the Netherlands" p. 4,) and low rates of hospital-acquired infection (see "Lessons from France" p. 7). Mistakes cost money and erode public confidence. A focus on preventing errors is a critical part of making our health care system more sustainable.

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The analyses and conclusions of this bulletin are the responsibility of the Health Council of Canada and do not necessarily reflect the views of external reviewers or the organizations they are affiliated with.

The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults, conducted by Harris Interactive, assessed health care system performance and responsiveness from the perspective of sicker adults. Conducted in Australia, Canada, Germany, the Netherlands, New Zealand, the United Kingdom, the United States, and France, the study explored the experiences and views of adults with health problems with a focus on key aspects of access, quality, patient-centeredness, and efficiency, including safety, waiting times, communication, care coordination, administrative burden, and financial barriers. The Commonwealth Fund provided core funding for the eight-country international survey. In addition, co-funding of the country-specific sample was provided by the Health Council of Canada, the Quebec Health and Welfare Commissioner, the Ontario Health Quality Council, the Health Foundation (UK), La Haute Autorité de Santé (France), the German Institute of Quality and Efficiency, and the Dutch Ministry of Health, Welfare and Sport, the Centre for Quality of Care Research (WOK), and Radboud University Nijmegen (the Netherlands).

ABOUT THE HEALTH COUNCIL OF CANADA

Canada's First Ministers established the Health Council of Canada in the *2003 Accord on Health Care Renewal* and enhanced our role in the 2004 *10-Year Plan to Strengthen Health Care*. We report on the progress of health care renewal, on the health status of Canadians, and on the health outcomes of our system. Our goal is to provide a system-wide perspective on health care reform for the Canadian public, with particular attention to accountability and transparency.

The participating jurisdictions have named Councillors representing each of their governments and also Councillors with expertise and broad experience in areas such as community care, Aboriginal health, nursing, health education and administration, finance, medicine and pharmacy. Participating jurisdictions include British Columbia, Saskatchewan, Manitoba, Ontario, Prince Edward Island, Nova Scotia, New Brunswick, Newfoundland and Labrador, Yukon, the Northwest Territories, Nunavut and the federal government.

Funded by Health Canada, the Health Council operates as an independent non-profit agency, with members of the corporation being the ministers of health of the participating jurisdictions.

The Council's vision

An informed and healthy Canadian public, confident in the effectiveness, sustainability and capacity of the Canadian health care system to promote their health and meet their health care needs.

The Council's mission

The Health Council of Canada fosters accountability and transparency by assessing progress in improving the quality, effectiveness and sustainability of the health care system. Through insightful monitoring, public reporting and facilitating informed discussion, the Council shines a light on what helps or hinders health care renewal and the well-being of Canadians.

Councillors

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Dr. Danielle Martin
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