



FIRST REPORT AND RECOMMENDATIONS OF
THE COMMONWEALTH FUND'S
INTERNATIONAL WORKING GROUP ON QUALITY INDICATORS

A Report to Health Ministers of Australia, Canada, New Zealand,
the United Kingdom, and the United States

June 2004

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June 2, 2004

Dear Madam/Mr. Minister:

It is my pleasure to share with you the *First Report and Recommendations of The Commonwealth Fund's International Working Group on Quality Indicators*.

Established in 1999, the Fund's International Working Group on Quality Indicators brings together representatives of five industrialized countries—Australia, Canada, New Zealand, the United Kingdom, and the United States—around a shared commitment to develop a set of quality indicators that could be used to benchmark and compare health care system performance across countries. In addition, we hope that these indicators can help clinical leaders and policymakers identify areas where performance might be improved and strategies that might be effective. The Commonwealth Fund regards this collaboration as a critical accomplishment and step forward in the development of measures that can be used to understand the impact on quality of different health care delivery systems, programs, and policies.

I would like to express appreciation to the members of The Commonwealth Fund International Working Group on Quality Indicators and Technical Subcommittee, who have so generously contributed their expertise and time to this effort, and to the government agencies that made their participation possible. While the findings and recommendations of this report do not represent the official views of any government agencies, we value their ongoing support of this effort and in-kind contribution of expertise to its progress.

The Fund also thanks Arnold Epstein, M.D., chair of the International Working Group on Quality Indicators, for his charismatic leadership and vision; Gerard Anderson, Ph.D., and Robin Osborn, who co-directed the project, for their persistence and commitment to developing an international set of quality indicators; and Peter Hussey and Varduhi Petrosyan, for their tireless technical support and data coordination. We further appreciate the early encouragement of The Nuffield Trust and Australia Department of Health and Ageing to undertake this effort.

I hope that you find this report useful and that it contributes to efforts in all our countries to improve the quality of health care and obtain value for money.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen Davis".

Karen Davis
President
The Commonwealth Fund

Contents

Executive Summary.....	v
The Commonwealth Fund International Working Group on Quality Indicators.....	ix
Section 1 Introduction.....	1
Results.....	10
Section 2 Data.....	17
Effectiveness and Appropriateness Indicators.....	19
Breast Cancer 5-Year Survival.....	21
Breast Cancer Screening.....	23
Breast Cancer Mortality.....	25
Cervical Cancer 5-Year Survival.....	27
Cervical Cancer Screening.....	29
Cervical Cancer Mortality.....	31
Colorectal Cancer 5-Year Survival.....	33
Colorectal Cancer Mortality.....	35
Childhood Leukemia 5-Year Survival.....	37
Non-Hodgkin’s Lymphoma 5-Year Survival.....	39
Non-Hodgkin’s Lymphoma Mortality.....	41
Kidney Transplant 5-Year Survival.....	43
Kidney Transplant Rates.....	45
Liver Transplant 5-Year Survival.....	47
Liver Transplant Rates.....	49
30-Day Acute Myocardial Infarction Case-Fatality Rate.....	51
Acute Myocardial Infarction Mortality.....	53
30-Day Ischemic Stroke Case-Fatality Rate.....	55

Ischemic Stroke Mortality	57
Asthma Mortality Rates	59
Suicide Rates.....	61
Vaccination Rates for Influenza	63
Vaccination Rates for Polio	65
Incidence of Vaccine-Preventable Diseases	67
Non-Smoking Rate.....	69
Accessibility Indicators.....	71
Difficulty Seeing a Specialist	73
Difficulty Getting Care on Nights or Weekends	75
Ability to Make a Same-Day Doctor’s Appointment When Needed	77
Waiting Time for Emergency Care	79
Waiting Time for Elective or Non-Emergency Surgery	81
Financial Barriers to Care	83
Continuity Indicators	85
Conflicting Medical Information.....	87
Acceptability Indicators.....	89
Patient–Doctor Communication: Getting Questions Answered	91
Patient–Doctor Communication: Patient Input on Treatment	93
Patient–Doctor Communication: Coping with Emotional Burden of Illness.....	95
Composite Physician Responsiveness Ratings	97
Technical Appendix	98
Sources	109
Section 3 Quality Measurement Activities in the Five Countries	115

First Report and Recommendations of The Commonwealth Fund's International Working Group on Quality Indicators

Executive Summary

Established in 1999, The Commonwealth Fund's International Working Group on Quality Indicators represents a critical step forward in the development of international measures of health care quality. This unique collaboration and technical exchange brought together representatives of five industrialized countries—Australia, Canada, New Zealand, the United Kingdom, and the United States—committed to the development of a set of indicators to help benchmark and compare health care system performance across countries, while helping clinical leaders and policymakers in each country identify areas for improvement. In addition to government officials, Working Group members included leading academic experts in quality measurement, representatives from the Organization for Economic Cooperation and Development (OECD), the World Health Organization (WHO), The Nuffield Trust, the Canadian Council on Health Services Accreditation, and The Commonwealth Fund.

Underpinning the Working Group's activities and the findings presented in this report was a multistep process to systematically identify measures of quality that could be used to compare performance across countries. This process included: mapping the conceptual domains of quality; comparing the national quality frameworks used by each country; cataloguing the available indicators in each domain; adopting criteria for the selection of a set of international quality indicators; assessing and selecting indicators that met the criteria; and collecting data for the initial indicator set.

Using the Canadian Institute for Health Improvement Performance Framework as the organizing construct for defining the domains of quality, the Working Group focused its initial efforts on five subdomains of health system performance: effectiveness, appropriateness, accessibility, continuity, and acceptability. Starting with over 1,000 potential indicators that were currently available at the national or regional level in one or more countries, the Working Group selected an initial set of indicators based on agreed criteria, which required that the indicator be meaningful, important, and actionable for policymakers; scientifically sound; comparable internationally; and feasible to report.

The initial results represent great progress in international quality measurement. For the five countries, the Working Group has produced performance data on 40 quality indicators, including five-year survival rates for breast, cervical, and colorectal cancers, childhood leukemia and

non-Hodgkin's lymphoma, and kidney and liver transplants; 30-day case-fatality rates following the incidence of heart attack and stroke; asthma mortality rates; suicide rates; breast and cervical cancer screening rates; vaccination rates; smoking rates; waiting times for primary, emergency, and specialty care and elective surgery; measures of patient–doctor communication and coordination of care; and indicators of financial barriers to care.

The results show that no country consistently scored the best or worst on all of the indicators; each country had either the best or worst score on at least one indicator. In addition, each country has at least one area of care where it could potentially learn from international experience. The key findings of this report, presented by country, follow below.

Australia

Areas of good performance: Cancer survival rates were generally high (excepting childhood leukemia). Rates were highest for cervical cancer and non-Hodgkin's lymphoma; breast and cervical cancer screening rates were high as well. Asthma mortality was relatively low. Influenza and polio vaccination rates were high. Ratings of access to care and physician responsiveness were high.

Opportunities for improvement: The incidence of pertussis (whooping cough) was much higher than in the four other countries.

Canada

Areas of good performance: Cancer survival rates were generally average or above average and were highest for childhood leukemia. Transplant survival rates were highest. Canadians reported very few financial barriers to getting medical care, diagnostic tests, or prescription drugs.

Opportunities for improvement: Acute myocardial infarction (heart attack) case-fatality was higher in Canada than in Australia or New Zealand in older age groups. Pertussis incidence was much higher than in New Zealand, the U.K., or the U.S. Canadians reported difficulty seeing a specialist, getting care on nights and weekends, and getting same-day doctor appointments when needed.

New Zealand

Areas of good performance: The improvement in asthma mortality over the past 20 years is a true success story, although some room for further improvement may exist. The relative survival rate for colorectal cancer was the highest of the five countries. New Zealanders reported the fewest problems accessing care on nights and weekends, getting same-day appointments, and waiting for emergency care. They also reported the fewest coordination-of-care problems, good patient–doctor communication, and the highest overall physician responsiveness.

Opportunities for improvement: The suicide rate in New Zealand, particularly among younger people, is much higher than in the other four countries. Stroke case-fatality rates were higher among older age groups. Influenza and polio vaccination rates were relatively low. Breast cancer screening rates were lowest in New Zealand.

United Kingdom

Areas of good performance: Suicide rates were notably lower in England¹ than in the other four countries. The polio vaccination rate was the highest. The incidence of pertussis was the lowest. U.K. citizens reported virtually no financial barriers to medical care, diagnostic tests, or prescription drugs and the least difficulty seeing a specialist.

Opportunities for improvement: Cancer survival rates were lowest. Measles incidence was higher than elsewhere. U.K. citizens reported the longest waits for elective surgery. U.K. physicians were rated poorly on asking patients for their opinion, discussing the emotional burden of illness, and overall responsiveness.

United States

Areas of good performance: Breast cancer survival rates were highest in the U.S. Cervical cancer screening rates were very high. Waiting times for elective surgery were lowest. U.S. doctors were the most likely to ask for the patient's opinion and to discuss the emotional burden of illness.

Opportunities for improvement: Asthma mortality rates are increasing in the United States while they are decreasing in the other countries. Transplant survival rates were relatively low. U.S. citizens reported trouble seeing doctors, particularly on nights and weekends and for same-day appointments. They also reported the most financial barriers to care and the most coordination-of-care problems.

It should be noted that the initial list of 40 quality indicators presented in this report, distilled from a compendium of more than 1,000 indicators, is opportunistic rather than comprehensive. There are significant gaps in the domains covered, with many conditions that account for a major share of the burden of disease—such as heart disease, mental health, and diabetes—barely covered. High-volume procedures in obstetrics and orthopedics and high-cost interventions, such as new pharmaceuticals, are not covered at all. The lack of available indicators in so many areas indicates the magnitude of work still to be done to develop robust data sets that can adequately measure the processes and outcomes of health care. Nonetheless, the initial list, while lacking comprehensiveness, is an important starting point for comparing different aspects of health care quality in the five countries and prompting questions about how both the data and performance might be improved.

¹ Some indicators represent England and some represent the entire United Kingdom.

Recommendations

The International Working Group on Quality Indicators recommends that this first set of international quality indicators be used to:

- draw attention to potential opportunities for improving the quality of health care in the five countries;
- raise questions about why some countries do well on some measures and others do poorly;
- provoke debate within countries about health care priorities and policies; and
- stimulate efforts to reexamine, refine, and improve the data that have been presented and to encourage further commitment and resources to improving the availability of health care quality data in all our countries.

Building on the work of The Commonwealth Fund's International Working Group on Quality Indicators and a similar effort by five Scandinavian countries under the auspices of the Nordic Council, the OECD initiated the International Healthcare Quality Indicators Project in January 2003. Under this project, the OECD aims to take this work forward by expanding the number of countries involved, institutionalizing the collection of these indicators, and developing additional quality indicators to provide the scope and depth of measures needed to judge performance across health care systems.

The Commonwealth Fund's International Working Group on Quality Indicators is a key component of the Fund's International Program in Health Policy and Practice, which aims to stimulate high-level health policy exchange among countries. The program is premised on the belief that while all health care systems are influenced by their individual histories, the cultures in which they operate, and the manner in which health care providers are educated and patients accommodated, policymakers, researchers, and journalists can all draw valuable lessons by looking beyond their borders at the experiences of other countries.

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Section 1. Introduction

With health care accounting for an increasing share of industrialized countries' national incomes and government budgets, policymakers want to know how well their nation's health system is performing. But without meaningful ways to measure medical outcomes and quality of care, it is difficult for policymakers to assess the impact of additional medical spending. At the same time, clinicians and the public want to know how their health care system is performing relative to other countries. The result has been an increased emphasis on measuring the quality and outcomes of medical care.

There are immense challenges to overcome before measurement can be used to assess health system performance satisfactorily. The first challenge is to determine what should be measured. Since medical care affects people on multiple dimensions, measuring the quality of care is necessarily multifarious. Many conceptual domains of quality have been proposed, such as the appropriateness of care delivered, the technical effectiveness of medical services, and the responsiveness of medical care to people's preferences. Once these broad domains are identified, a second challenge is to develop valid and reliable indicators to measure each distinct domain. Following selection of the indicators, a third challenge is to collect comparable data and then put these data to policy and operational uses.

When developing quality indicators, experts can rely on methods employed in other areas. The Organization for Economic Cooperation Development (OECD) and World Health Organization (WHO) routinely collect data on health care spending, utilization, and resource availability. The only existing measures of health care outcomes internationally, however, are population-level measures of health status, such as life expectancy and infant mortality. Many factors affect these measures, including environmental conditions, social factors, and lifestyle choices. Consequently, the direct link between these health outcomes and the quality of medical services provided is often quite tenuous. Additional measures of quality would add tremendously to the value of cross-national comparisons of health systems data—in particular, indicators related to the provision of medical services, since medical services represent over 90 percent of spending on health in all industrialized countries.

At the invitation of The Commonwealth Fund, five countries—Australia, Canada, New Zealand, the United Kingdom, and the United States—collaborated in a project to measure and compare the quality of the care provided through their health services. The countries' medical systems differ along a number of dimensions, including how medical care is financed and delivered.

The five countries are all in the process of developing national approaches to monitoring quality of care and are currently reporting statistics on the quality of health care at the national level (a brief description of each country's national activities is provided in Section 3). In addition, international groups such as WHO and the OECD have initiated work to compare the quality of health care across countries. International collaborations are developing in two main ways. The first is to share methodological and conceptual ideas on quality measurement. The second is to actually collect

comparable data. By initiating the collaboration at a time when these national and international quality measurement projects were beginning or developing, countries were able to refine the definitions of quality indicators and emphasize the collection of certain indicators to ensure that the indicators will have cross-national, as well as domestic, uses.

To accomplish the objective of this effort, The Commonwealth Fund convened a series of meetings with quality experts representing each of the five governments, researchers with expertise in quality measurement, and representatives from the WHO and OECD (see the full participant list following the Executive Summary). This International Working Group on Quality Indicators mapped the conceptual domains of quality, enumerated available indicators in each domain, and collected data for this preliminary indicator set. This report represents the culmination of the first phase of the group's work.

Presented here is an overview of the quality domains, including a discussion of what the components of each country's national framework are and how the national frameworks relate to one another. This report also presents in chart form the data for 40 international health care quality indicators. These charts compare such indicators as cancer survival rates, stroke case-fatality rates, appropriate vaccination rates, patient–doctor communication, waits for emergency care and elective surgery, and financial barriers to care. Together, they allow for some limited international comparisons of health care quality. The 40 indicators, however, do not cover all of the domains of quality. In addition, they do not cover any of the domains completely. This report represents a first step in an ongoing process. Currently, the OECD is continuing this process by expanding the number of countries participating and expanding the number of indicators collected.

Methodology

Conceptualization of Quality

The first step in measuring health care quality is to adopt a definition of quality that can be applied in different countries. The Working Group selected as a working definition one developed by the U.S. Institute of Medicine (IOM): “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”²

This definition does not cast any light on the various measurement domains that give structure to the quality reporting effort. Several countries and international organizations have created frameworks of health care quality in order to conceptualize these different domains. The Working Group compared the national quality frameworks used by each country and selected the framework developed by the Canadian Institute for Health

² Institute of Medicine. *Medicare: A Strategy for Quality Assurance*, vol. 2, Kathleen Lohr, ed. (Washington, D.C.: National Academy Press, 1990).

Information (CIHI). One positive feature of the Canadian framework is its comprehensiveness: it includes indicators of health status, nonmedical determinants of health, and community/health system characteristics, as well as health system performance (Figure 1). Since international data for the first three domains (health status, nonmedical determinants of health, and community and health system characteristics) are available from other sources, the Working Group focused its efforts on developing indicators to measure the final domain—health system performance.

According to the Canadian framework (Figure 1), health system performance contains eight subdomains: acceptability, accessibility, appropriateness, competency, continuity, effectiveness, efficiency, and safety. The Canadian classification system is similar to systems being used in Australia, New Zealand, the United Kingdom, and the United States. Figure 2 compares the Canadian framework with the other frameworks that have been developed in each country.

Figure 1. Canadian Institute for Health Information (CIHI) Performance Framework

Health Status			
Health Conditions	Human Function	Well-Being	Deaths
Non-Medical Determinants of Health			
Health Behaviors	Living and Working Conditions	Personal Resources	Environmental Factors
Health System Performance			
Acceptability	Accessibility	Appropriateness	Competence
Continuity	Effectiveness	Efficiency	Safety
Community and Health System Characteristics			
Community	Health System	Resources	

↑
Equity
↓

Source: Canadian Institute for Health Information.

Figure 2. Dimensions of Performance and Their Terminology Included in Frameworks

Canada	Australia	New Zealand	United Kingdom	United States ²
Health System Performance¹				
Acceptability	Responsive	People-centred	Patient/carer experience	Patient centeredness
Accessibility	Accessible	Access	Fair access	Timeliness
Appropriateness	Appropriate	—	Effective delivery of appropriate healthcare	Effectiveness
Competence	Capable	—	Effective delivery of appropriate healthcare	—
Continuity	Continuous	—	Patient/carer experience	Timeliness
Effectiveness	Effective	Effectiveness	Health outcomes of NHS care	Staying healthy Getting better Living with illness or disability Coping with the end of life
Efficiency	Efficient	Efficiency	Efficiency	—
Safety	Safe	Safety	— ³	Safety
Health Status	Health status and outcomes	Health	Health improvement	Staying healthy Getting better Living with illness or disability
Non-medical Determinants of Health	Determinants of health	—	Health improvement	—
Community and Health System Characteristics	—	—	—	—
Equity	Equity	Equity	Equity ³	Equity
Dimensions Not Included in Canadian Framework	Sustainability	—	—	—
	—	—	—	Coping with the end of life

¹ The subcomponents of the Health System Performance are shown here but not the subcomponents of the other three tiers in the Canadian framework (Health Status, Non-medical Determinants, and Community and Health System Characteristics) because performance is the focus of the Commonwealth Fund Working Group.

² The United States framework is a 2-dimensional table with components of quality on one axis (safety, effectiveness, patient centeredness, and timeliness) and consumer perspectives on health care needs on the other (staying healthy, getting better, living with illness or disability, coping with the end of life). The meaning of this framework may have been distorted by transforming it to a single column of cells for this table.

³ Although equity and safety are not dimensions of the UK's Performance Assessment Framework, they are the subject of other NHS quality improvement efforts.

Sources: Canadian Institute for Health Information. *A Roadmap Initiative*. Ottawa: CIHI, 1999. *Note*: Equity was added to the Canadian framework subsequent to the publication of this report.

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United States Institute of Medicine. *Envisioning the National Health Care Quality Report*. Margarita P. Hurtado, Elaine K. Swift, and Janet M. Corrigan, eds. Washington, DC: National Academy Press, 2001.

Indicator Selection

The Working Group identified indicators for collection by a process of elimination, starting with lists of potential indicators reflecting each domain of health system performance. Indicators were evaluated using the following criteria:

- **Feasibility:** Only indicators that were already being collected by one or more countries were candidates.
- **Scientific soundness:** Only indicators that were deemed valid and reliable were considered. Since all of the indicators considered were already in use, determination of scientific soundness relied on existing reviews of the scientific evidence and approval by a consensus process or similar method in one or more countries.
- **Interpretability:** Only indicators that allowed a clear conclusion for policymakers were included. This meant that the indicator had to have a clear direction (e.g., higher is either good or bad).
- **Actionability:** Only measures of processes or outcomes of care that could be directly affected by health care policy or health care delivery system intervention were eligible.
- **Importance:** Only indicators that reflected important health conditions accounting for a major share of the burden of disease, the cost of care, or policymakers' priorities (such as vulnerable populations) were pursued.

These criteria were applied in a five-step process:

1. *Compile available indicators.* We considered all indicators currently available in at least one country (an initial set of more than 1,000 indicators).
2. *Review evidence base, policy relevance, actionability, and interpretability.* We selected a list of potential indicators based on scientific soundness, importance, actionability, and interpretability (approximately 100 indicators).
3. *Assess feasibility for international comparisons.* We collected information on definition, numerator, and denominator specifications, the population represented, periodicity of collection, and data sources for each country. Indicators that had irreconcilable differences in specifications or that were not nationally representative in several countries were discarded (eliminating 50 indicators).
4. *Improve international comparability.* We applied an iterative process of collecting data in the five countries, evaluated the comparability of the specifications, and made adjustments, such as revising coding classifications or age standardization (eliminating an additional five indicators that could not be improved).

5. *Ensure reliability.* We compared the face validity of preliminary data and investigated any unusual differences to increase the reliability of the indicators. We also reviewed the final data with experts in each country (final set of 40 indicators).

Starting with more than 1,000 potential indicators (Figure 3), the result of the Working Group’s indicator selection process was the selection of 40 indicators. That only 40 indicators were selected from an original list of more than 1,000 in use in the five countries illustrates the difficulty of meeting all of the criteria used to select internationally comparable quality indicators (Figure 3). For many potential indicators, the data sources that are necessary to construct scientifically sound and interpretable quality indicators at the national level are not available in most or all countries. Many quality measures require a review of medical records, which would be very costly without routine access to electronic medical records. Many potential indicators are not internationally comparable. This may be because countries simply measure different things—for example, by using completely different survey questions—or because countries do not agree on the evidence supporting a particular treatment.

The 40 indicators cover five domains: effectiveness, appropriateness, accessibility, continuity, and acceptability. The original intention was to select indicators from other domains such as safety and competence; however, none of the available indicators met all the criteria. Further work is needed in each of these domains.

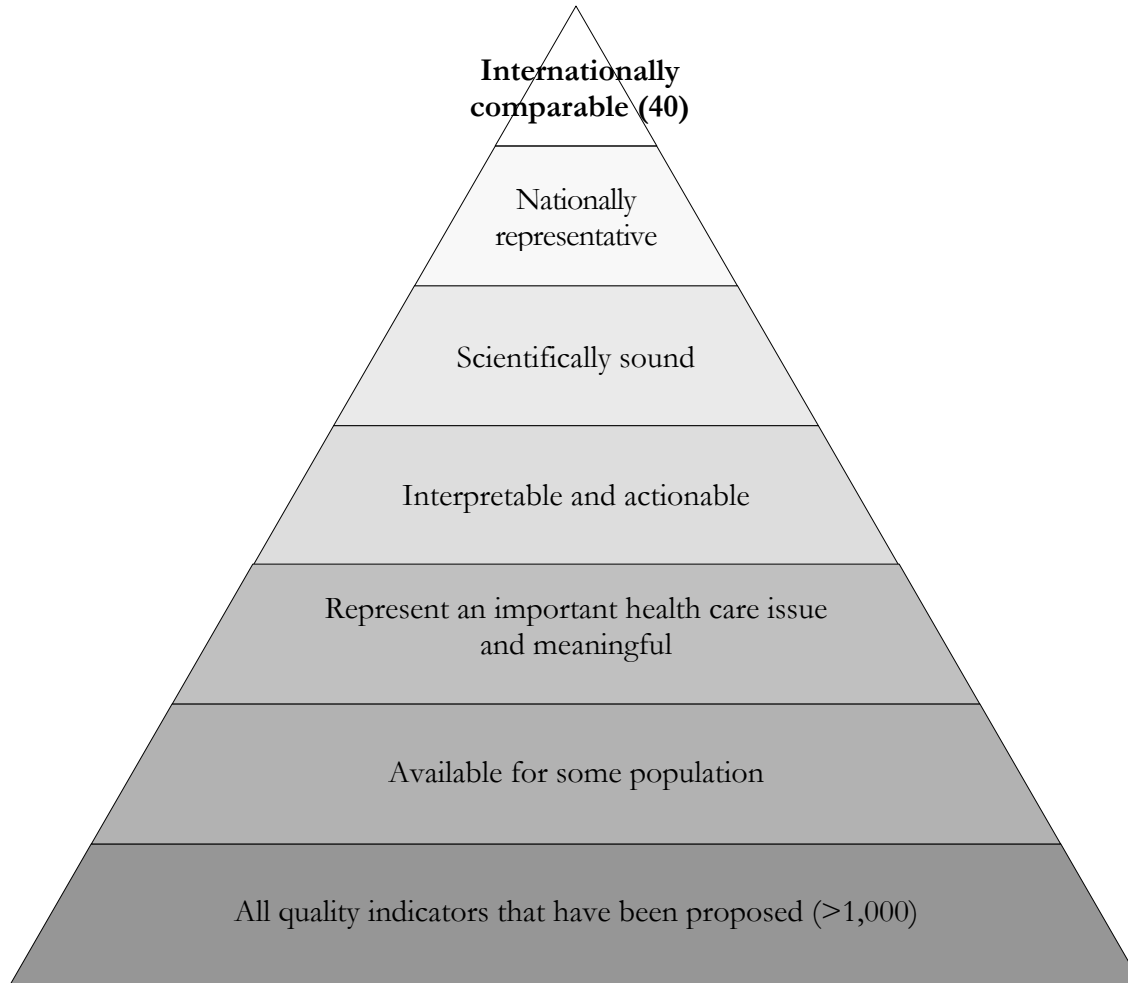
Furthermore, the five domains with available indicators have significant gaps. Some conditions that reflect a large proportion of the burden of disease, such as heart disease or mental health, are barely covered. Some high-volume procedures that account for much of the actual cost of health care, such as those in obstetrics and orthopedics, are not covered at all. The use of pharmaceuticals is not monitored. More indicators in each of these areas are needed to obtain a complete measure of these domains. The lack of available indicators in so many areas suggests the large magnitude of the work still to be done.

Some of the indicators demonstrate the limitations of currently available data. For example, several condition-specific mortality rates—asthma mortality rates and suicide rates—are included as indicators of appropriateness. If asthma and mental health were managed perfectly, many of these deaths could have been avoided. However, the medical care system is not the only factor affecting mortality. All of the indicators on accessibility, continuity, and acceptability were taken from five-country surveys sponsored by The Commonwealth Fund. These surveys cannot account for differences in cultural expectations and cultural patterns of responses between citizens of the five countries. Nonetheless, the data presented in this report represent an important first step in enabling international comparisons of medical care quality.

Table 1. Sources of Quality Indicators

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World Health Organization. WHO Statistical Information System. http://www.who.int/whosis , accessed 4/26/00.
World Health Organization. <i>World Health Report 2000</i> . Geneva: WHO, 2000.

Figure 3. The Availability of International Quality Indicators



Results

All of the results that follow are summarized in Tables 2 and 3. Table 2 shows the actual results for each indicator, while Table 3 shows a standardized summary of all the results. A quick review of the tables shows that none of the five countries consistently scored the best or worst on all of the indicators. In addition, each country had either the best or worst score on at least one indicator. In other words, no country scored consistently the best or worst overall, and each country had at least one area of care where it could potentially learn from international experience. The results presented here are intended to stimulate additional inquiry. There are many reasons why a country could score well or poorly on a particular indicator. The indicators suggest areas where individual countries should apply additional investigation.

The first 12 indicators all measure the quality of cancer treatments. There are two types of cancer indicators: cancer survival rates, which show the outcomes of cancer treatment, and cancer screening rates, which show the rate at which important preventive care is delivered. On most indicators, the countries are within 10 percent of each other. One pattern that does stand out is that England is often at the low end of the distribution for cancer survival rates, usually statistically different from the rate in at least one other country. This confirms previous comparisons of cancer survival between England and European countries that have raised concerns over cancer care. The most recent data available show that English cancer survival rates have been improving over time.³

Sizable differences are also seen between countries in the cervical cancer screening rate for the population for whom screening is indicated. Cervical cancer screening is significantly more common in the United States than in the other countries.

The next two indicators, also five-year survival rates, show the outcomes of kidney and liver transplants. These procedures, although not as common as treatments for other conditions such as cancer, heart disease, and stroke, were included because they require a high degree of technology and technical expertise. There were some significant differences between countries, with Canada's survival rates the highest.

The following three indicators show the rate at which people die in the hospital after an acute myocardial infarction (AMI, or heart attack) and ischemic stroke. AMI case-fatality rates are highest in Canada and lowest in Australia. The higher case-fatality rate among older people in Canada is an area that warrants investigation. There are smaller differences in the case-fatality rate for ischemic stroke. In the 70–80 age group, the New Zealand case-fatality rate is higher than in Australia or Canada. In addition to the medical care received, these rates could be affected by such

³ In England, relative survival rates for cancers diagnosed in 1996–1999 were 78% for breast cancer, 70% for cervical cancer, 55% for colon cancer, and 64% for non-Hodgkin's lymphoma. These rates are higher than those compared in this report, for cancers diagnosed in 1991–1995. Other countries were not able to supply comparable data from the 1996–1999 time frame.

factors as the average severity of AMI and ischemic stroke in the three countries, the rate at which emergency services transport people to the hospital, and hospital discharge, admission, and length-of-stay characteristics.

Asthma mortality in younger age groups should be preventable given appropriate management of the condition. The mortality rate is highest in New Zealand. Over time, the asthma mortality rate has decreased in Australia, England, and particularly New Zealand.⁴ In the United States, however, asthma mortality rates have increased over the 1990s. This trend deserves further investigation.

Suicide rates are much lower in England than the other countries and are highest in New Zealand. The differences between New Zealand and the other countries are particularly large among younger people. Additional investigation is necessary to determine if this represents differences in how death certificates are recorded or actual differences in quality of care, particularly mental health care.

Vaccination rates are shown for older people (influenza vaccination) and children (polio vaccination) to illustrate how often countries deliver these effective primary care procedures. The rates in New Zealand are uniformly lower than other countries, warranting further investigation.

The incidence rates of three vaccine-preventable diseases—pertussis, measles, and hepatitis B—show that some countries have these diseases better under control than others do. Pertussis incidence was particularly high in Australia and Canada; measles incidence was higher in England than elsewhere; and hepatitis B incidence was highest in the United States and Canada.

Smoking rates were lowest in the United States and Canada. The health care system does not have perfect control over people's decision to smoke, but advice and treatment provided by physicians have been shown to make an impact on smoking cessation.

Significant variation occurs with respect to waiting times and perceived difficulty getting access to medical services. While access to specialists is a problem across all five countries, Canada stands out with more than half the public reporting it very or somewhat difficult to see a specialist. Similarly, access to care on nights and weekends is reported to be a problem in all countries except New Zealand. New Zealanders and Australians also report the best access to primary care, with about two-thirds reporting they were able to get same-day appointments when sick. One of four adults or more reports waiting four months or longer for elective surgery in Australia, Canada, New Zealand, and the United Kingdom, compared with only 5 percent of U.S. respondents.

⁴ The time trend can be seen in the chart in Section 2 but not in Table 2.

Compared to England, financial barriers are perceived to be a problem in the other four countries. After England, Canada is perceived by its citizens to have the fewest financial barriers and the United States the most. In all countries except England, there are financial barriers reported to filling drug prescriptions.

Across all five countries, patients reported problems with coordination of care, patient–doctor communication, and responsiveness. U.S. respondents perceive the most communication and coordination of care problems and are most likely to leave the doctor’s office without all their questions answered. U.K. citizens are most likely to be concerned that the doctor does not ask their opinion or discuss the emotional burden of their illness. Overall, New Zealand and Australian citizens rate their physicians highest, followed by Canada, U.S., and U.K.

Conclusion

The Commonwealth Fund International Working Group on International Quality Indicators collected data considered to be valid and reliable in five countries for cross-national indicators of health system performance. These indicators were drawn from available data sources and are generally comparable across the five countries. Comparison of the results revealed no consistent patterns. Countries scored well on some indicators and poorly on others. No country was consistently good or bad on all indicators.

This effort represents a substantial advance in international comparisons of health systems data and is a useful extension to national-level public reporting of quality information, as it enables countries to identify clinical areas where quality improvement may be readily achievable. This initiative has also revealed some crucial areas where measuring health care quality is important but suitable data and measures are currently lacking. It is not currently possible to compare health care quality adequately at the international level for many important health conditions and in some domains of quality. Further investment in data collection and international harmonization of indicators that will allow international comparisons is clearly necessary.

Two additional steps are already under way. First, the Working Group is committed, in the short term, to expanding upon the initial results presented in this report. Second, and perhaps more importantly, the OECD Health Care Quality Indicators Project, initiated in January 2003, offers the opportunity to institutionalize and extend international quality data collection efforts to 20 participating countries. In addition, the OECD project and has put forward an agenda to develop quality indicators in six priority areas: coronary heart disease, diabetes, mental health, primary care, health promotion and prevention, and patient safety.

The opportunity to build on the substantial progress that has been made, the model that the International Working Group has demonstrated for international collaboration in the development of quality indicators, and the multinational commitment to taking this work forward together offer the promise that these efforts will eventually produce a comprehensive set of quality indicators that permit policymakers to compare overall health system performance across countries.

Table 2. Summary of Results

Appropriateness and Effectiveness Indicators	Australia	Canada	England	New Zealand	United States
Breast cancer 5-year relative survival rate (%)	80	78	75	79	86
Breast cancer 5-year observed survival rate (%)	77	75	72	71	83
Breast cancer screening rate (%)	72	73	70	63	70
Cervical cancer 5-year relative survival rate (%)	78	74	70	73	75
Cervical cancer 5-year observed survival rate (%)	76	72	68	69	74
Cervical cancer screening rate (%)	79	77	67	77	93
Colorectal cancer 5-year relative survival rate (%)	62	60	52	65	58
Colorectal cancer 5-year observed survival rate (%)	59	57	50	53	54
Childhood leukemia 5-year relative survival rate (%)	69	81	—	70	76
Childhood leukemia 5-year observed survival rate (%)	69	81	75	70	75
Non-Hodgkin's Lymphoma 5-year relative survival rate (%)	67	62	59	67	63
Non-Hodgkin's Lymphoma 5-year observed survival rate (%)	65	59	57	56	61
Kidney transplant 5-year observed survival rate (%)	88	94	86	86	83
Liver transplant 5-year observed survival rate (%)	78 ⁵	87	71	78 ⁵	73
AMI 30-day case-fatality rate, ages 20–84 (%)	7.3	11.1	—	8.8	—
Ischemic stroke 30-day case-fatality rate, ages 20–84 (%)	9.4	9.0	—	11.8	—
Asthma mortality rate per 100,000 people ages 5–39, 1990–99	0.4	—	0.6	0.7	0.5
Suicide rate per 100,000 people, all ages	11.6	11.4	6.0	13.2	10.6
Suicide rate per 100,000 people, ages 15–19	9.6	12.2	3.3	25.1	8.9
Suicide rate per 100,000 people, ages 20–29	17.5	14.8	8.4	29.3	13.6
Influenza vaccination rate, age 65+ (%)	74	67	68	59	66
Polio vaccination rate, age 2 (%)	93	87	95	82	90
Incidence of pertussis per 100,000 people	31.0	20.0	1.3	—	2.7
Incidence of measles per 100,000 people	0.6	0.1	4.5	1.8	0.04
Incidence of Hepatitis B per 100,000 people	2.1	4.2	2.0	2.1	6.3
Non-smoking rate (%)	76	77	73	75	77

⁵ Australia and New Zealand combined

Accessibility Indicators	United				
	Australia	Canada	Kingdom	New Zealand	United States
Difficulty seeing a specialist (%)	41	53	38	36	39
Difficulty getting care nights or weekends (%)	34	41	33	23	41
Ability to make a same-day doctor's appointment when needed (%)	62	35	42	69	36
Waiting for emergency care a big problem (%)	31	37	36	28	31
Waiting time >4 months for elective surgery (%)	23	27	38	26	5
Waiting time <1 month for elective surgery (%)	51	37	38	43	63
Financial barriers to getting medical care (%)	11	5	3	20	24
Financial barriers to filling a prescription (%)	19	13	7	15	26
Financial barriers to test, treatment, or follow-up care (%)	15	6	2	14	22
Continuity and Acceptability Indicators	United				
	Australia	Canada	Kingdom	New Zealand	United States
Conflicting medical information from different providers (%)	31	33	31	29	44
Patient-doctor communication: important questions unanswered (%)	21	25	19	20	31
Patient-doctor communication: doctor does not ask your opinion (%)	51	49	67	47	47
Patient-doctor communication: no discussion of emotional burden of illness (%)	54	55	66	54	51
Composite rating of physician responsiveness as excellent/very good (%)	69	66	59	72	61

Table 3. Standardized Summary of Results
Higher score indicates better result; best score is in bold

Appropriateness and Effectiveness Indicators	Australia	Canada	England	New Zealand	United States
Breast cancer 5-year relative survival rate (%)	107	104	100	106	114
Breast cancer 5-year observed survival rate (%)	108	106	101	100	116
Breast cancer screening rate (%)	114	116	111	100	111
Cervical cancer 5-year relative survival rate (%)	111	106	100	105	108
Cervical cancer 5-year observed survival rate (%)	111	106	100	102	108
Cervical cancer screening rate (%)	119	115	100	116	140
Colorectal cancer 5-year relative survival rate (%)	120	116	100	127	111
Colorectal cancer 5-year observed survival rate (%)	119	115	100	106	109
Childhood leukemia 5-year relative survival rate (%)	100	118	—	102	110
Childhood leukemia 5-year observed survival rate (%)	100	118	109	102	109
Non-Hodgkin's Lymphoma 5-year relative survival rate (%)	113	104	100	112	106
Non-Hodgkin's Lymphoma 5-year observed survival rate (%)	117	105	102	100	109
Kidney transplant 5-year relative survival rate (%)	106	113	104	104	100
Liver transplant 5-year relative survival rate (%)	110	123	100	—	102
AMI 30-day case-fatality rate, age 20–84 (%)	134	100	—	121	—
Ischemic stroke 30-day case-fatality rate, age 20–84 (%)	120	124	—	100	—
Asthma mortality rate per 100,000 people age 5–39, 1990–99	144	—	122	100	130
Suicide rate per 100,000 people, all ages	112	114	155	100	120
Suicide rate per 100,000 people, age 15–19	162	151	187	100	165
Suicide rate per 100,000 people, age 20–29	140	149	171	100	154
Influenza vaccination rate, age 65+ (%)	125	114	115	100	112
Polio vaccination rate, age 2 (%)	113	106	116	100	110
Incidence of pertussis per 100,000 people	100	135	196	—	191
Incidence of measles per 100,000 people	187	198	100	160	199
Incidence of Hepatitis B per 100,000 people	167	133	168	167	100
Non-smoking rate (%)	104	105	100	103	105

Accessibility Indicators	United				
	Australia	Canada	Kingdom	New Zealand	United States
Difficulty seeing a specialist (%)	123	100	132	128	126
Difficulty getting care nights or weekends (%)	117	100	120	144	100
Ability to make a same-day doctor's appointment when needed (%)	177	100	120	197	103
Waiting for emergency care a big problem (%)	116	100	103	124	116
Waiting time >4 months for elective surgery (%)	139	129	100	132	187
Waiting time <1 month for elective surgery (%)	138	100	103	116	170
Financial barriers to getting medical care (%)	154	179	188	117	100
Financial barriers to filling a prescription (%)	127	150	173	142	100
Financial barriers to test, treatment, or follow-up care (%)	132	173	191	136	100
Continuity and Acceptability Indicators	United				
	Australia	Canada	Kingdom	New Zealand	United States
Conflicting medical information from different providers (%)	130	125	130	134	100
Patient-doctor communication: important questions unanswered (%)	132	119	139	135	100
Patient-doctor communication: doctor does not ask your opinion (%)	124	127	100	130	130
Patient-doctor communication: no discussion of emotional burden of illness (%)	118	117	100	118	123
Composite rating physician responsiveness as excellent/very good (%)	117	112	100	122	103

Section 2. Data

The following section presents the data for forty quality indicators. A page precedes each chart with answers to up to five questions for each indicator. The first question, *what are the findings*, summarizes the results shown on the chart. The second question, *how is this measured*, explains the definition of the indicator, the basic methodology for data collection, and the domain of performance represented. The third question, *what are the implications*, provides some basic interpretation of the findings. The fourth question, *what other information would we like to know*, describes potential information related to the indicator that would improve comparisons.

The definitions of these indicators are comparable across countries to the degree possible. However, some differences remain. To answer the fifth question, *what are the concerns with the data*, brief notes on each page and a more detailed technical appendix

describe issues with comparability, validity, or reliability of the data shown. A list of the sources used for each chart is also found at the end of the report.

Some of the indicators are accompanied by additional charts on subsequent pages showing background information that will help in interpreting the results. For example, cancer mortality rates are shown following cancer survival rates.

The indicators are arranged according to the corresponding domain of quality from the Canadian performance measurement framework: appropriateness and effectiveness, accessibility, continuity, and acceptability. Appropriateness and effectiveness indicators are presented together, since they sometimes are closely related, for example breast cancer survival rates (effectiveness) and breast cancer screening rates (appropriateness).

Effectiveness and Appropriateness Indicators

Health System Performance

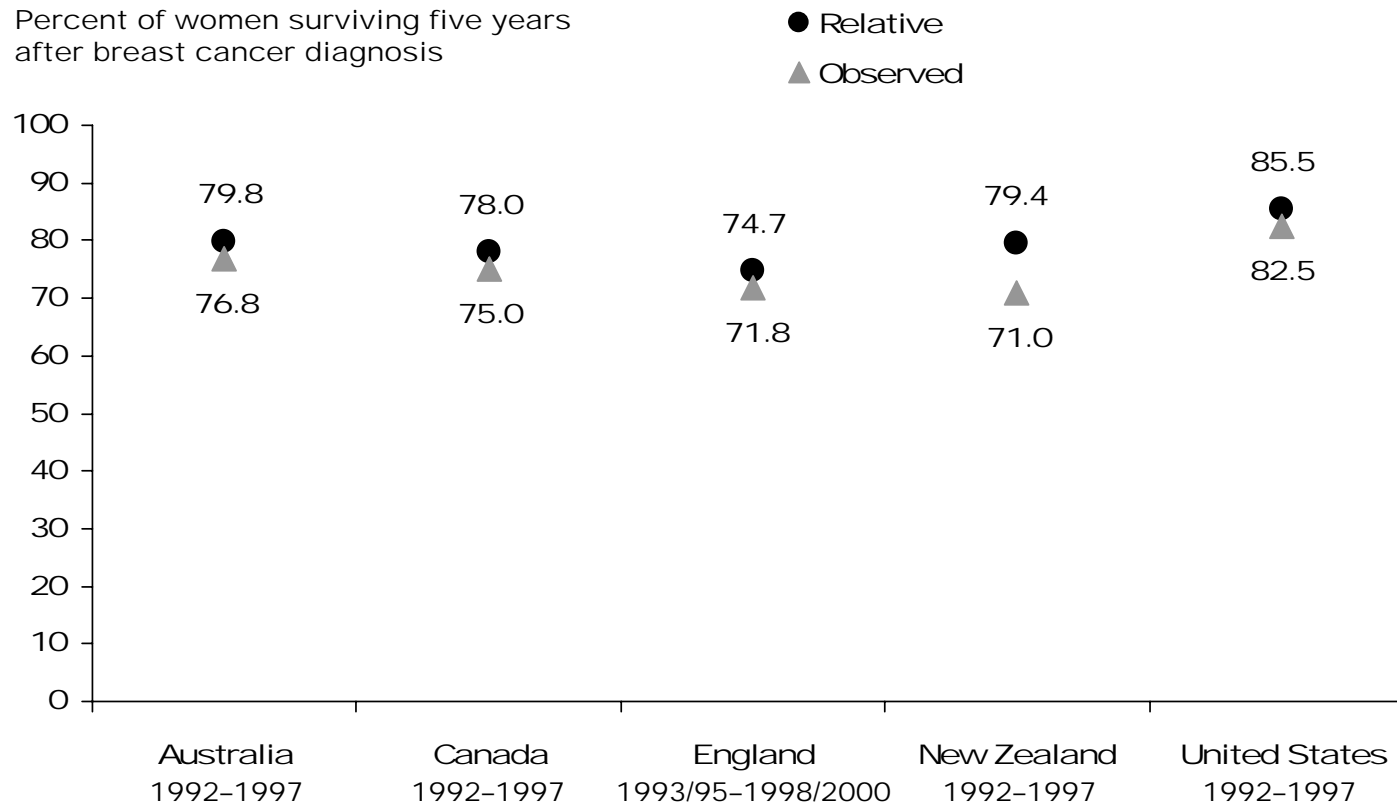
Appropriateness	Accessibility	Acceptability	Competence
Care/service provided is relevant to client/patient needs and based on established standards	Ability of clients/patients to obtain care/service at the right place and right time, based on needs	Care/service provided meets expectations of client, community, providers and paying organizations	Individual's knowledge/skills are appropriate to care/services provided
Effectiveness	Continuity	Efficiency	Safety
Care/service, intervention or action achieves desired results	Ability to provide uninterrupted, coordinated care/service across programs, practitioners, organizations, and levels of care/service, over time	Achieving desired results with most cost-effective use of resources	Potential risks of an intervention or the environment are avoided or minimized

Source: Canadian health system performance framework. Canadian Institute for Health Information. *A Roadmap Initiative*. Ottawa: CIHI, 1999.

Breast Cancer 5-Year Survival

- ***Findings:*** Approximately four of five women with breast cancer were alive five years after the diagnosis. The highest relative survival rate, in the United States, is 10 percent higher than the lowest rate, in England.
- ***How is this measured?*** The time from diagnosis of cancer to death is tracked using cancer and mortality registries. The observed survival rate is the percentage of survivors among all women who have been diagnosed with breast cancer. The relative survival rate is the observed survival rate for cancer adjusted for expected deaths from other causes. A survival rate is a measure of the *effectiveness* of health care in treating cancer.
- ***What are the implications?*** Higher relative survival rates may be due to better treatment or earlier presentation as a result of screening.
- ***What other information would we like to have?*** More information about cancer diagnosis, such as the proportion of cancers diagnosed at an early stage or stage-specific survival rates, would tell us more about the quality of cancer treatment. Information about type of treatment intervention and population characteristics (e.g., income, insurance coverage, education, and race/ethnicity) would help identify potential disparities in quality and access.

Breast Cancer 5-Year Survival



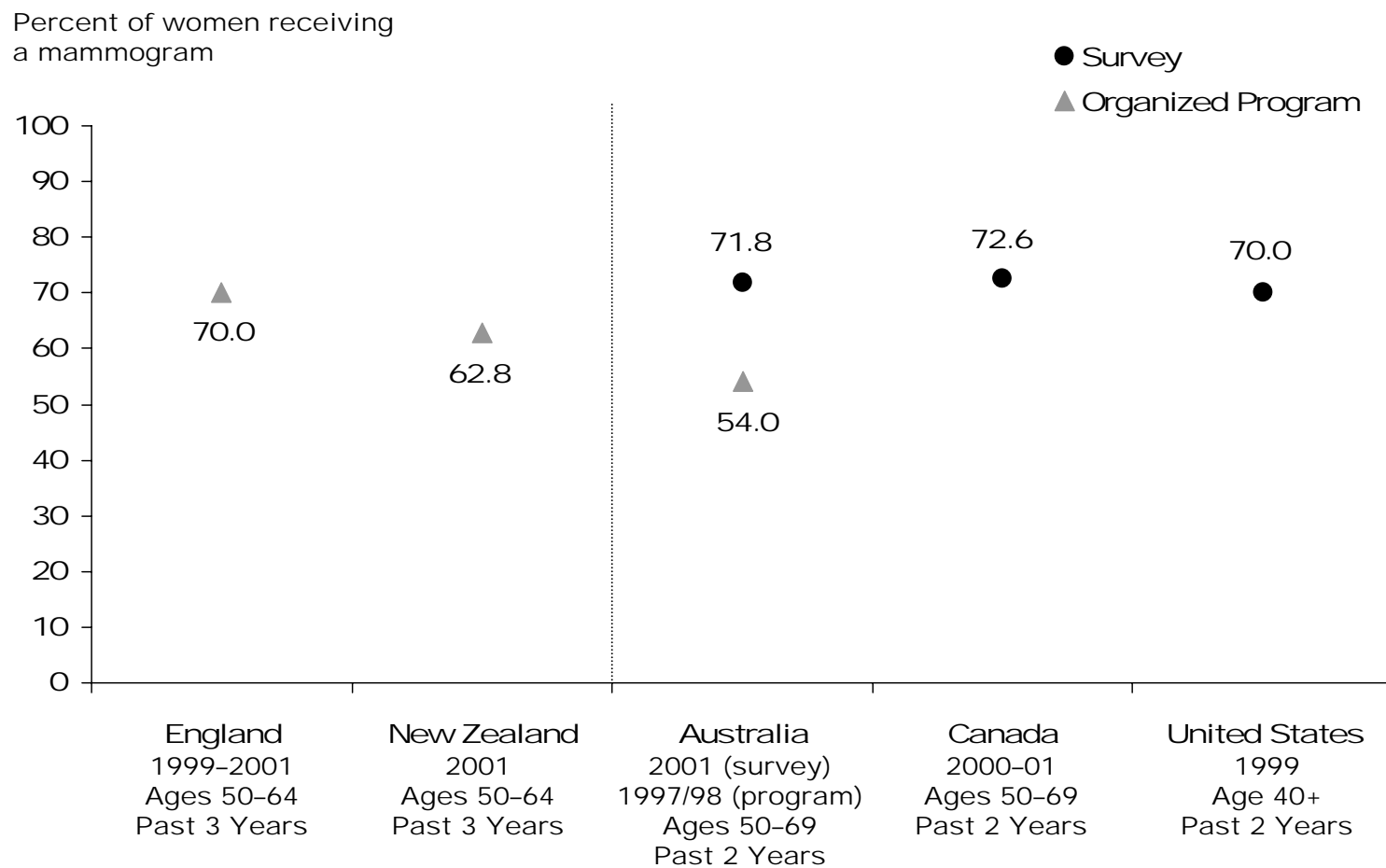
Note: Some differences are due to different age-standardization methods. For full notes and for confidence intervals, please refer to the Technical Appendix.



Breast Cancer Screening

- ***Findings:*** Between one-half and three-quarters of women have been screened within the past 3 years.
- ***How is this measured?*** This indicator measures the number of women, ages 50–69, who have received mammography. There are two sources of this type of information. Australia, Canada, and the U.S. ask women about when they last had a mammogram in national surveys. Australia, England, and New Zealand operate organized programs in an effort to screen all of the women in their target age group. Their rates are based on the administrative records of these programs. The screening rate measures how widely an *appropriate* procedure, mammography, is used in a target population.
- ***What are the implications?*** Higher mammography rates are a goal of all five countries. All five countries could improve their screening rates. Higher screening rates may lower the risk of mortality from cancer.
- ***What other information would we like to have?*** Longitudinal information on breast screening rates would show how countries are improving over time. Information on the characteristics of women who were not screened such as income, insurance coverage, education, and race/ethnicity would help identify potential disparities in quality and access, and provide direction for targeting outreach efforts.

Breast Cancer Screening



Note: The dotted line divides countries measuring screening within the past 2 vs. 3 years. Population surveys may produce different results than the administrative records of organized screening programs. For full notes, please refer to the Technical Appendix.



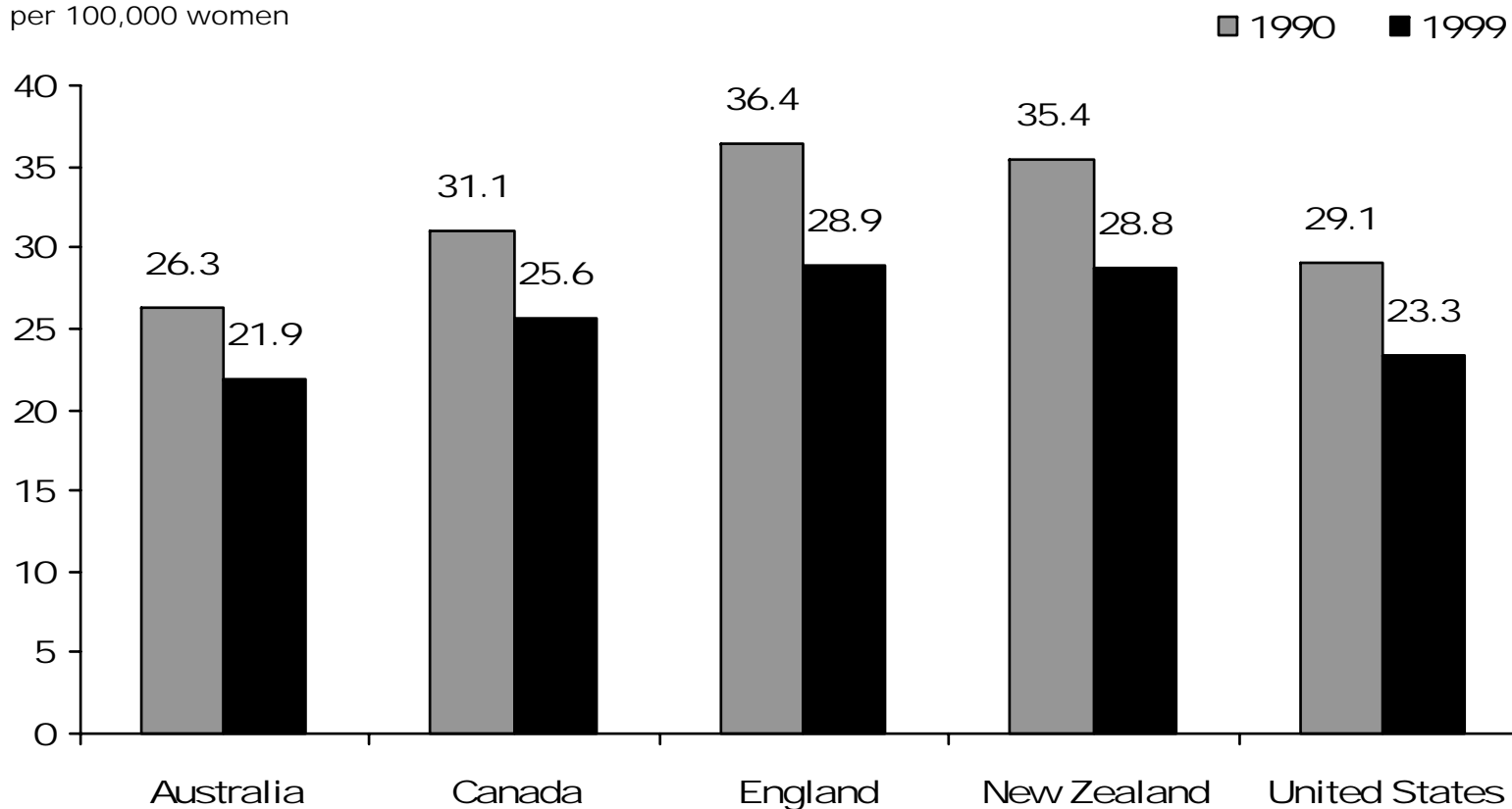
Breast Cancer Mortality

per 100,000 Women, 1990 and 1999 (age-standardized)

- ***Findings:*** Breast cancer mortality rates declined in every country between 1990 and 1999. The rates ranged from 22 deaths per 100,000 women per year in Australia to 29 in England and New Zealand in 1999.
- ***How is this measured?*** The number of deaths attributable to breast cancer is recorded in mortality registries.
- ***What are the implications?*** This information provides some background for breast cancer 5-year survival and screening rates. Lower mortality rates may be due to better detection and treatment but they also may be due to lower incidence of breast cancer and/or higher incidence of competing causes of death.

Breast Cancer Mortality per 100,000 Women (age-standardized)

Number of deaths from breast cancer
per 100,000 women



Note: Data for Canada and New Zealand are from 1998, not 1999. There may be some differences between countries in the attribution of mortality to breast cancer versus other causes, particularly in cases where there is more than one potential primary cause of death. For full notes, please refer to the Technical Appendix.

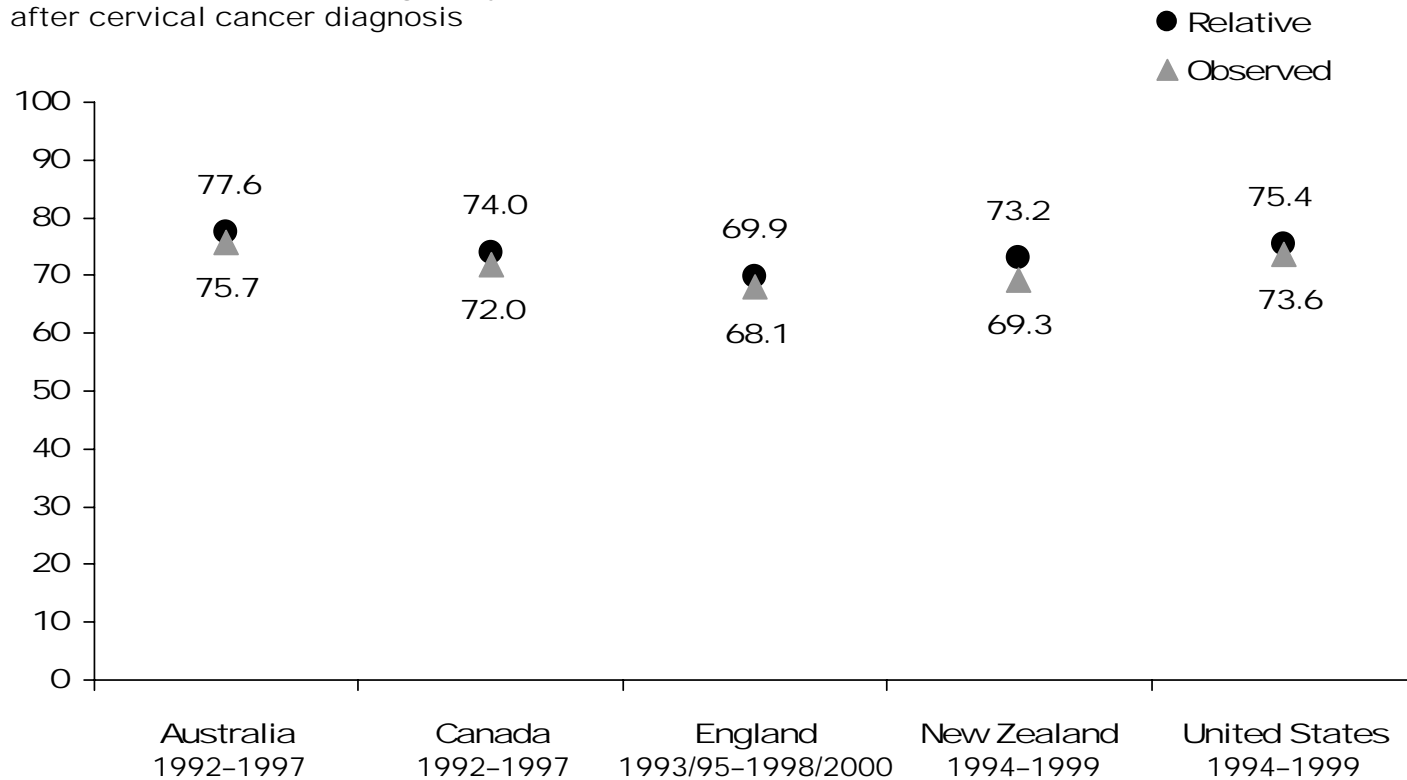


Cervical Cancer 5-Year Survival

- ***Findings:***
 - Cervical cancer relative survival rates ranged between 70 and 78 percent in the five countries.
 - The highest relative survival rate was in Australia and the lowest in England.
- ***How is this measured?*** The time from diagnosis of cancer to death is tracked using cancer and mortality registries. The observed survival rate is the percentage of survivors among all women who have been diagnosed with cervical cancer. The relative survival rate is the observed survival rate for cancer adjusted for expected deaths from other causes. A survival rate is a measure of the *effectiveness* of health care in treating cancer.
- ***What are the implications?*** Higher relative survival rates may be due to better treatment or earlier presentation as a result of screening.
- ***What other information would we like to have?*** More information about cancer diagnosis, such as the proportion of cancers diagnosed at an early stage or stage-specific survival rates, would tell us more about the quality of cancer treatment. Information about type of treatment intervention and population characteristics (e.g., income, insurance coverage, education, and race/ethnicity) would help identify potential disparities in quality and access.

Cervical Cancer 5-Year Survival

Percent of women surviving five years after cervical cancer diagnosis



Note: Some differences are due to different age-standardization methods. For full notes and for confidence intervals, please refer to the Technical Appendix.

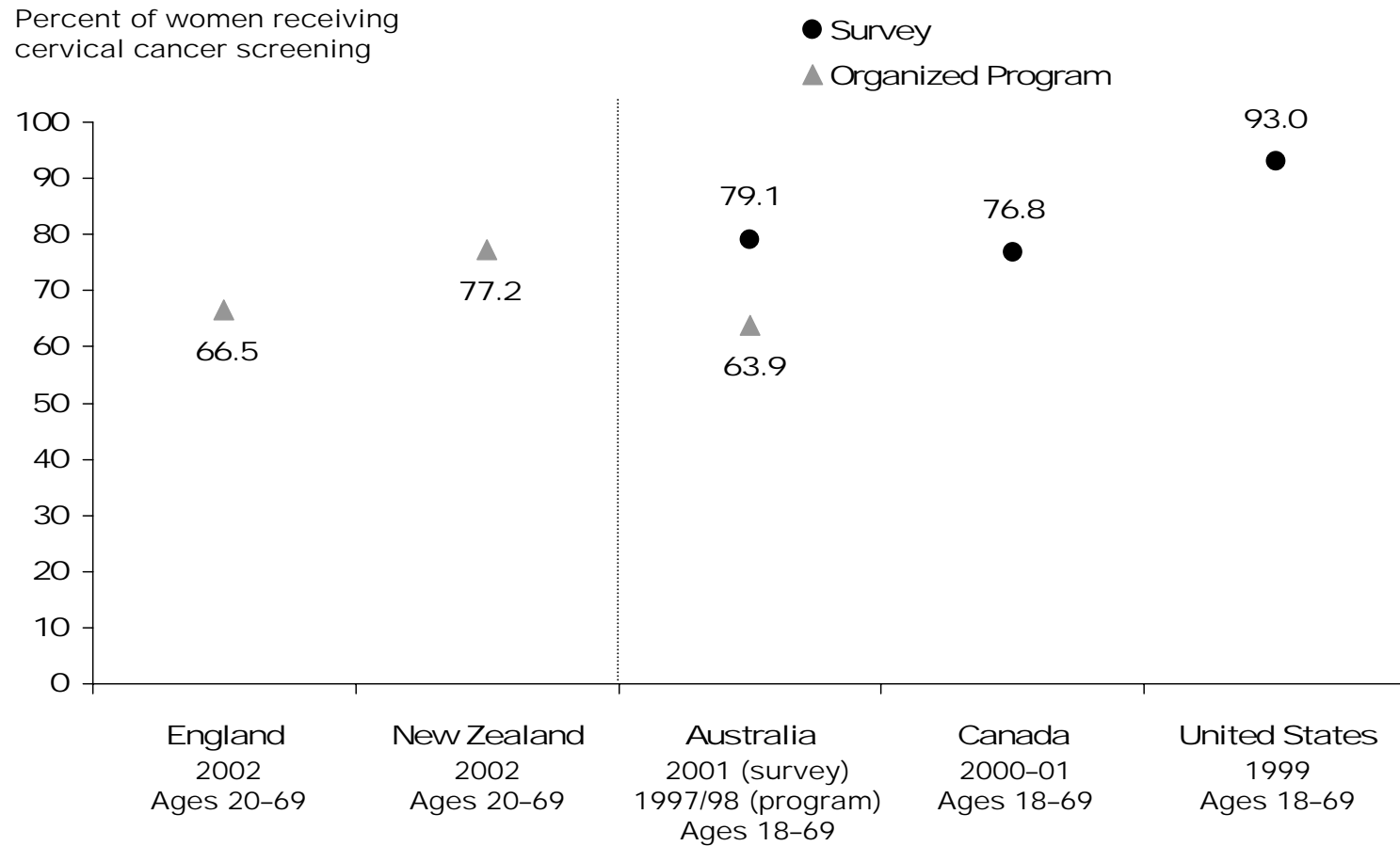


Cervical Cancer Screening

Ages 20–69, Past 3 Years

- ***Findings:*** Cervical screening rates varied more between countries than rates of breast cancer screening. The rate was particularly high in the U.S.—over 90 percent. In the other countries, between 60 and 80 percent of women in the age range had been screened.
- ***How is this measured?*** This indicator measures the number of women ages 20–69 who have received cervical cancer screening in the past 3 years. There are two sources of this type of information. Australia, Canada, and the U.S. ask women about when they were last screened in national surveys. Australia, England, and New Zealand operate organized programs in an effort to screen all of the women in their target age group. Their rates are based on the administrative records of these programs. These differences in methodology may have some impact on the rates reported. The screening rate measures the extent to which an *appropriate* procedure, cervical cancer screening, is used in a target population.
- ***What are the implications?*** High cervical cancer screening rates are a goal of all five countries. Early detection of cervical cancer increases the chances of successful treatment.
- ***What other information would we like to have?*** Information about type of treatment intervention and population characteristics (e.g., income, insurance coverage, education, and race/ethnicity) would help identify potential disparities in quality and access.

Cervical Cancer Screening



Note: The dotted line separates countries with organized screening programs from countries conducting population surveys. Population surveys may produce different results than the administrative records of organized screening programs. In England, national recommendations are for screening every 3–5 years for women ages 20–69; the screening rate for the past 5 years is 82%. For full notes, please refer to the Technical Appendix.



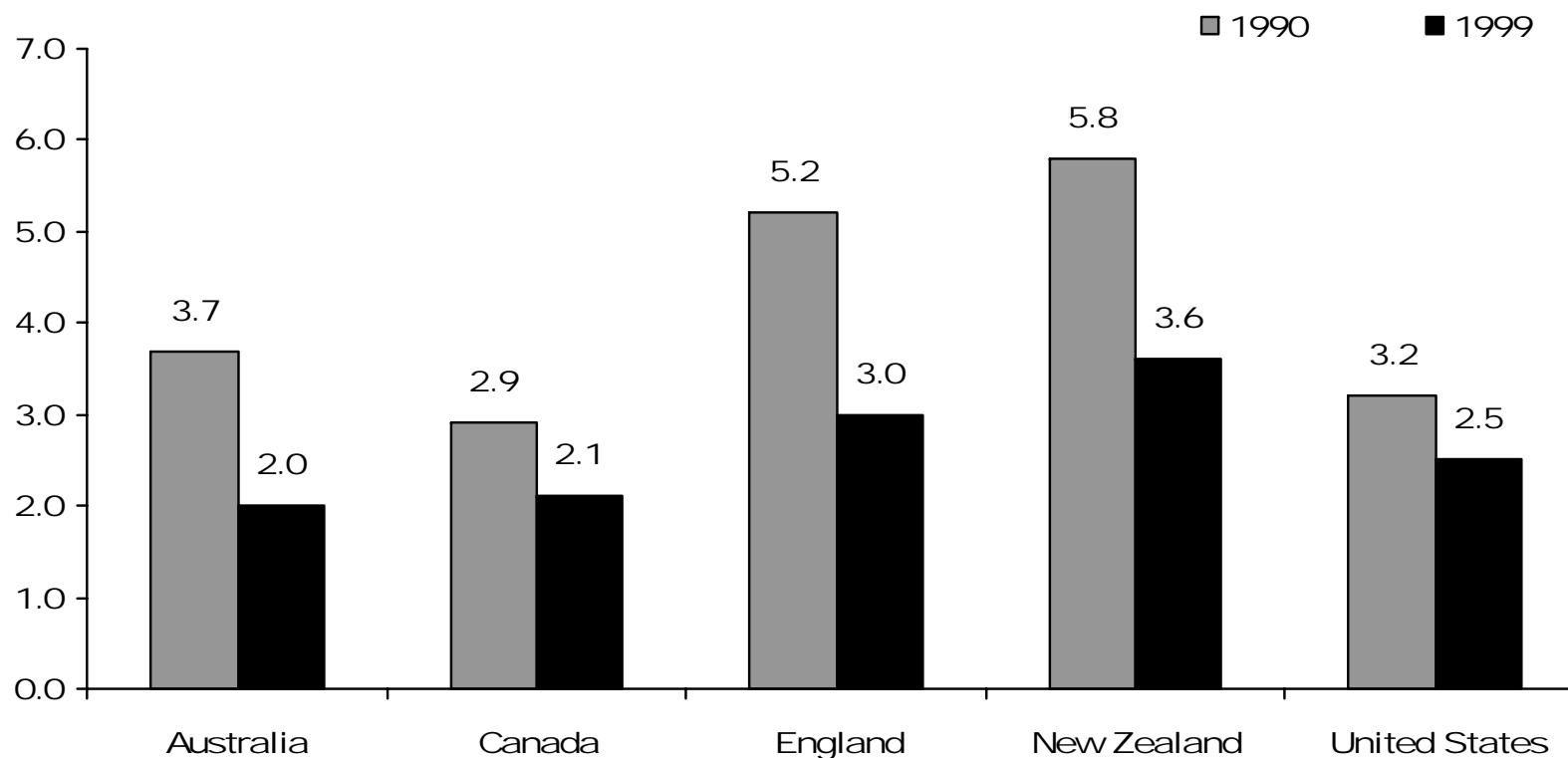
Cervical Cancer Mortality

per 100,000 Women, 1990 and 1999 (age-standardized)

- ***Findings:*** Cervical cancer mortality rates declined in all five countries between 1990 and 1999. The rates ranged from 2.0 deaths per 100,000 women per year in Australia to 3.6 in New Zealand in 1999. The countries with the highest mortality rates also have the lowest survival rates.
- ***How is this measured?*** The number of deaths attributable to cervical cancer is recorded in mortality registries.
- ***What are the implications?*** This information provides some background for cervical cancer 5-year survival and screening rates. Lower mortality rates may be due to better detection and treatment but they also may be due to lower incidence of cervical cancer.

Cervical Cancer Mortality per 100,000 Women (age-standardized)

Number of deaths from cervical cancer
per 100,000 women



Note: Data for Canada and New Zealand are from 1998, not 1999. There may be some differences between countries in the attribution of mortality to cervical cancer versus other causes, particularly in cases where there is more than one potential primary cause of death. For full notes, please refer to the Technical Appendix.

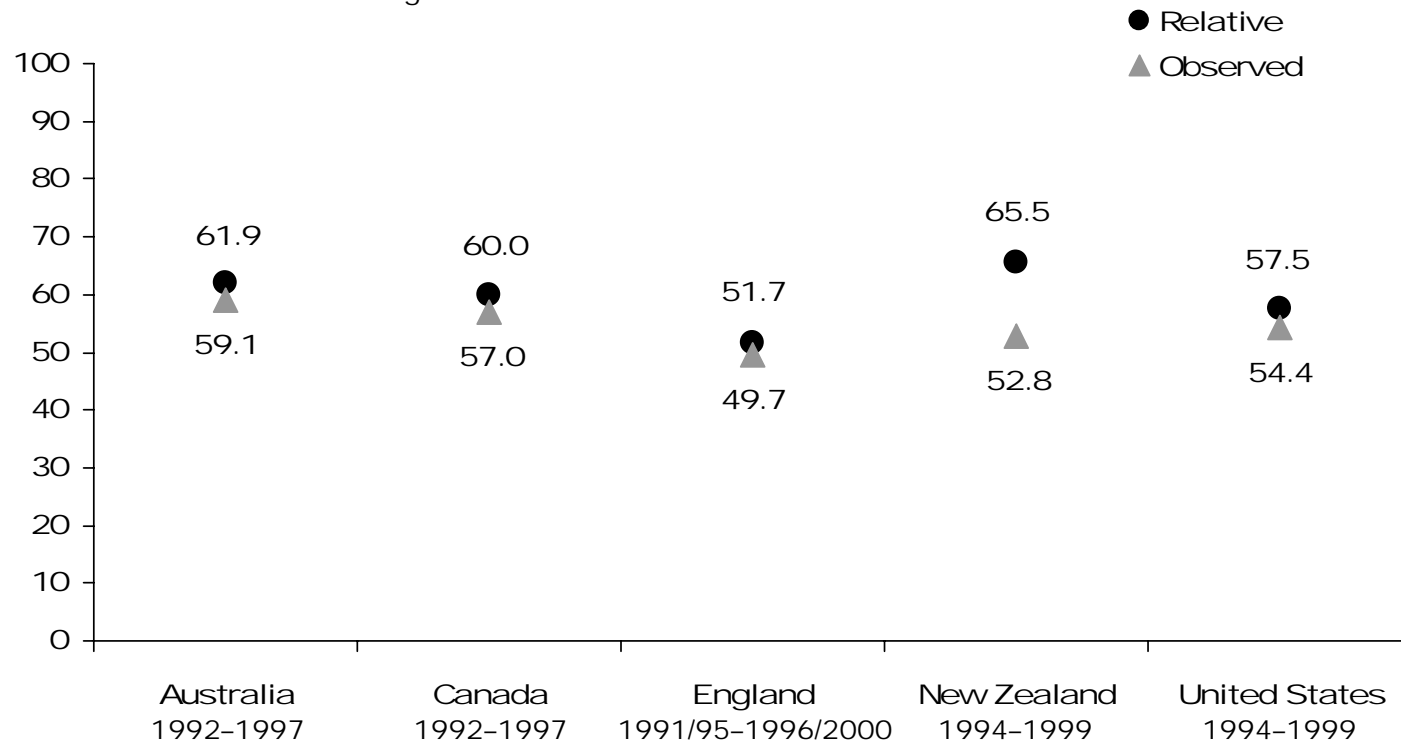


Colorectal Cancer 5-Year Survival

- ***Findings:*** Relative survival rates ranged narrowly in the five countries. The relative survival rate was highest in New Zealand and lowest in England.
- ***How is this measured?*** The time from diagnosis of cancer to death is tracked using cancer and mortality registries. The observed survival rate is the percentage of survivors among all people who have been diagnosed with colorectal cancer. The relative survival rate is the observed survival rate for cancer adjusted for expected deaths from other causes. A survival rate is a measure of the *effectiveness* of health care in treating cancer.
- ***What are the implications?*** Higher relative survival rates may be due to better treatment or earlier presentation as a result of screening.
- ***What other information would we like to have?*** More information about cancer diagnosis, such as the proportion of cancers diagnosed at an early stage or stage-specific survival rates, would tell us more about the quality of cancer treatment. Information about type of treatment intervention and population characteristics (e.g., income, insurance coverage, education, and race/ethnicity) would help identify potential disparities in quality and access.

Colorectal Cancer 5-Year Survival

Percent of people surviving five years after colorectal cancer diagnosis



Note: The England rate is for colon cancer only. Some differences are due to different age-standardization methods. For full notes and for confidence intervals, please refer to the Technical Appendix.



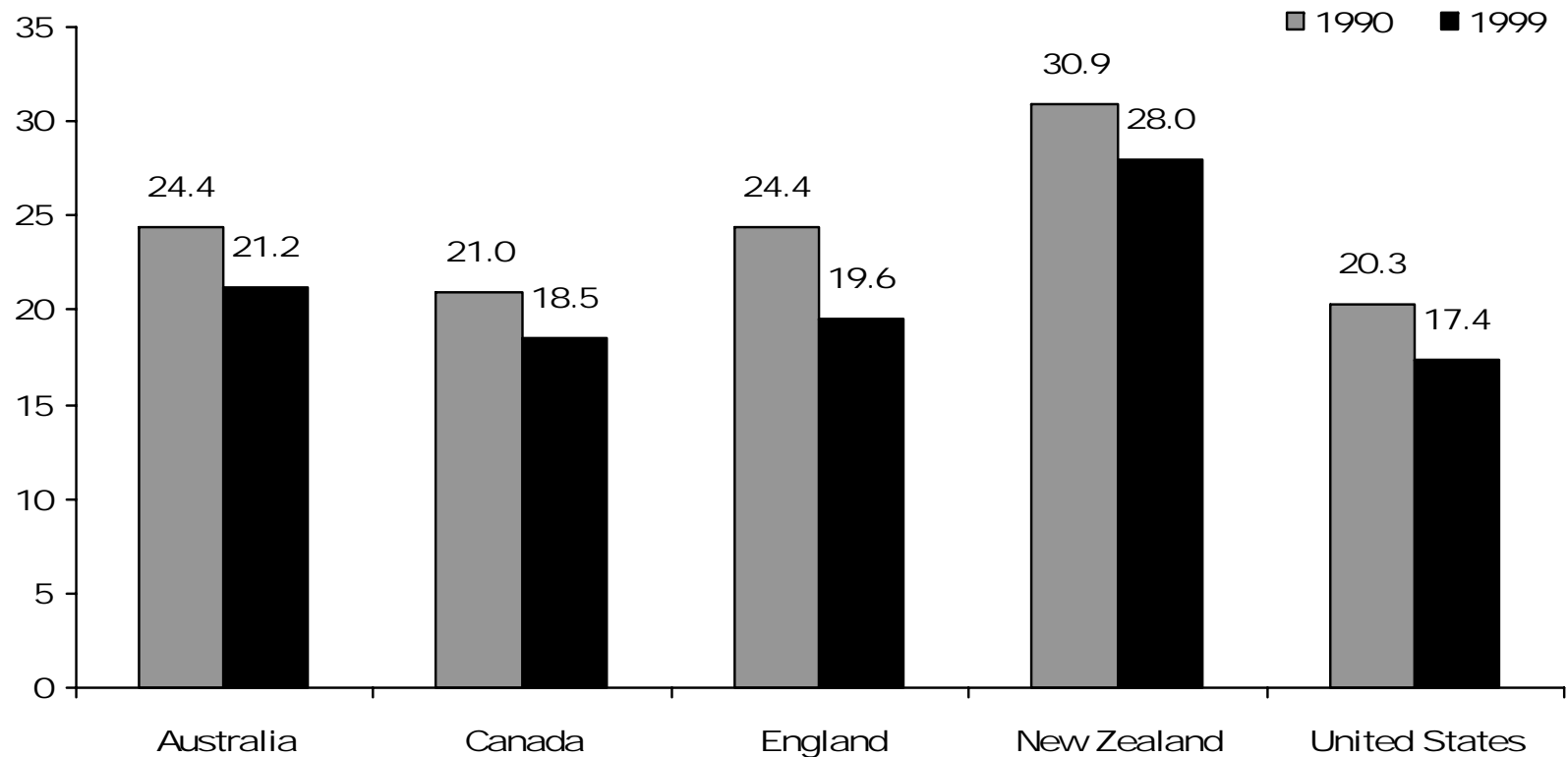
Colorectal Cancer Mortality

per 100,000 People, 1990 and 1999 (age-standardized)

- ***Findings:*** Between 17 and 28 deaths per 100,000 people were attributable to colorectal cancer in 1999. Colorectal cancer mortality is most common in New Zealand.
- ***How is this measured?*** The number of deaths attributable to colorectal cancer is recorded in mortality registries.
- ***What are the implications?*** This information provides some background for colorectal cancer 5-year survival rates. Lower mortality rates may be due to better detection, primary prevention through removal of precancerous lesions, and treatment but they also may be due to lower incidence of colorectal cancer.

Colorectal Cancer Mortality per 100,000 People (age-standardized)

Number of deaths from colorectal cancer
per 100,000 people



Note: Data for Canada and New Zealand are from 1998, not 1999. There may be some differences between countries in the attribution of mortality to colorectal cancer versus other causes, particularly in cases where there is more than one potential primary cause of death. For full notes, please refer to the Technical Appendix.

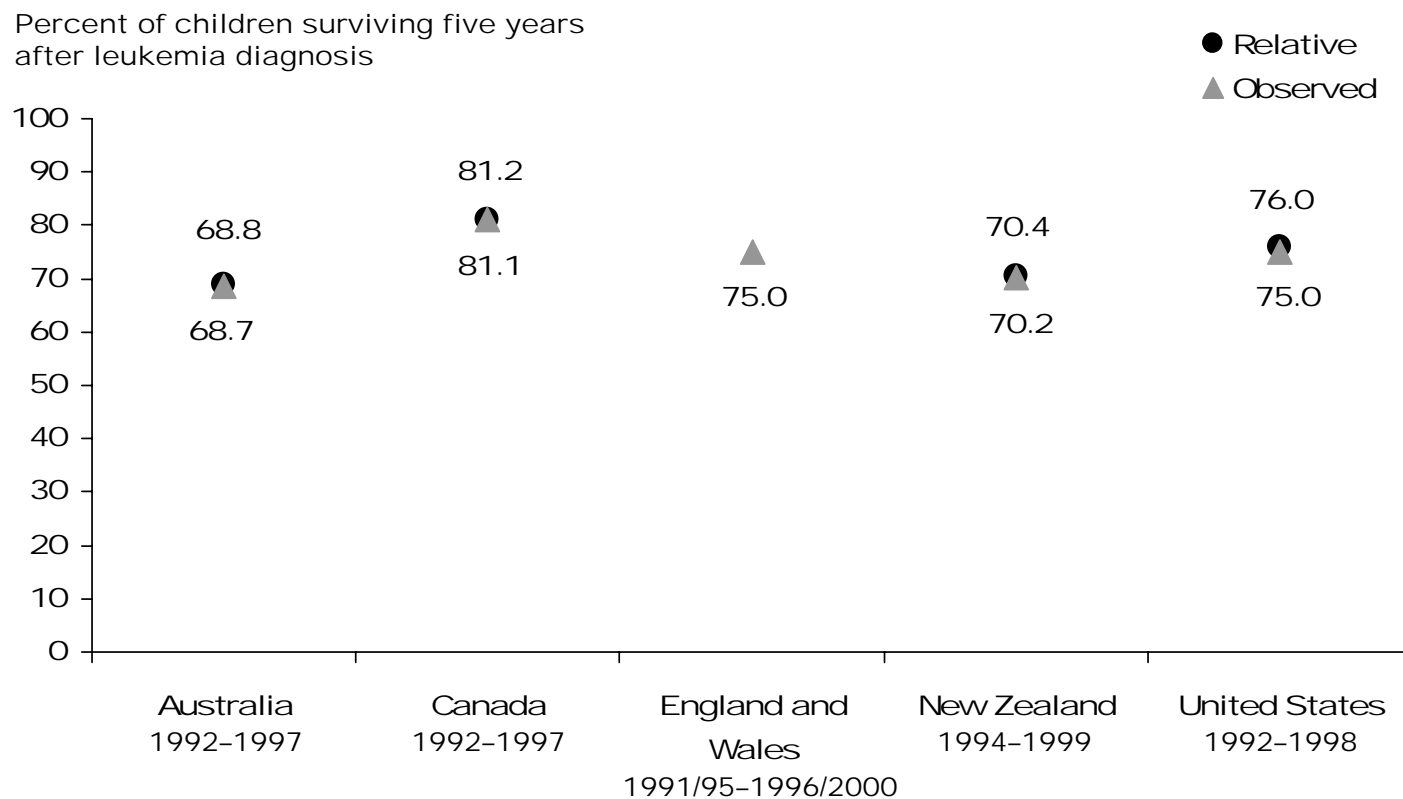


Childhood Leukemia 5-Year Survival

Ages 0–14

- ***Findings:*** Survival rates of children after leukemia diagnosis ranged from 69 percent in Australia to 81 percent in Canada.
- ***How is this measured?*** The time from diagnosis of cancer to death is tracked using cancer and mortality registries. The observed survival rate is the percentage of survivors among all children who have been diagnosed with leukemia. The *relative* survival rate is the observed survival rate for cancer adjusted for expected deaths from other causes. A survival rate is a measure of the effectiveness of health care in treating cancer.
- ***What are the implications?*** Higher relative survival rates may be due to better treatment or earlier presentation.
- ***What other information would we like to have?*** Information about type of treatment intervention and population characteristics (e.g., income, insurance coverage, education, and race/ethnicity) would help identify potential disparities in quality and access.

Childhood Leukemia 5-Year Survival Ages 0–14



Note: Due to the small number of childhood leukemia cancers in New Zealand, confidence intervals for New Zealand survival rates are quite broad. For full notes and for confidence intervals, please refer to the Technical Appendix.

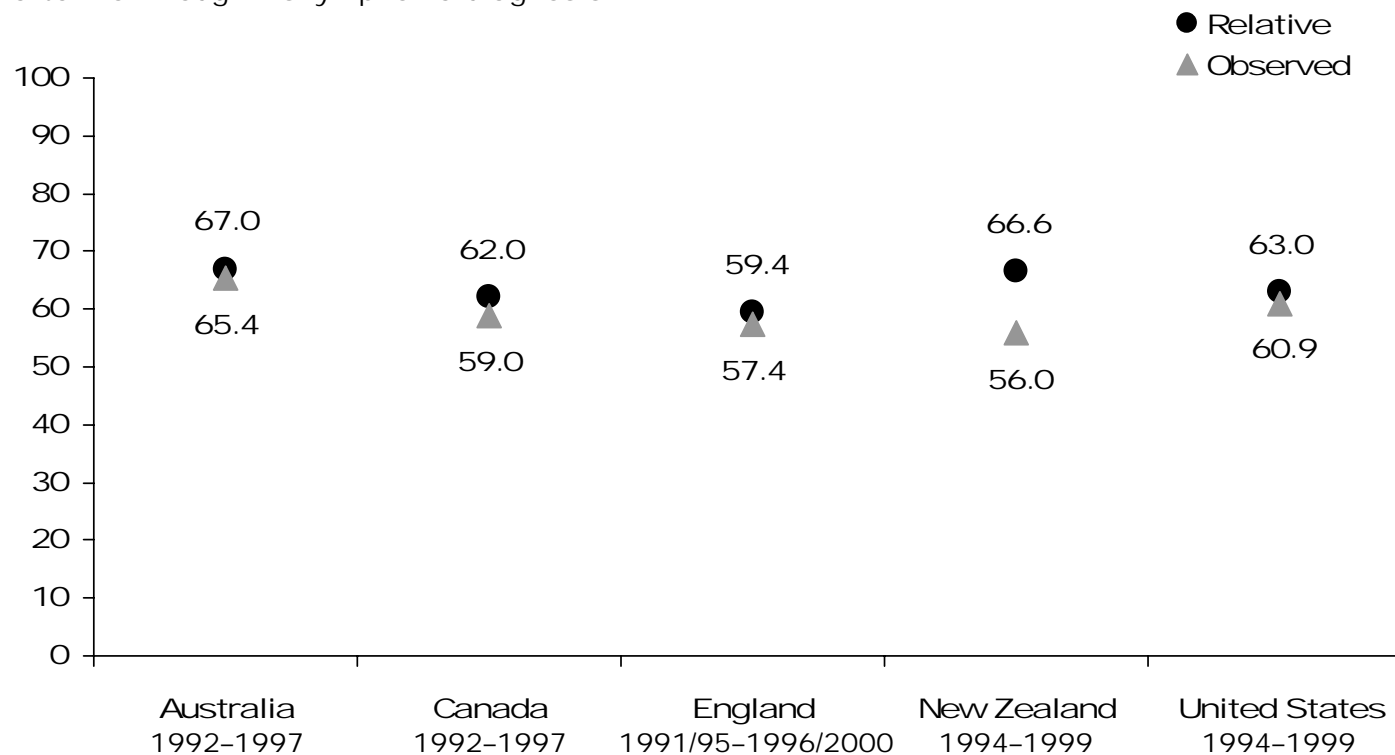


Non-Hodgkin's Lymphoma 5-Year Survival

- ***Findings:*** Australia and New Zealand had the highest 5-year relative survival rates, with a range between 58 and 67 percent in the five countries.
- ***How is this measured?*** The time from diagnosis of cancer to death is tracked using cancer and mortality registries. The observed survival rate is the percentage of survivors among all people who have been diagnosed with non-Hodgkin's lymphoma. The relative survival rate is the observed survival rate for cancer adjusted for expected deaths from other causes. A survival rate is a measure of the *effectiveness* of health care in treating cancer.
- ***What are the implications?*** Higher relative survival rates may be due to better treatment or earlier presentation.
- ***What other information would we like to have?*** More information about cancer diagnosis, such as the proportion of cancers diagnosed at an early stage or stage-specific survival rates, would tell us more about the quality of cancer treatment. The characteristics of the people who do not survive would also be useful. Information about type of treatment intervention and population characteristics (e.g., income, insurance coverage, education, and race/ethnicity) would help identify potential disparities in quality and access.

Non-Hodgkin's Lymphoma 5-Year Survival

Percent of people surviving five years after non-Hodgkin's lymphoma diagnosis



Note: Some differences are due to different age-standardization methods. For full notes and for confidence intervals, please refer to the Technical Appendix.

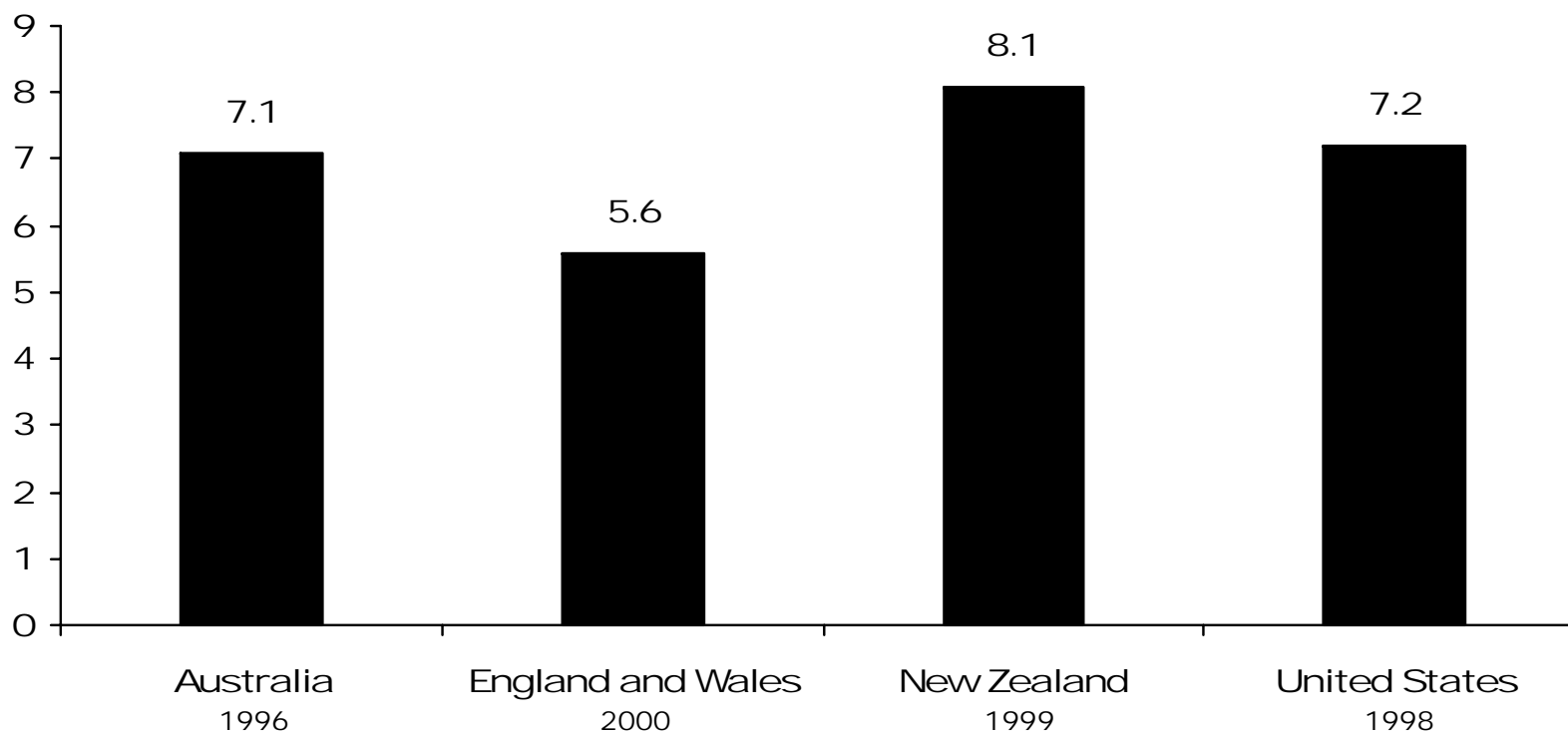


Non-Hodgkin's Lymphoma Mortality per 100,000 People (age-standardized)

- ***Findings:*** Non-Hodgkin's lymphoma was responsible for between 5 and 8 deaths per 100,000 people. Mortality rates were lowest in England/Wales and highest in New Zealand.
- ***How is this measured?*** The number of deaths attributable to non-Hodgkin's lymphoma is recorded in mortality registries.
- ***What are the implications?*** This information provides some background for non-Hodgkin's lymphoma 5-year survival rates. Lower mortality rates may be due to better detection and treatment but they also may be due to lower incidence of non-Hodgkin's lymphoma.

Non-Hodgkin's Lymphoma Mortality per 100,000 People (age-standardized)

Number of deaths from non-Hodgkin's lymphoma
per 100,000 people



Note: There may be some differences between countries in the attribution of mortality to non-Hodgkin's lymphoma versus other causes, particularly in cases where there is more than one potential primary cause of death. Data for Canada were not available. For full notes, please refer to the Technical Appendix.

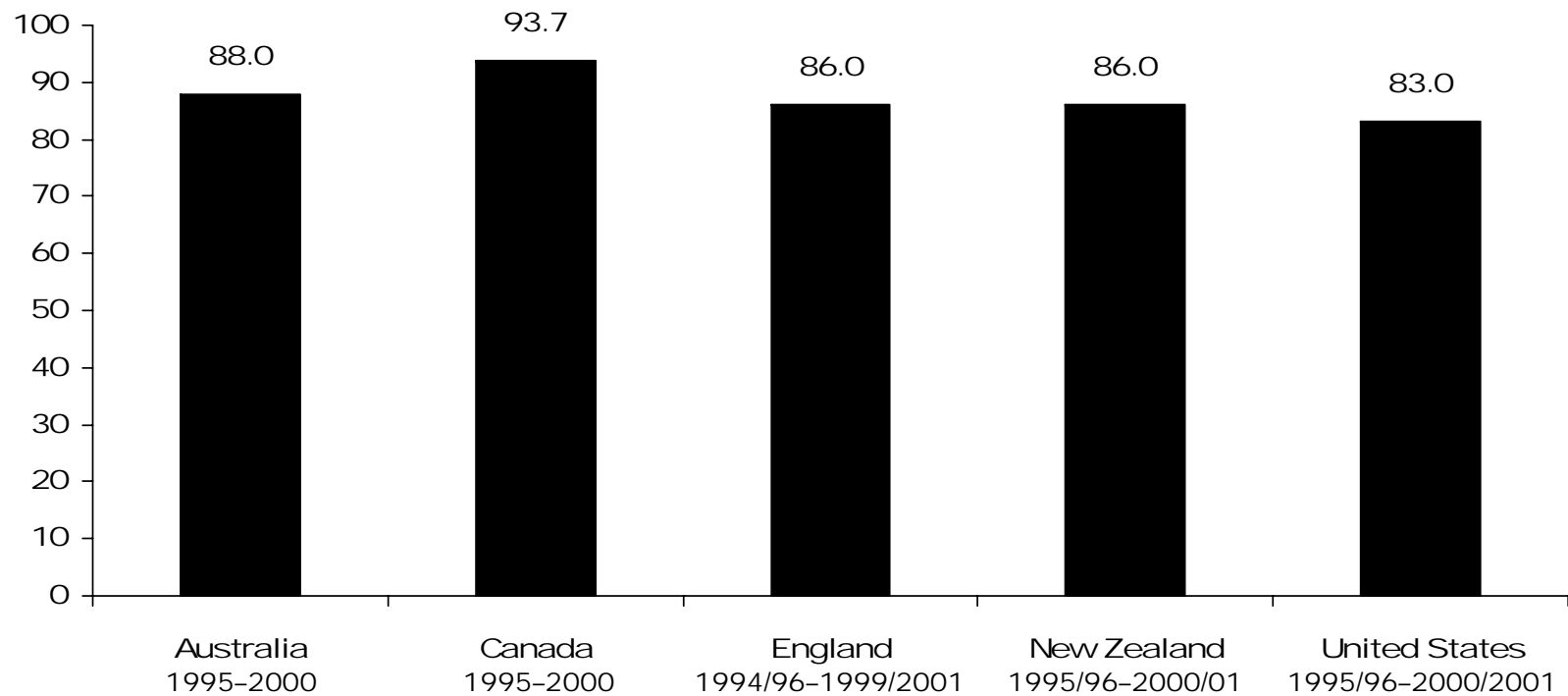


Kidney Transplant 5-Year Survival

- ***Findings:*** Survival rates after receiving a kidney transplant ranged between 83 percent in the United States and 94 percent in Canada.
- ***How is this measured?*** The time from the transplant to death is recorded by transplant and mortality registries. A survival rate is a measure of the *effectiveness* of health care in performing transplants.
- ***What are the implications?*** Higher survival rates can be the result of high-quality health care for transplant recipients. Some additional differences could be due to differences in the characteristics of patients who receive transplants in each country.
- ***What other information would we like to have?*** Information about waiting times for transplants and the characteristics of the people who get transplants and who do not (e.g., age, income, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access.

Kidney Transplant 5-Year Survival

Percent of people surviving five years after receiving a kidney transplant



Note: Rates for Australia and New Zealand do not include live donors; the other three rates do. The Australian and U.S. rates are not age-standardized. In New Zealand, relatively few transplants are performed leading to wider uncertainty around the estimate. For full notes and for confidence intervals, please refer to the Technical Appendix.

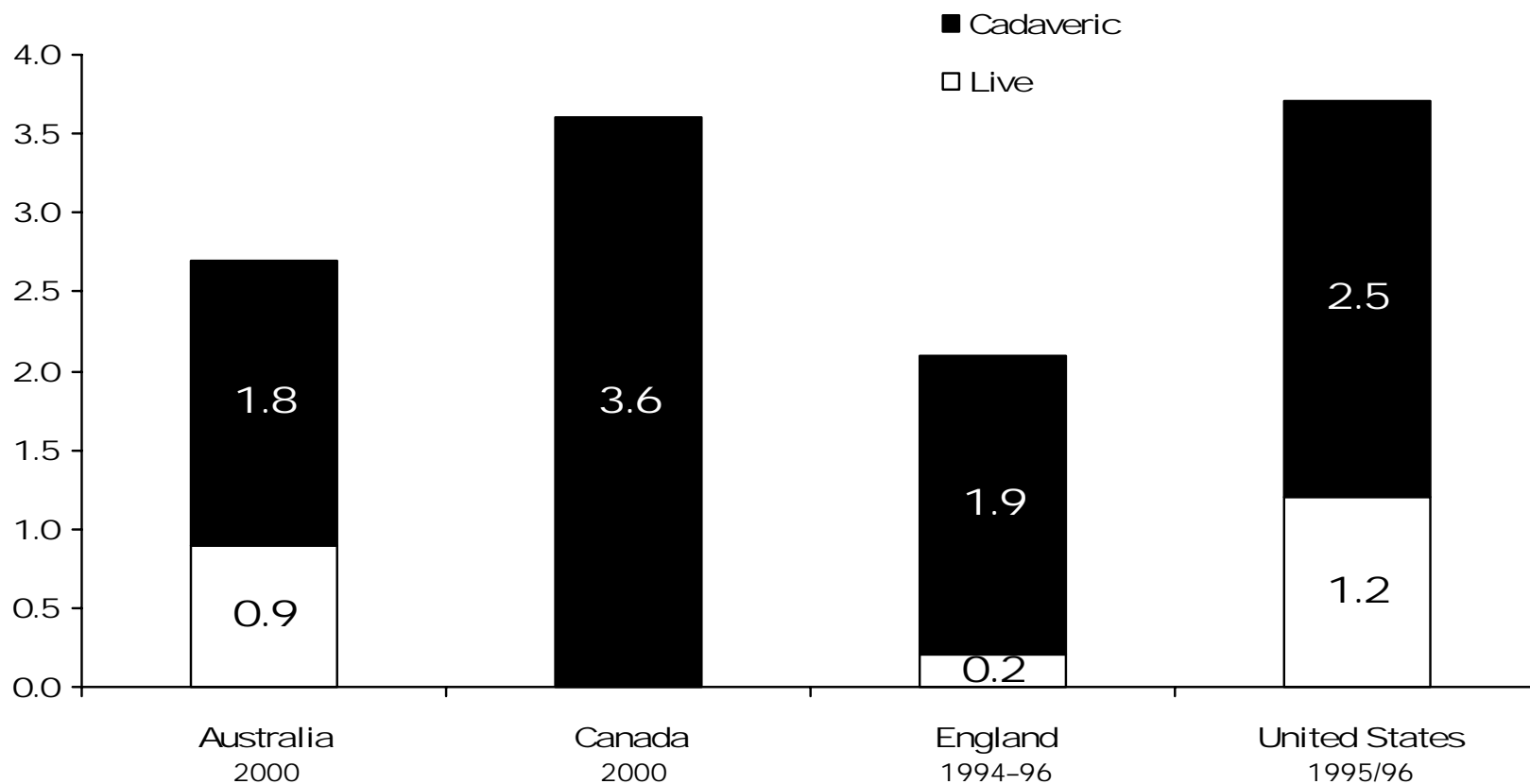


Kidney Transplant Rates per 100,000 People

- ***Findings:*** Kidney transplant rates were higher in Canada and the United States than in Australia and England. The proportion of live donors was lowest in England.
- ***How is this measured?*** This rate is the number of transplants performed divided by total national population. The volume of transplants is useful background information for the transplant survival rate.
- ***What are the implications?*** Transplant rates are affected by the prevalence of disease, the availability of organs, the prevalence of dialysis, and other factors. Information about waiting times and the characteristics of patients with End Stage Renal Disease (e.g., income, education, and race/ethnicity) would help to understand the demand side of the equation.

Kidney Transplant Rates per 100,000 People

Number of kidney transplants
per 100,000 people



Note: Canadian rate is for cadaveric and live transplants combined. Data for New Zealand were not available.
For full notes, please refer to the Technical Appendix.

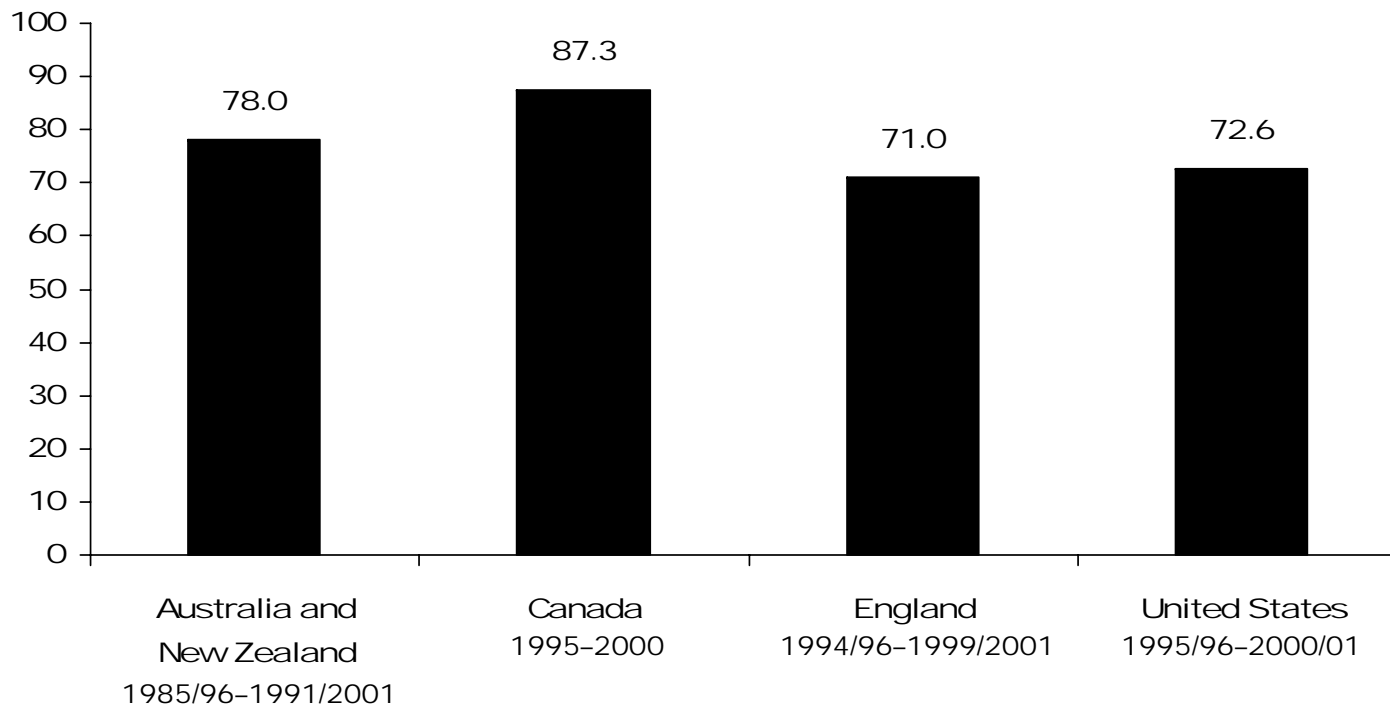


Liver Transplant 5-Year Survival

- ***Findings:*** Liver transplant survival rates ranged between 71 percent in England and 87 percent in Canada.
- ***How is this measured?*** The time from the transplant to death is recorded by transplant and mortality registries. A survival rate is a measure of the *effectiveness* of transplant procedures.
- ***What are the implications?*** Higher survival rates can be the result of high-quality health care for transplant recipients. Some additional differences could be due to differences in the characteristics of patients who receive transplants in each country.
- ***What other information would we like to have?*** Information about waiting times and the characteristics of the population (e.g., age, health status, income, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access.

Liver Transplant 5-Year Survival

Percent of people surviving five years after receiving a liver transplant



Note: Some differences in rates are due to different age-standardization methods. For full notes and for confidence intervals, please refer to the Technical Appendix.

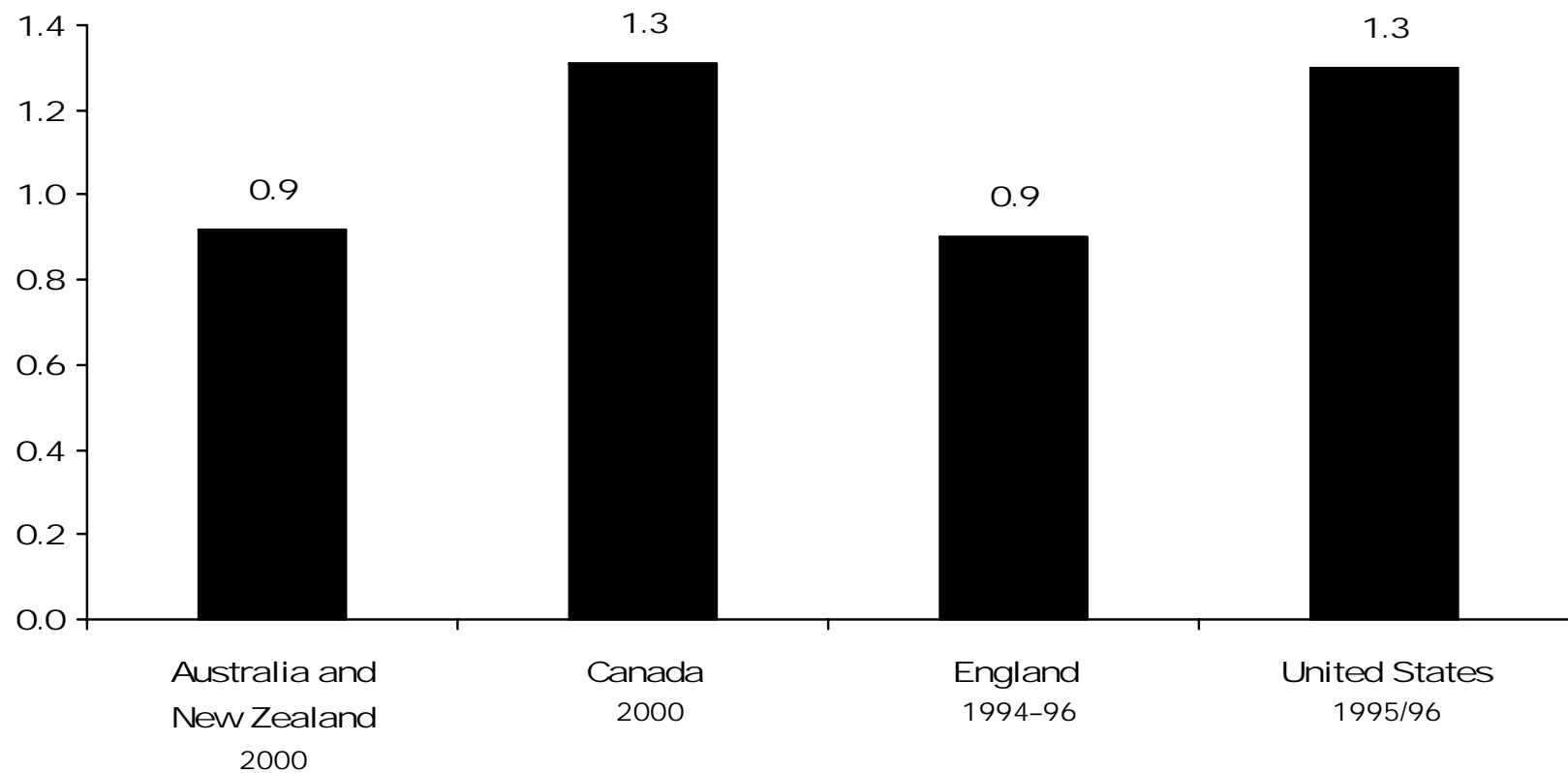


Liver Transplant Rates per 100,000 People

- ***Findings:*** The liver transplant rate is higher in Canada and the United States than in Australia, England, and New Zealand.
- ***How is this measured?*** This rate is the number of transplants performed divided by total national population. The volume of transplants is useful background information for the transplant survival rate.
- ***What are the implications?*** Transplant rates are affected by the prevalence of disease, the availability of organs, treatment patterns, and other factors.

Liver Transplant Rates per 100,000 People

Number of liver transplants
per 100,000 people



For full notes, please refer to the Technical Appendix.

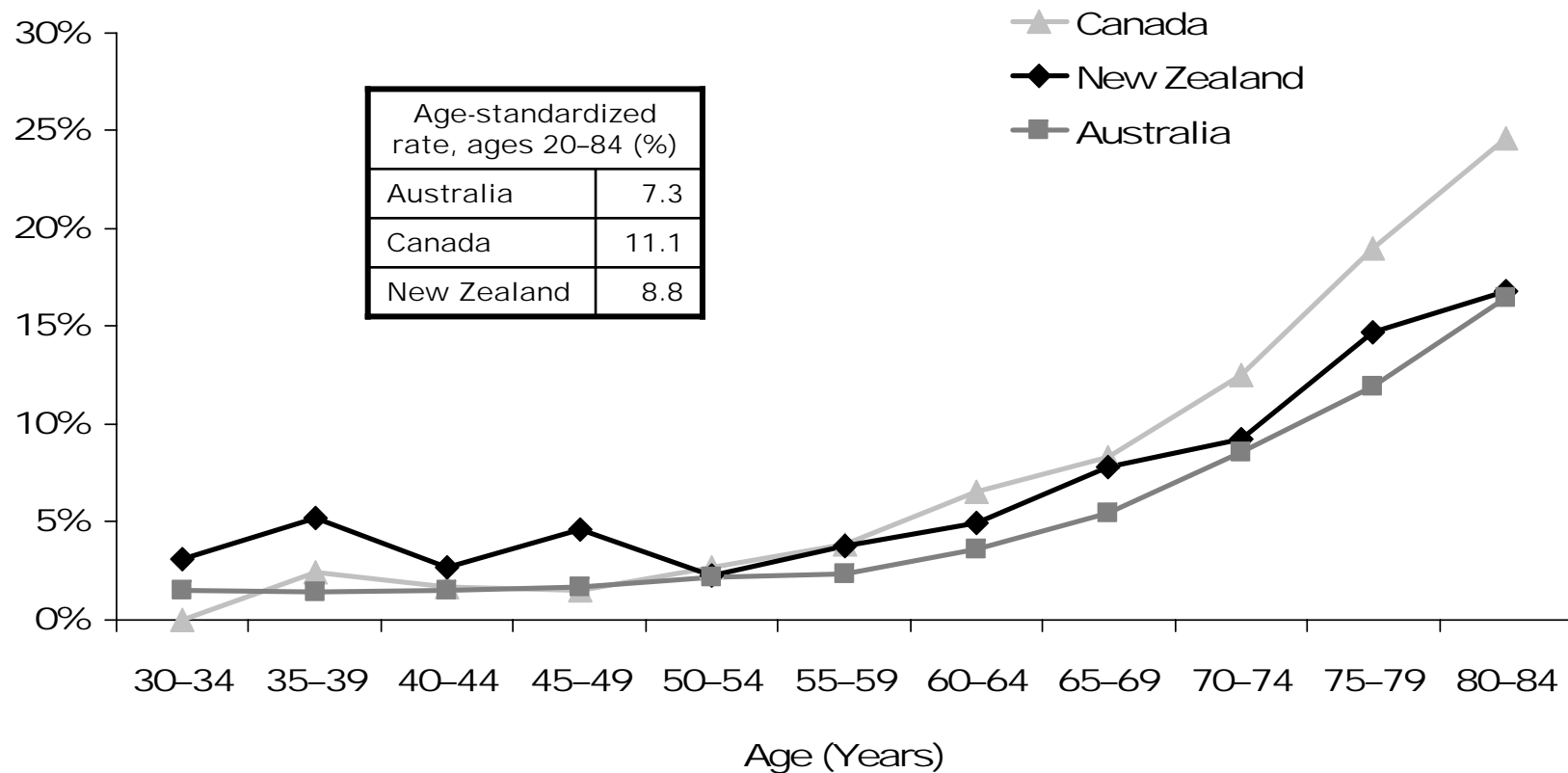


30-Day Acute Myocardial Infarction Case-Fatality Rate

- ***Findings:*** Case-fatality rates were higher in Canada than in Australia and New Zealand. Case-fatality rates increase with age.
- ***How is this measured?*** This rate shows how many people who were hospitalized for AMI died in the hospital within the following 30 days. This is measured using hospital administrative records. This is a measure of *effectiveness* of health care in treating people who have had an AMI.
- ***What are the implications?*** Better hospital care can improve the case-fatality rate for AMI. Deaths occurring outside of the hospital can also affect rates. This includes both people who die after an AMI but before being admitted to the hospital, and people who are discharged from the hospital after treatment for AMI and subsequently die.
- ***What other information would we like to have?*** The case-fatality rate for AMI in all settings, not just in the hospital; time to treatment for AMI; and process measures for treatment of AMI such as use of beta-blockers. Information about the characteristics of the population (e.g., sex, income, illness severity, comorbidities, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access and could be used for risk adjustment.

30-Day Acute Myocardial Infarction Case-Fatality Rate

Percent of people admitted with an AMI who die in the hospital within 30 days



Note: Data for Australia and New Zealand for 2000-01 and Canada for 2000. England and the United States elected not to supply data because of methodological concerns. For full notes, please refer to the Technical Appendix.

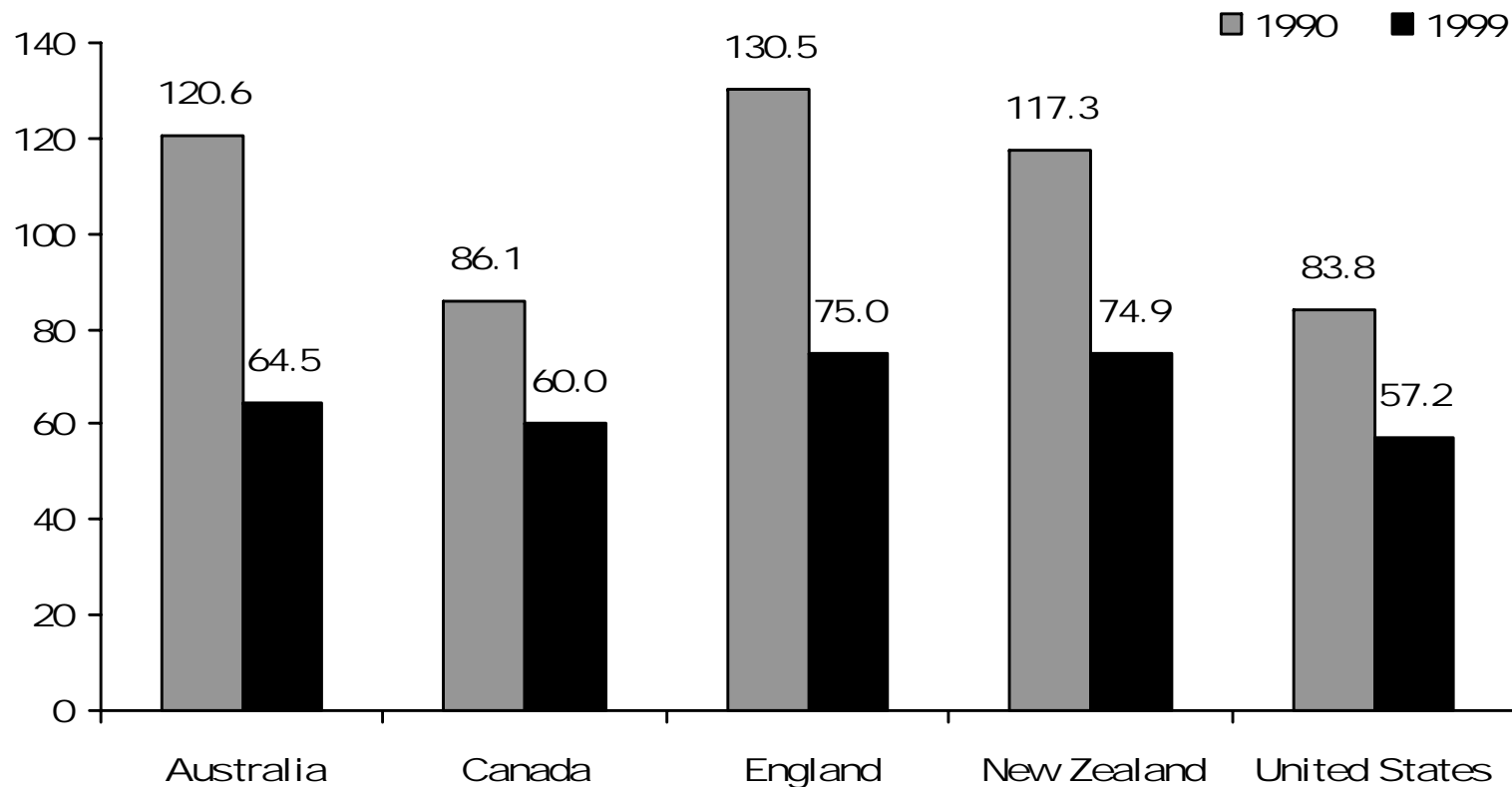


Acute Myocardial Infarction Mortality per 100,000 People, 1990 and 1999

- ***Findings:*** Acute myocardial infarction mortality rates declined in all five countries between 1990 and 1999. Acute myocardial infarction mortality was most common in England and New Zealand.
- ***How is this measured?*** The number of deaths attributable to acute myocardial infarction is recorded in mortality registries.
- ***What are the implications?*** This information provides some background for acute myocardial infarction case-fatality rates.
- ***What other information would we like to have?*** Information on the use of primary prevention including cholesterol reduction and treatment of other risk factors.

Acute Myocardial Infarction Mortality per 100,000 People (age-standardized)

Number of deaths from AMI
per 100,000 people



Note: Canada and New Zealand data are from 1998, not 1999. There may be some differences between countries in the attribution of mortality to AMI versus other causes, particularly in cases where there is more than one potential primary cause of death. For full notes, please refer to the Technical Appendix.

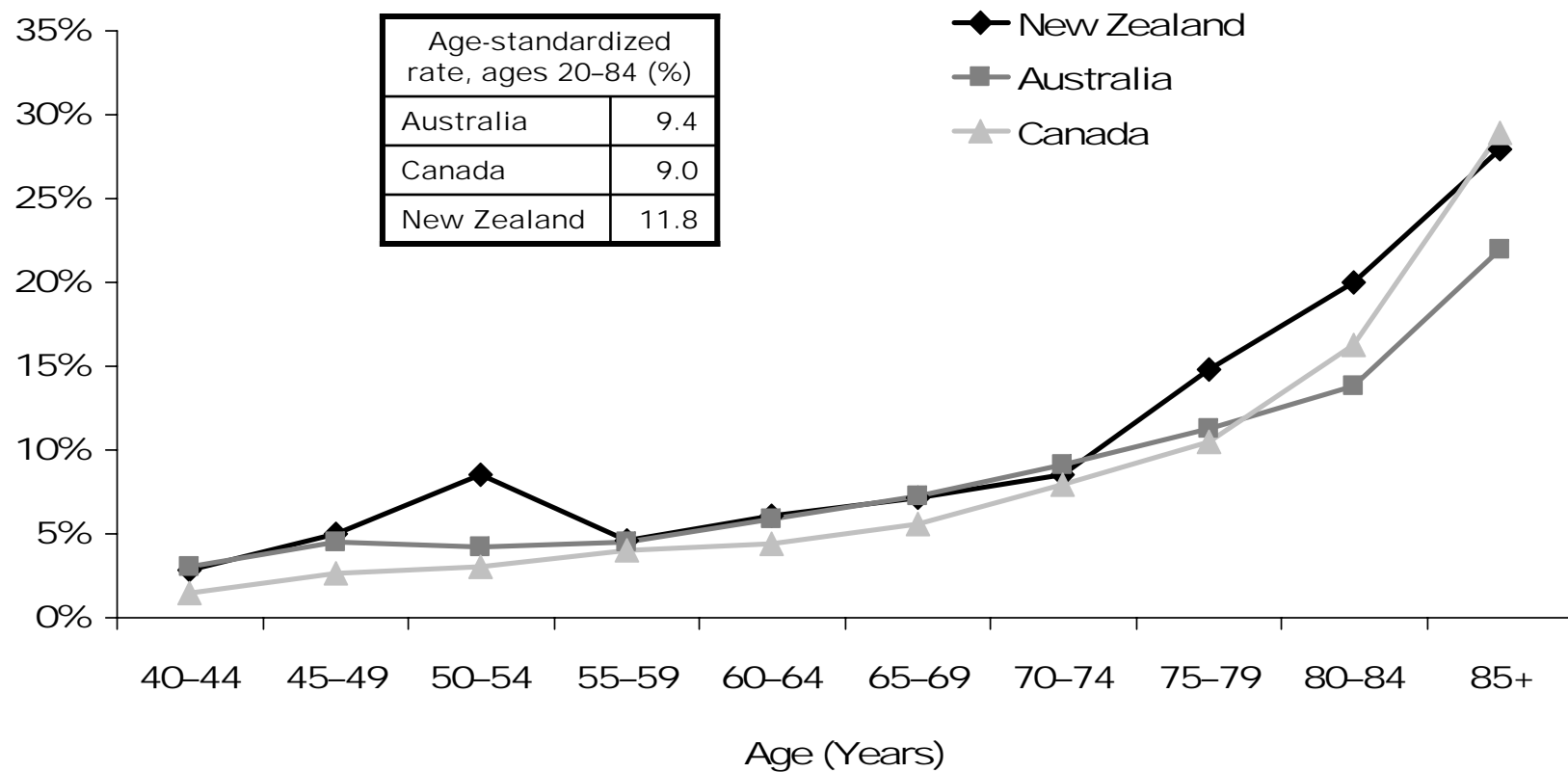


30-Day Ischemic Stroke Case-Fatality Rate

- ***Findings:*** Case-fatality rates after ischemic stroke were higher in New Zealand than in Australia and Canada. Most of the difference was in people ages 70–80. Case-fatality rates increase with age.
- ***How is this measured?*** This records how many people who were hospitalized for stroke died in the hospital within the following 30 days. This is measured using hospital administrative records. This is a measure of *effectiveness* of health care in treating people who have had a stroke.
- ***What are the implications?*** Better hospital care can improve the case-fatality rate for stroke. Deaths occurring outside of the hospital can also affect rates. This includes both people who die after a stroke but before being admitted to the hospital, and people who are discharged from the hospital after treatment for stroke and subsequently die.
- ***What other information would we like to have?*** The case-fatality rate for stroke in all settings, not just in the hospital; the time to treatment of stroke; and process measures for treatment of stroke. Information about the characteristics of the population (e.g., sex, income, illness severity, comorbidities, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access and could be used for risk adjustment.

30-Day Ischemic Stroke Case-Fatality Rate

Percent of people admitted with an ischemic stroke who die in the hospital within 30 days



Note: Data for Australia and New Zealand for 2000-01 and Canada for 2000. England and the United States elected not to supply data because of methodological concerns. For full notes, please refer to the Technical Appendix.

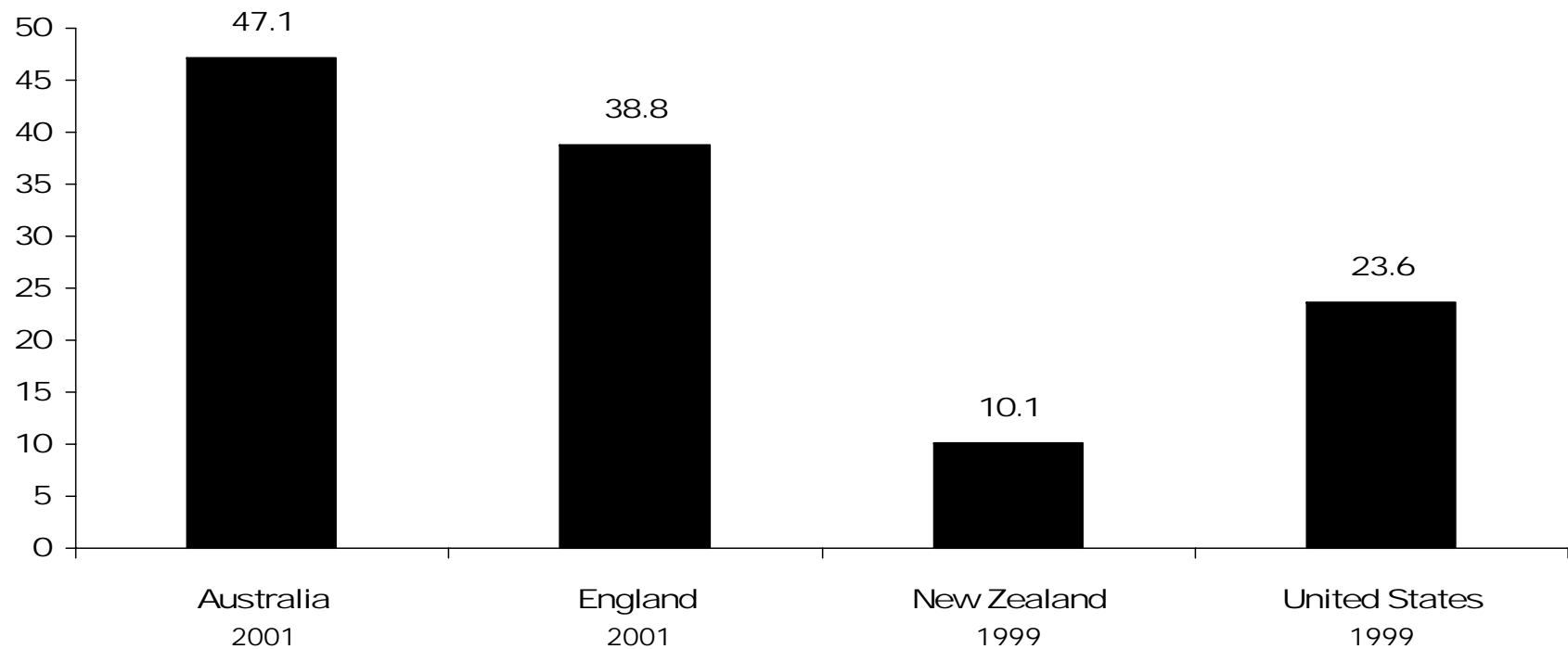


Ischemic Stroke Mortality per 100,000 People (age-standardized)

- ***Findings:*** Ischemic stroke mortality rates varied widely and were much higher in Australia and England than in New Zealand and the United States.
- ***How is this measured?*** The number of deaths attributable to stroke is recorded in mortality registries.
- ***What are the implications?*** This information provides some background for stroke case-fatality rates.

Ischemic Stroke Mortality per 100,000 People (age-standardized)

Number of deaths from ischemic stroke
per 100,000 people



Note: There may be some differences between countries in the attribution of mortality to stroke versus other causes, particularly in cases where there is more than one potential primary cause of death. Data for Canada were not available. For full notes, please refer to the Technical Appendix.



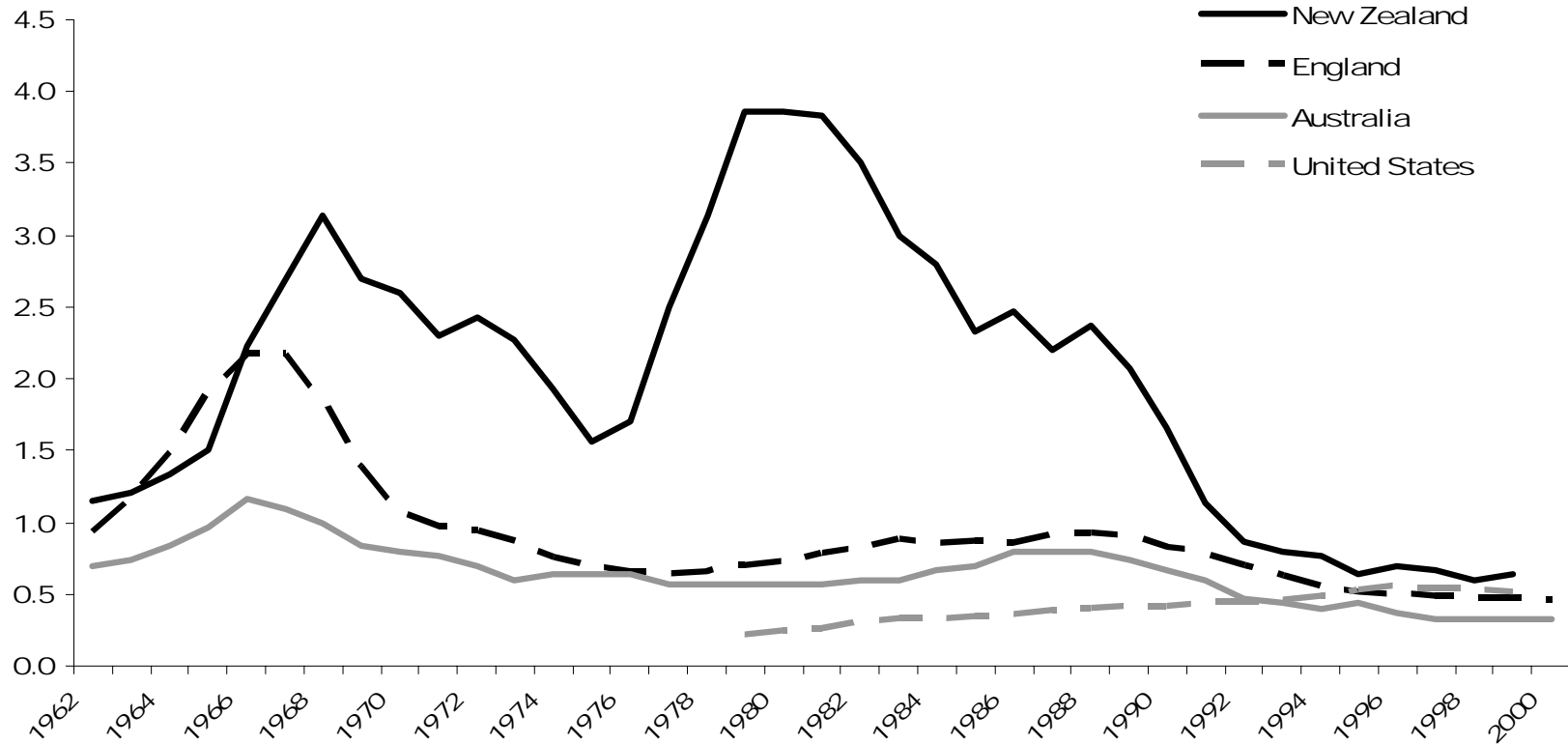
Asthma Mortality Rates

per 100,000 People Ages 5–39, 1960–2000

- ***Findings:*** Asthma mortality rates were higher in New Zealand than the other countries over the entire time period, although decreases in the 1990s have closed most of the gap. Asthma mortality rates declined during the 1990s except in the United States, where they increased.
- ***How is this measured?*** The number of deaths attributable to asthma is recorded in mortality registries. The age range 5–39 is chosen because it is difficult to attribute mortality to asthma outside of this range. This is a measure of *appropriateness* since with the right care at the right time, asthma deaths are considered avoidable.
- ***What are the implications?*** Many deaths from asthma could be prevented through appropriate management of the condition. Management can be improved through better health care, although it also depends on adherence to treatment by the people who have asthma.
- ***What other information would we like to have?*** Indicators that reflect the appropriateness of medical care, such as the number of people with asthma who are prescribed medicines considered appropriate, the number of people with asthma who received formal education about asthma management, or the number of people with asthma who perform appropriate self-management, such as using peak flow meters, as well as the use of such services as hospitalizations and emergency room visits. Data on other health outcome measures, such as activity limitations, could also be useful. Information about the characteristics of the population (e.g., sex, income, insurance coverage, and race/ethnicity) would help identify potential confounders as well as disparities in quality and access.

Asthma Mortality Rates per 100,000 People Ages 5–39, 1960–2000 3-Year Moving Average

Number of deaths due to
asthma per 100,000 people
ages 5–39 (age-standardized)



Note: Some differences in trends over time may be due to a transition in coding systems, for example between ICD-8 and ICD-9. Some differences between countries could also be due to coding differences. Further differences could be due to asthma prevalence, environmental conditions, or other factors. For full notes, please refer to the Technical Appendix.



Suicide Rates

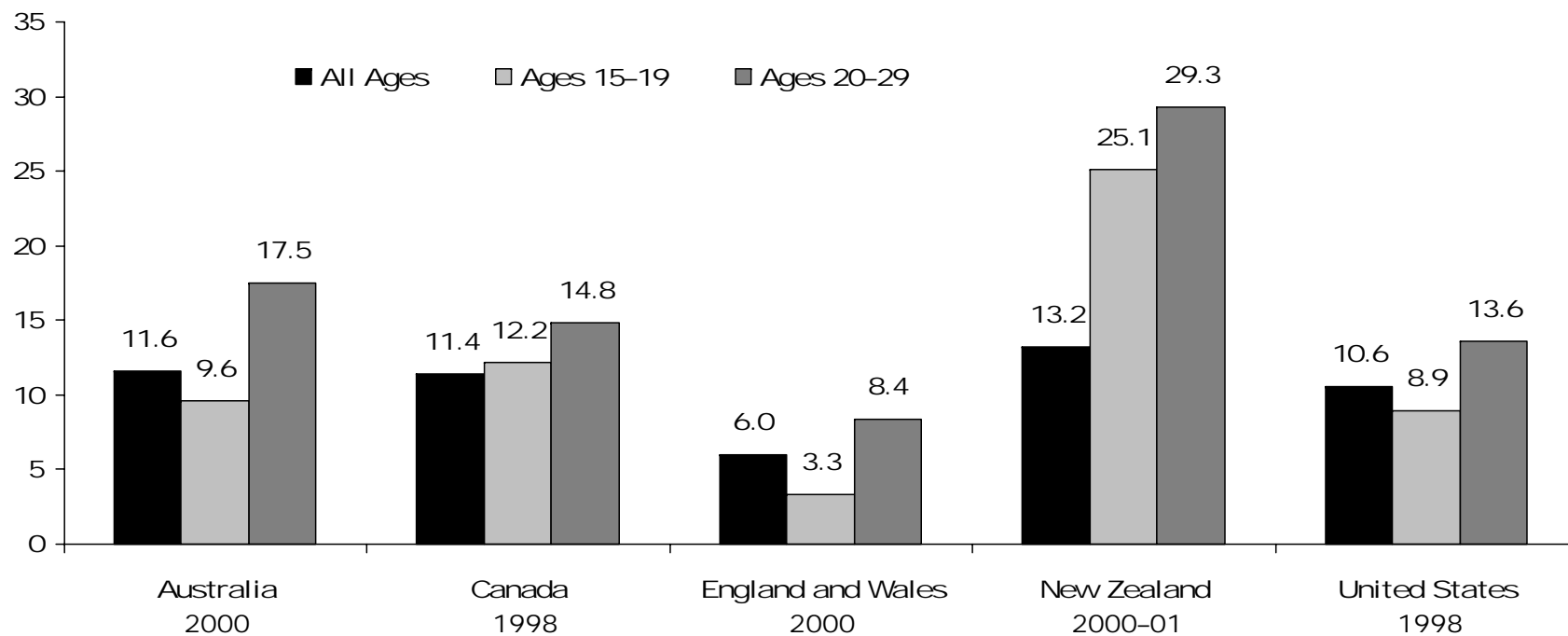
per 100,000 Population, Ages 15–19 and Ages 20–29

- ***Findings:*** Suicide rates vary considerably across the five countries. New Zealand has particularly high rates, especially in the younger age groups 15–19 and 20–29. The 20–29 age group had the highest suicide rates in all five countries. England had lower suicide rates than the other countries.
- ***How is this measured?*** The number of deaths attributable to suicide is recorded in mortality registries. This is a measure of *appropriateness* since with proper health care, many suicide deaths could be prevented.
- ***What are the implications?*** Suicide rates are partly due to how many people with mental illness are treated by the health care system and how effective the treatment is for those who have it. The rates are also affected by other social programs and societal and individual factors.
- ***What other information would we like to have?*** Indicators that reflect more closely the quality of health care for people with mental illnesses. An indicator of the outcome of that care would be the suicide rate among people with mental illnesses, rather than among the general population. Indicators of the process of care, such as the appropriate use of medication or counseling for depression, would also be useful. Information about the characteristics of the population (e.g., sex, income, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access.

Suicide Rates

per 100,000 Population, Ages 15–19 and Ages 20–29

Number of suicide deaths per 100,000 people in each age group



Note: England uses a broader definition of suicide for national statistics; the rate using this definition was 8.5. The rate for England is for ages 14–19, not 15–19. The rate for the U.S. is for ages 20–24, not 20–29. For full notes, please refer to the Technical Appendix.



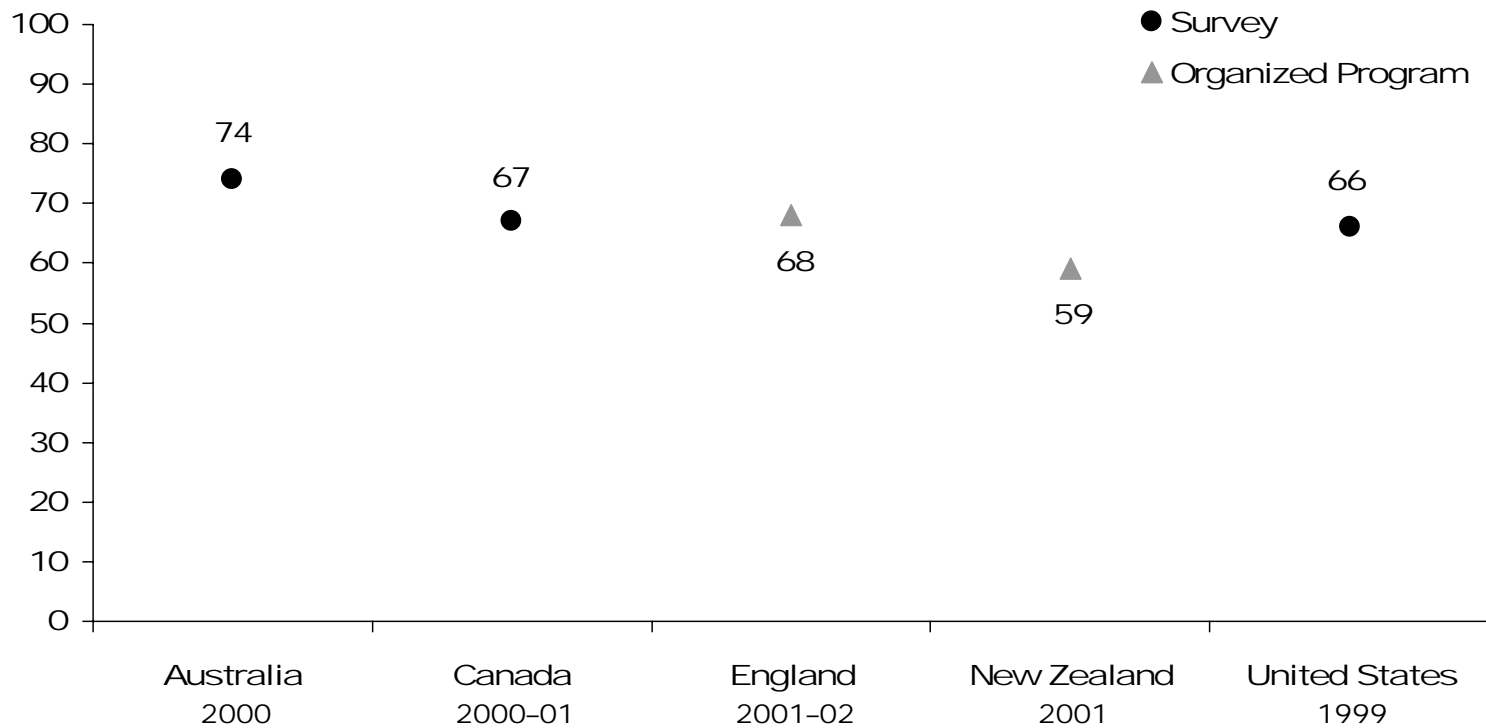
Vaccination Rates for Influenza

Age 65 and Over

- ***Findings:*** Differences between vaccination rates in different countries were small. Vaccination rates were between approximately 60 and 70 percent in four of the five countries, and over 70 percent in Australia.
- ***How is this measured?*** There are two possible sources of influenza vaccination rates. The first is through national surveys asking people if they have been vaccinated in the past year. The second is through data from insurance claims. This is a measure of *appropriateness* since influenza vaccinations for people age 65 and over can prevent influenza-related deaths in that age group.
- ***What are the implications?*** Vaccination rates show how effectively primary care systems are delivering influenza vaccinations. This includes the vaccine delivery system, as well as health promotion activities such as informing people of the vaccine's value.
- ***What other information would we like to have?*** The vaccination rate for pneumococcal disease; information about the characteristics of the population who do not receive influenza vaccines (e.g., sex, income, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access and provide direction for targeting outreach efforts.

Vaccination Rates for Influenza Age 65 and Over

Percent of people age 65+ receiving influenza vaccination in the past year



Note: Population surveys may produce different results than administrative records. For full notes, please refer to the Technical Appendix.

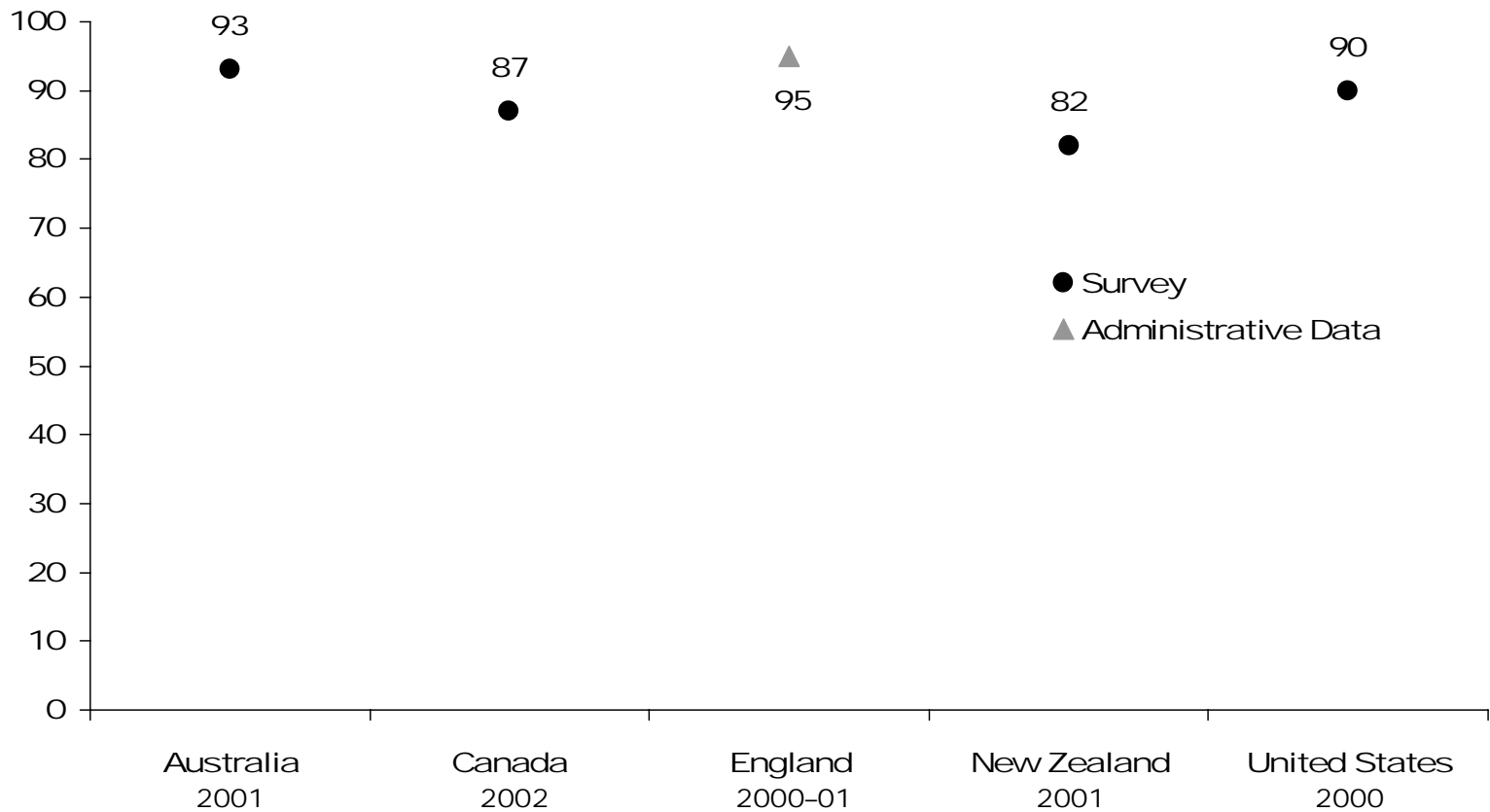


Vaccination Rates for Polio at Age 24 Months

- ***Findings:*** Vaccination rates were highest in Australia and England and lowest in New Zealand.
- ***How is this measured?*** This rate is measured through national surveys or administrative records. This is a measure of *appropriateness* since polio vaccinations can prevent outbreaks of this avoidable disease.
- ***What are the implications?*** Vaccination rates show how effectively systems are able to reach out to the target population and deliver polio vaccinations to children. This includes the mechanisms for delivering the vaccinations, but also health promotion activities such as informing parents of their value.
- ***What other information would we like to have?*** The vaccination rate for high-risk subgroups of the population (e.g., by education, income, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access.

Vaccination Rates for Polio at Age 24 Months

Percent of children age 24 months
who are fully vaccinated against polio



Note: The rate for the United States is measured for the age period 19 to 35 months, not at 24 months.
For full notes, please refer to the Technical Appendix.



Incidence of Vaccine-Preventable Diseases

- **Findings:**
 - *Tetanus, diphtheria, and polio* were very rare or nonexistent in all five countries.
 - *Measles and rubella* were very rare except in England.
 - *Hepatitis A* was most common in Australia, less common in Canada, England, and New Zealand, and rare in the United States.
 - *Hepatitis B* was most common in the United States, less common in Canada, and least common in Australia, England, and New Zealand.
 - *Meningococcal disease* was fairly rare except in New Zealand, where rates were much higher.
 - *Pertussis* was most common in Australia and Canada; rates in England and the United States were much lower.
 - *H. influenzae serotype b* was fairly rare in all five countries.
- **How is this measured?** These rates are measured through disease registries that are notified whenever a case is diagnosed. They are indicators of *appropriateness* since with immunization no cases should occur.
- **What are the implications?** High rates for some diseases in some countries show where primary care systems could improve in delivering appropriate vaccinations.
- **What other information would we like to have?** The incidence of these diseases among high-risk subgroups of the population (e.g., by education, income, insurance coverage, and race/ethnicity) would help identify potential disparities in quality and access.

Incidence of Vaccine-Preventable Diseases

Disease	Incidence per 100,000 Population				
	Australia (2000)	Canada (1999)	England and Wales (2000)	New Zealand (2000)	United States (2000)
Tetanus	0.00	0.00	0.04	0.03	0.01
Pertussis	31.00	20.00	1.30	—	2.70
Rubella	1.70	0.08	3.10	0.70	0.10
Measles	0.60	0.10	4.50	1.80	0.04
Meningococcal disease	3.20	0.70	2.2	12.50	0.90
H. Influenzae serotype b	0.10	0.10	0.10	0.30	0.50
Hepatitis A	4.20	2.90	2.40	2.80	0.04
Hepatitis B (acute)	2.10	4.20	2.00	2.10	6.30
Polio	0.00	0.00	0.00	0.00	0.00
Diphtheria	0.00	0.003	0.006	0.00	0.00

Note: There are some differences between countries in the legal requirements for notification of diseases, notification systems, and confirmation of true cases from notifications. For full notes, please refer to the Technical Appendix.

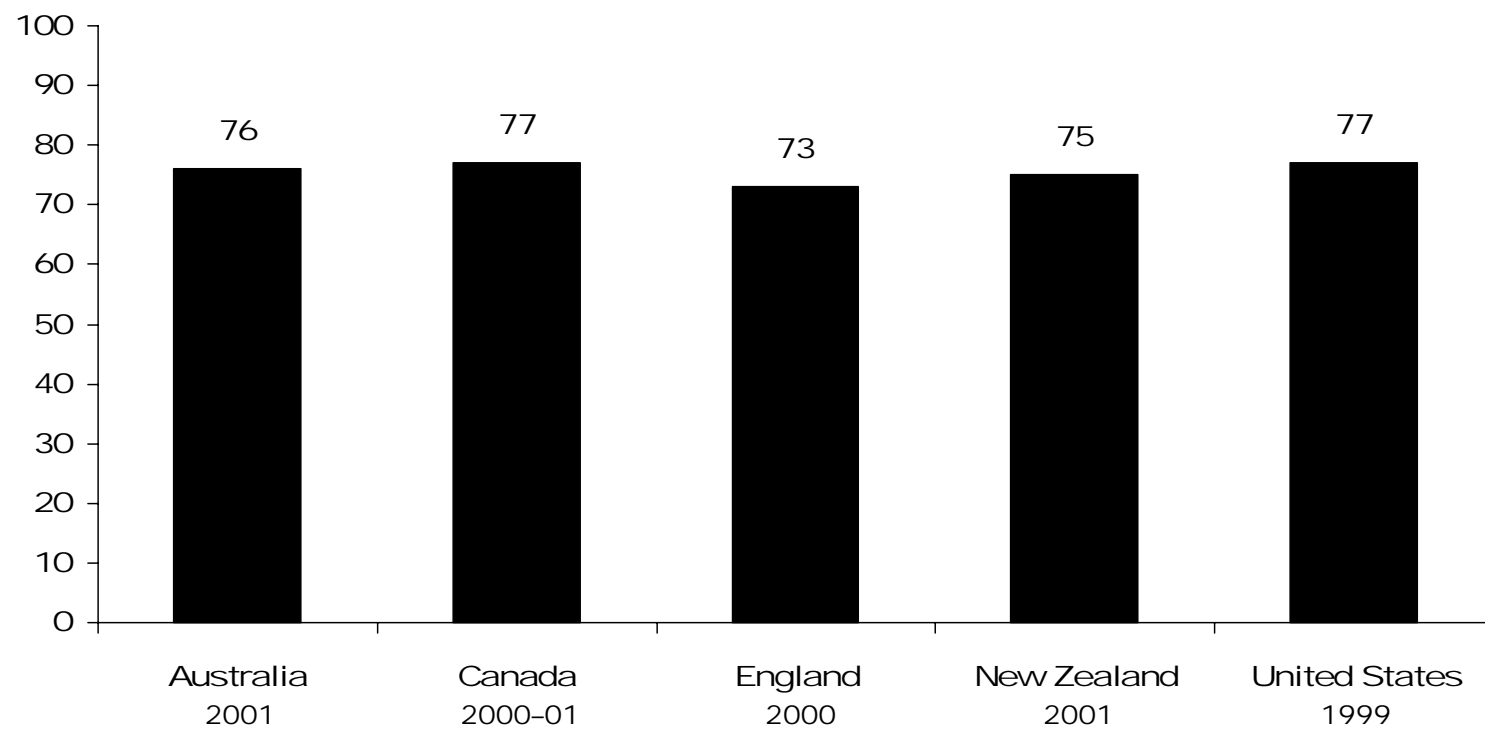


Non-Smoking Rate

- ***Findings:*** Smoking is most common in England, and least common in Canada and the United States.
- ***How is this measured?*** This rate is measured through national surveys. This is a measure of *appropriateness* since health care providers are effective in causing people to quit smoking.
- ***What are the implications?*** Health care providers and health promotion campaigns can be effective in convincing people not to smoke. Smoking rates are also the result of societal and individual factors outside the health care system.
- ***What other information would we like to have?*** Indicators that reflect more closely on the performance of the health care system in encouraging smoking cessation, such as the frequency with which physicians provide smoking cessation counseling during medical appointments and to pregnant women. Information about the characteristics of the population—e.g., age (including ages 13–18 years), income, education, and race/ethnicity—would help identify potential disparities in quality and access and help provide direction for targeting outreach efforts.

Non-Smoking Rate

Percent of the population age 18+ who do not smoke regularly



Note: The rate for Canada is for age 20 and over and the rate for England is for age 16 and over, not 18 and over. For full notes, please refer to the Technical Appendix.



Accessibility Indicators

Health System Performance

Appropriateness	Accessibility	Acceptability	Competence
Care/service provided is relevant to client/patient needs and based on established standards	Ability of clients/patients to obtain care/service at the right place and right time, based on needs	Care/service provided meets expectations of client, community, providers and paying organizations	Individual's knowledge/skills are appropriate to care/services provided
Effectiveness	Continuity	Efficiency	Safety
Care/service, intervention or action achieves desired results	Ability to provide uninterrupted, coordinated care/service across programs, practitioners, organizations, and levels of care/service, over time	Achieving desired results with most cost-effective use of resources	Potential risks of an intervention or the environment are avoided or minimized

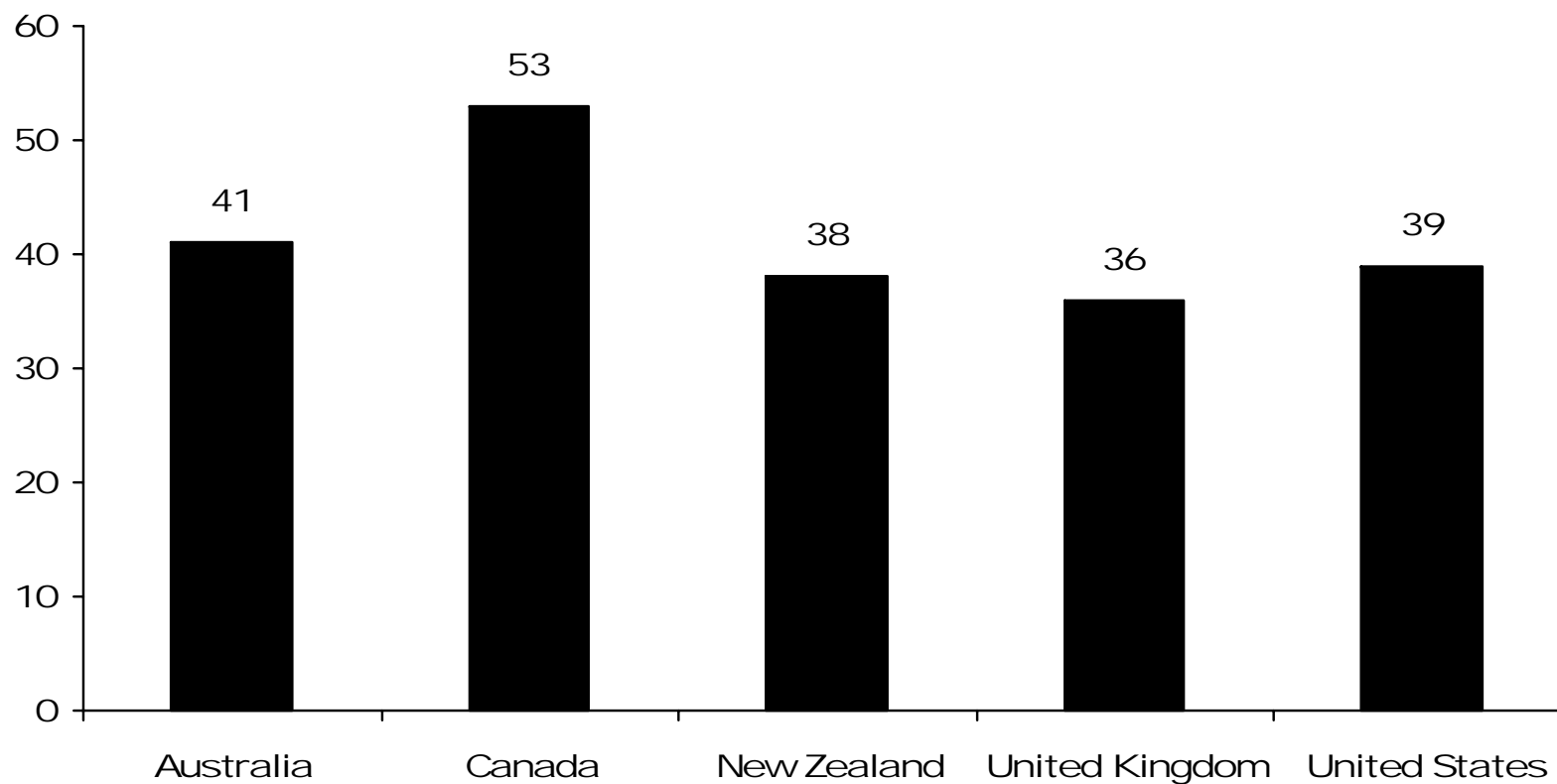
Source: Canadian health system performance framework. Canadian Institute for Health Information. *A Roadmap Initiative*. Ottawa: CIHI, 1999.

Difficulty Seeing a Specialist

- ***Findings:*** More than one of two sicker Canadians and more than one of three sicker adults in the other four countries reported difficulty seeing a specialist physician. Waiting times for appointments were the primary reason cited in all five countries, while referral denials and referral delays were also serious problems in the United States. Costs were also a cited reason in New Zealand and Australia, but not in Canada or the United Kingdom.
- ***How is this measured?*** This question was asked on a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. This indicates sicker adults' views on the *accessibility* of specialist physicians.
- ***What are the implications?*** Access to specialist care is a shared concern in all five countries but the perceived reasons for the access problems differ. Barriers to specialty care may be harmful to health, resulting in delays in diagnosis or treatment. These differences influence public opinion and expectations of policy leaders.
- ***What other information would we like to have?*** Information on the average time between a primary care physician's referral and specialist visit.
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Difficulty Seeing a Specialist

Percent of sicker adults reporting it is very or somewhat difficult to see a specialist



Note: Taken from the 2002 Commonwealth Fund International Health Policy Survey of Sicker Adults, a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, been hospitalized or had major surgery in the past two years. For full notes, please refer to the Technical Appendix.

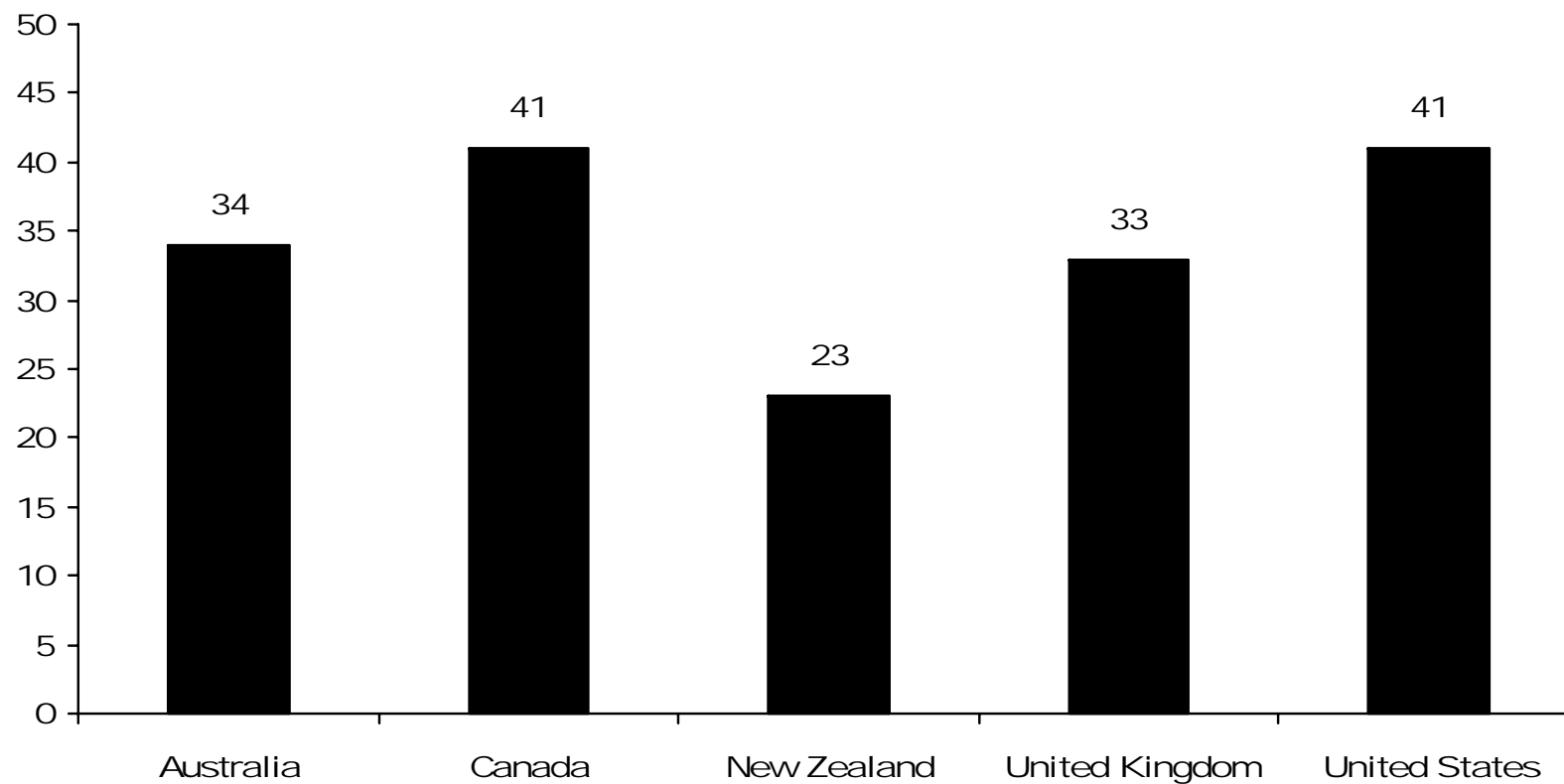


Difficulty Getting Care on Nights or Weekends

- ***Findings:*** Two of five people in Canada and the United States reported difficulty in getting health care on nights and weekends, and one of three reported difficulty in Australia and the United Kingdom. New Zealanders were the least likely to report difficulty in getting off-hours care, with only 23 percent reporting difficulty.
- ***How is this measured?*** This question was asked on a survey of 1,400 adults in each of the five countries. This indicates adults' views on the *accessibility* of health care outside of normal business hours.
- ***What are the implications?*** Difficulties in access to care during nights and weekends can lead to worse health, inappropriate use of emergency rooms, poorly coordinated care, and dissatisfaction with the care system among adults who need care for problems that arise outside of normal business hours.
- ***What other information would we like to have?*** Information on whether needed care is delayed or not obtained because of the timing of the health problem, and whether the medical condition worsened as a result. Information about the characteristics of the population (e.g., age, sex, education, income, insurance coverage, rural/urban, and race/ethnicity) would help identify potential disparities in quality and access. Information about whether the emergency department was the only place where care was available.
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Difficulty Getting Care on Nights or Weekends

Percent reporting somewhat or very difficult to get care on nights or weekends



Note: Taken from the 2001 Commonwealth Fund International Health Policy Survey, a survey of 1,400 adults in each of the five countries. For full notes, please refer to the Technical Appendix.

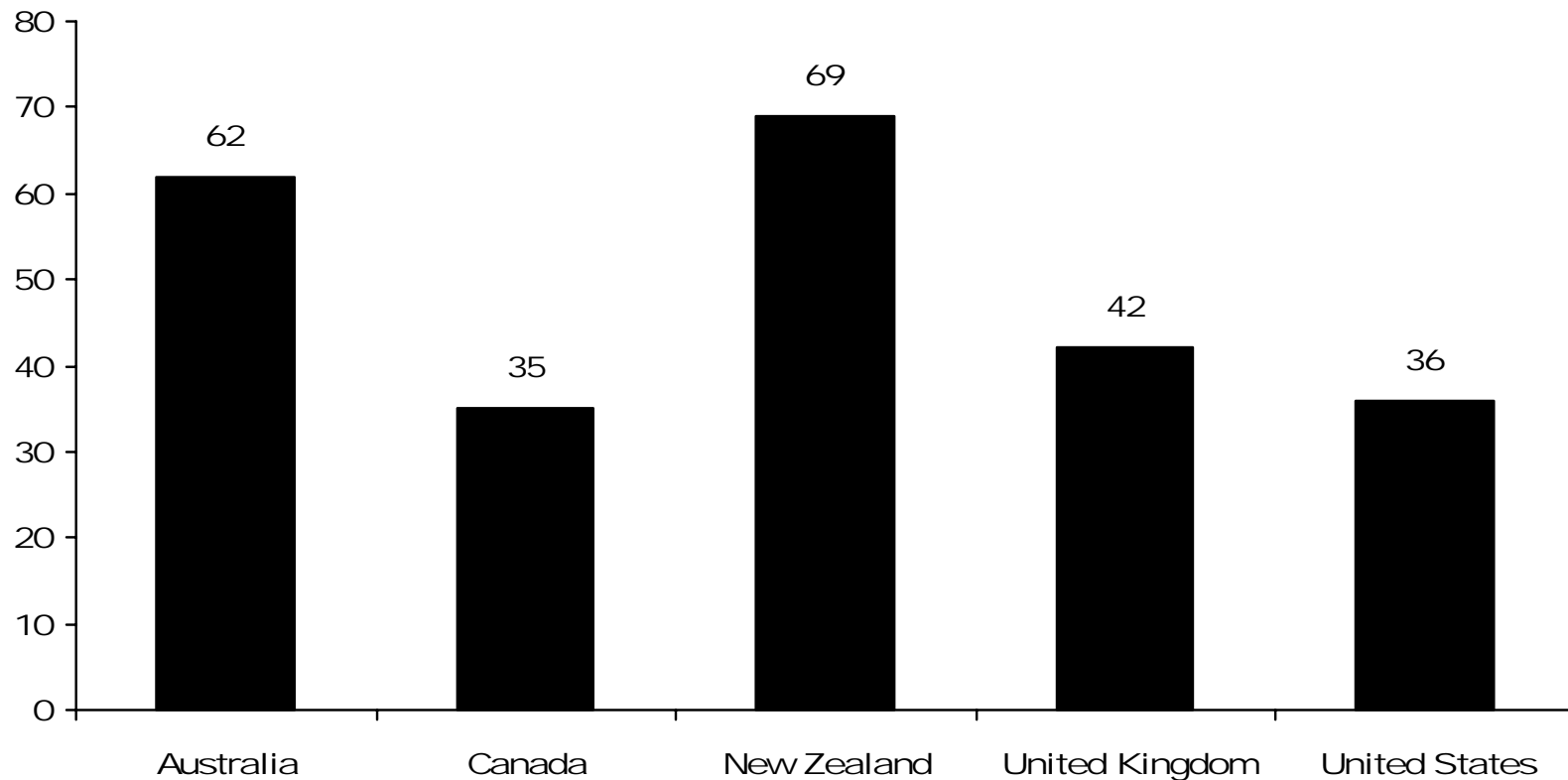


Ability to Make a Same-Day Doctor's Appointment When Needed

- ***Findings:*** About two-thirds of respondents in Australia and New Zealand reported that they were able to see a doctor the same day the last time they were sick or needed medical attention, compared with about one-third of respondents in Canada, the United Kingdom, and the United States.
- ***How is this measured?*** This question was asked on a survey of 1,400 adults in each of the five countries. This indicates adults' views on the *accessibility* of doctor visits.
- ***What are the implications?*** Delays in access to care can lead to worse health, inappropriate use of emergency rooms, and dissatisfaction with the care system among adults who are sick or need medical attention.
- ***What other information would we like to have?*** Information on how often needed care is delayed or not delivered, and whether it led to a worsening health condition.
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Ability to Make a Same-Day Doctor's Appointment When Needed

Percent reporting they were able to make a doctor's appointment the same day the last time they were sick or needed medical attention



Note: Taken from the 2001 Commonwealth Fund International Health Policy Survey, a survey of 1,400 adults in each of the five countries. For full notes, please refer to the Technical Appendix.

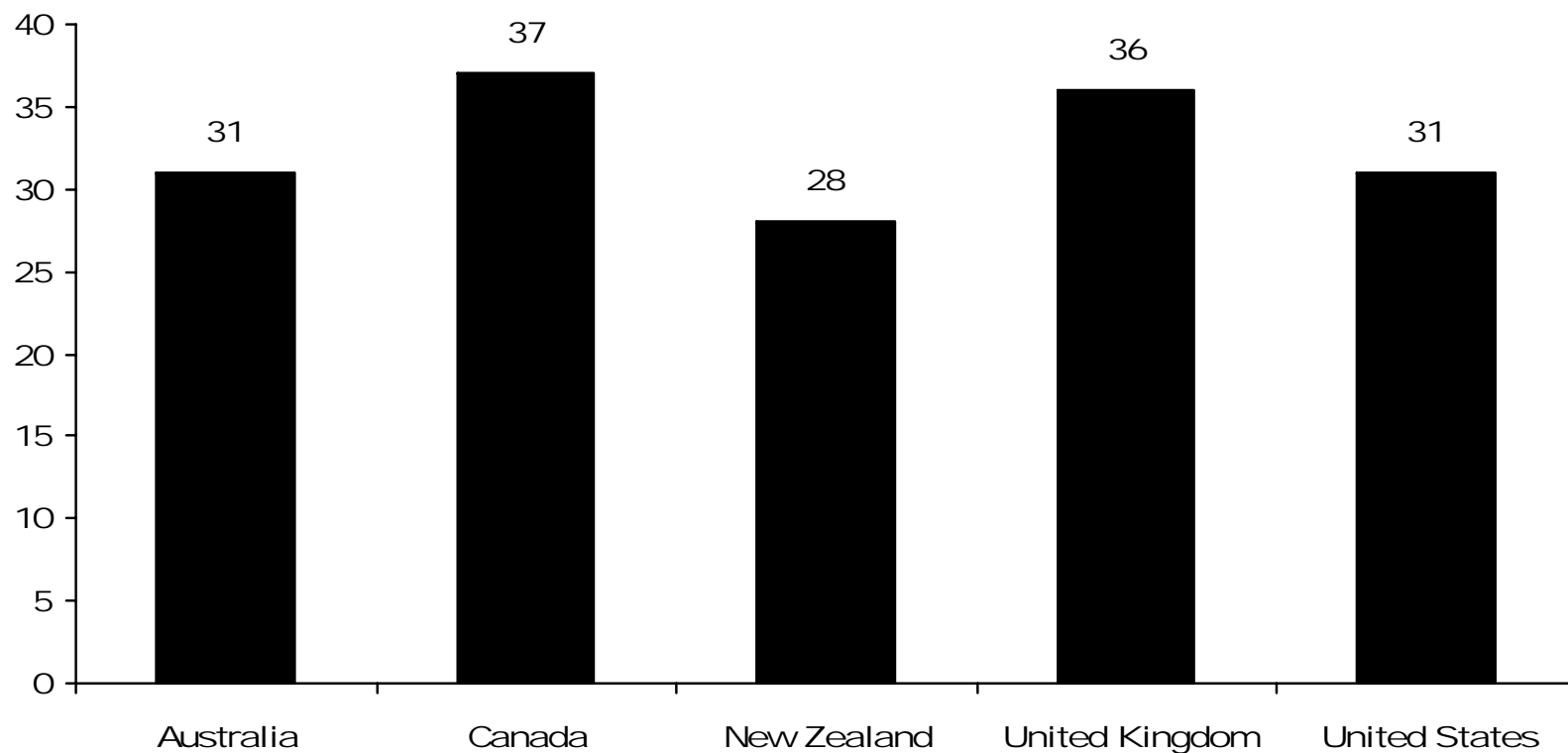


Waiting Time for Emergency Care

- ***Findings:*** More than one-quarter of sicker adults in each of the five countries who visited an emergency room in the past two years reported that the time they had to wait for emergency care was a “big problem.”
- ***How is this measured?*** This question was asked on a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. Respondents who reported visiting the emergency room in the past two years were asked about their experience with waiting for care. This indicates sicker adults’ views on the *accessibility* of emergency care.
- ***What are the implications?*** Delays in access to emergency care can lead to worse health and dissatisfaction with the care system among adults visiting the emergency room.
- ***What other information would we like to have?*** The average waiting time between arrival at the emergency room and emergency care.
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Waiting Time for Emergency Care

Percent of sicker adults who used an emergency room in the past two years reporting waiting time for emergency care was a big problem



Note: Taken from the 2002 Commonwealth Fund International Health Policy Survey of Sicker Adults, a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, been hospitalized or had major surgery in the past two years. For full notes, please refer to the Technical Appendix.

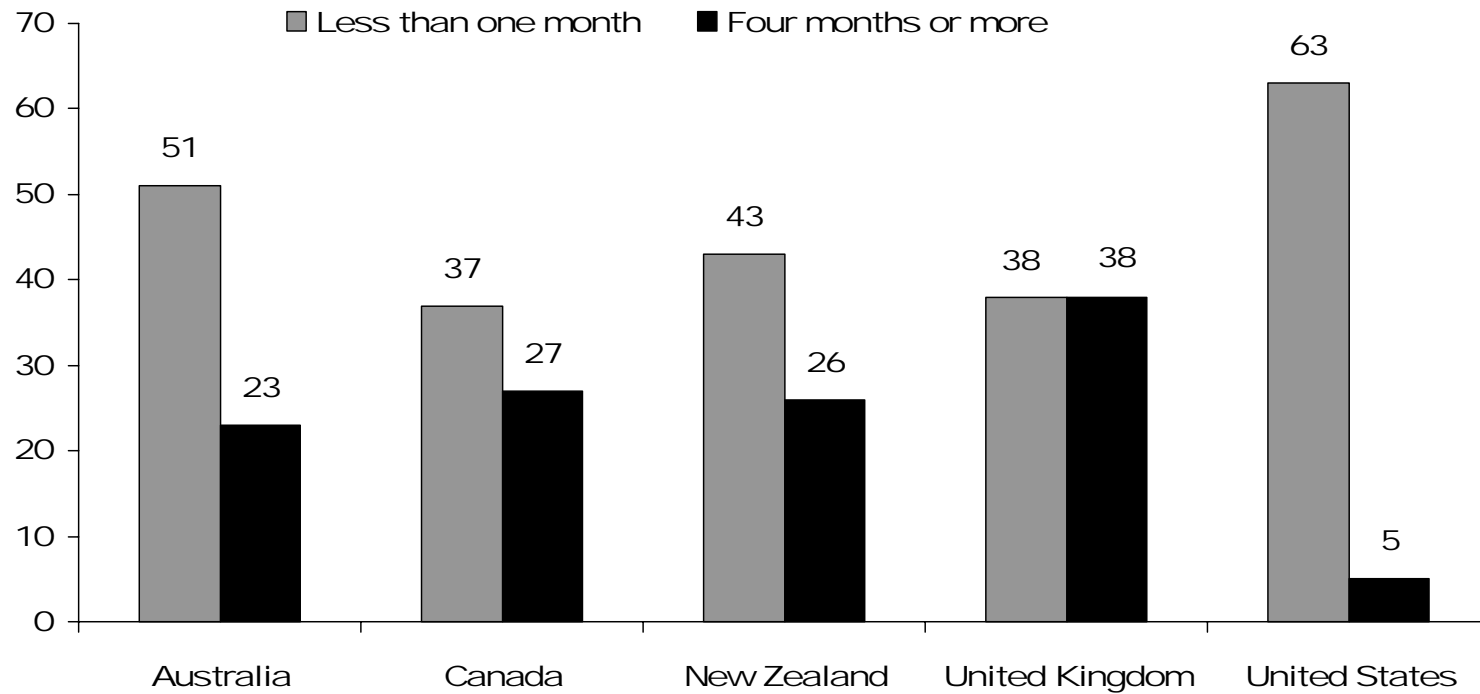


Waiting Time for Elective or Non-Emergency Surgery

- ***Findings:*** One of four respondents in Australia, Canada, New Zealand, and one of three respondents in the United Kingdom reported waiting over four months for elective or non-emergency surgery, compared to the United States where 5 percent reported delays more than four months.
- ***How is this measured?*** This question was asked on a survey of 1,400 adults in each of the five countries. Respondents who reported having surgery in the past two years were asked about their waiting times. This indicates adults' views on the *accessibility* of elective and non-emergency surgery.
- ***What are the implications?*** Delays in access to elective or non-emergency surgery can lead to worsening health and disability, unnecessary discomfort, and dissatisfaction with the care system among adults awaiting treatment.
- ***What other information would we like to have?*** The average waiting time for elective or non-emergency surgery for specific conditions and changes in waiting times over time. Population characteristics (e.g., age, sex, income, insurance coverage, and race/ethnicity) would help identify potential disparities in care and access.
- ***What are the concerns with the data?*** The data have not been adjusted for medical condition, stage of illness at time of referral, or differences in the time frame used to measure waiting times (e.g., from GP referral to specialist or from specialist visit to scheduling of surgery), which might account for some of the differences between countries.

Waiting Time for Elective or Non-Emergency Surgery

Percent of adults with surgery in the past two years reporting waiting:



Note: Taken from the 2001 Commonwealth Fund International Health Policy Survey, a survey of 1,400 adults in each of the five countries. For full notes, please refer to the Technical Appendix.

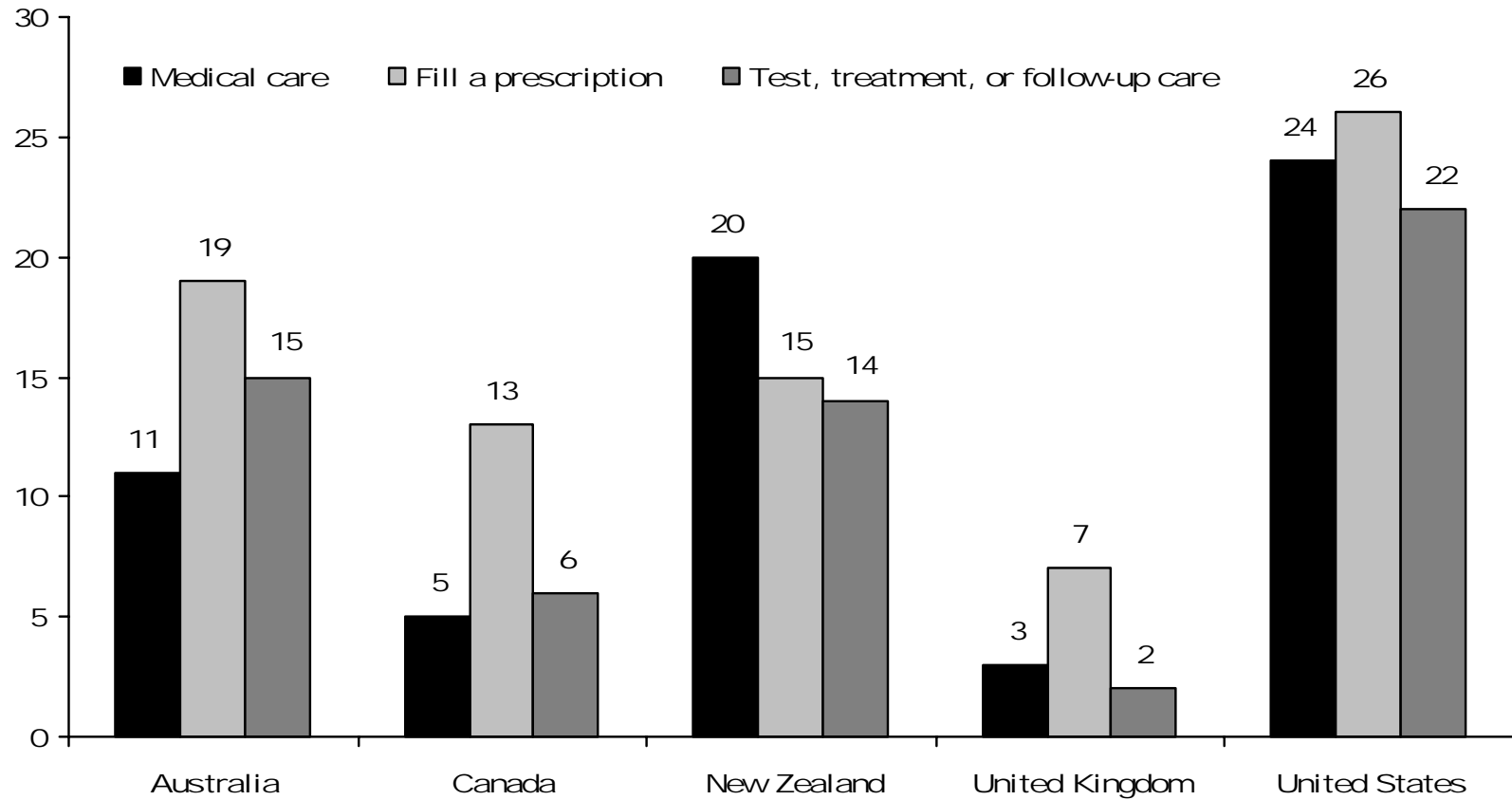


Financial Barriers to Care

- ***Findings:*** Adults in the United States were more likely to forgo medical care due to cost than adults in the other four countries, with more than one of five reporting they did not get needed medical care, prescription drugs, or follow-up tests or treatment. Sicker adults in the United Kingdom were significantly less likely to forgo needed medical care due to its cost than adults in the other four countries.
- ***How is this measured?*** This question was asked on a survey of 1,400 adults in each of the five countries. This indicates adults' views on the *accessibility* of health care.
- ***What are the implications?*** Forgoing needed care due to financial barriers can lead to worse health and disability, more expensive medical care needed in the future, and dissatisfaction with the health care system.
- ***What other information would we like to have?*** Information on the health effects when needed care is delayed or not given because of financial barriers. Population characteristics (e.g., age, sex, income, insurance coverage, and race/ethnicity) would help identify potential disparities in care and access.
- ***What are the concerns with the data?*** Differences in cultural expectations, such as what respondents consider as necessary care, could account for some of the differences between countries.

Financial Barriers to Care

Percent reporting they did NOT get health care due to cost, in the past 12 months



Note: Taken from the 2001 Commonwealth Fund International Health Policy Survey, a survey of 1,400 adults in each of the five countries. For full notes, please refer to the Technical Appendix.



Continuity Indicators

Health System Performance

<p>Appropriateness</p>	<p>Accessibility</p>	<p>Acceptability</p>	<p>Competence</p>
<p>Care/service provided is relevant to client/patient needs and based on established standards</p>	<p>Ability of clients/patients to obtain care/service at the right place and right time, based on needs</p>	<p>Care/service provided meets expectations of client, community, providers and paying organizations</p>	<p>Individual's knowledge/skills are appropriate to care/services provided</p>
<p>Effectiveness</p>	<p>Continuity</p>	<p>Efficiency</p>	<p>Safety</p>
<p>Care/service, intervention or action achieves desired results</p>	<p>Ability to provide uninterrupted, coordinated care/service across programs, practitioners, organizations, and levels of care/service, over time</p>	<p>Achieving desired results with most cost-effective use of resources</p>	<p>Potential risks of an intervention or the environment are avoided or minimized</p>

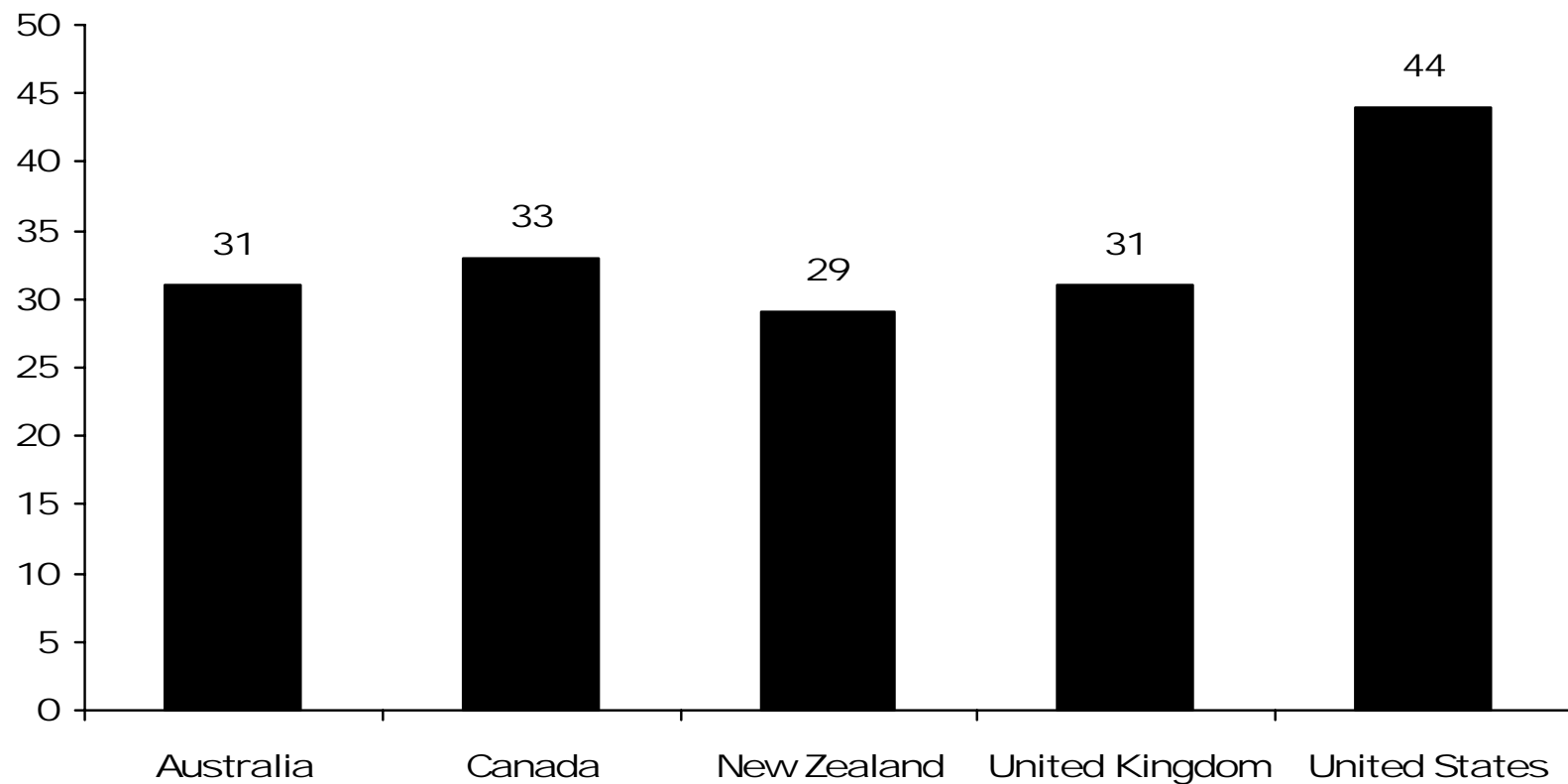
Source: Canadian health system performance framework. Canadian Institute for Health Information. *A Roadmap Initiative*. Ottawa: CIHI, 1999.

Conflicting Medical Information

- ***Findings:*** About one-third of respondents in Australia, Canada, New Zealand, and the United Kingdom and close to half of respondents in the United States reported receiving conflicting information about their care from different health professionals.
- ***How is this measured?*** This question was asked on a survey of 1,400 adults in each of the five countries. Respondents reporting a serious illness, injury, or disability in the past two years were asked about conflicting information from different health care providers. This indicates how well the health care system meets adults' expectations for the *continuity* of their care.
- ***What are the implications?*** Poorly coordinated care can lead to duplicate tests, delays in care, wasted patient and medical staff time, decreased trust in providers, and dissatisfaction among patients.
- ***What other information would we like to have?*** Information on whether patients who received conflicting information had less trust in their doctors, followed their doctor's advice, and had worse health outcomes or medical errors.
- ***What are the concerns with the data?*** Respondents who see more providers are more likely to receive conflicting information.

Conflicting Medical Information

Percent of adults with a serious illness, injury, or disability in the past two years saying they "often" or "sometimes" received conflicting information from different health professionals when sick



Note: Taken from the 2001 Commonwealth Fund International Health Policy Survey, a survey of 1,400 adults in each of the five countries. For full notes, please refer to the Technical Appendix.



Acceptability Indicators

Health System Performance			
Appropriateness	Accessibility	Acceptability	Competence
Care/service provided is relevant to client/patient needs and based on established standards	Ability of clients/patients to obtain care/service at the right place and right time, based on needs	Care/service provided meets expectations of client, community, providers and paying organizations	Individual's knowledge/skills are appropriate to care/services provided
Effectiveness	Continuity	Efficiency	Safety
Care/service, intervention or action achieves desired results	Ability to provide uninterrupted, coordinated care/service across programs, practitioners, organizations, and levels of care/service, over time	Achieving desired results with most cost-effective use of resources	Potential risks of an intervention or the environment are avoided or minimized

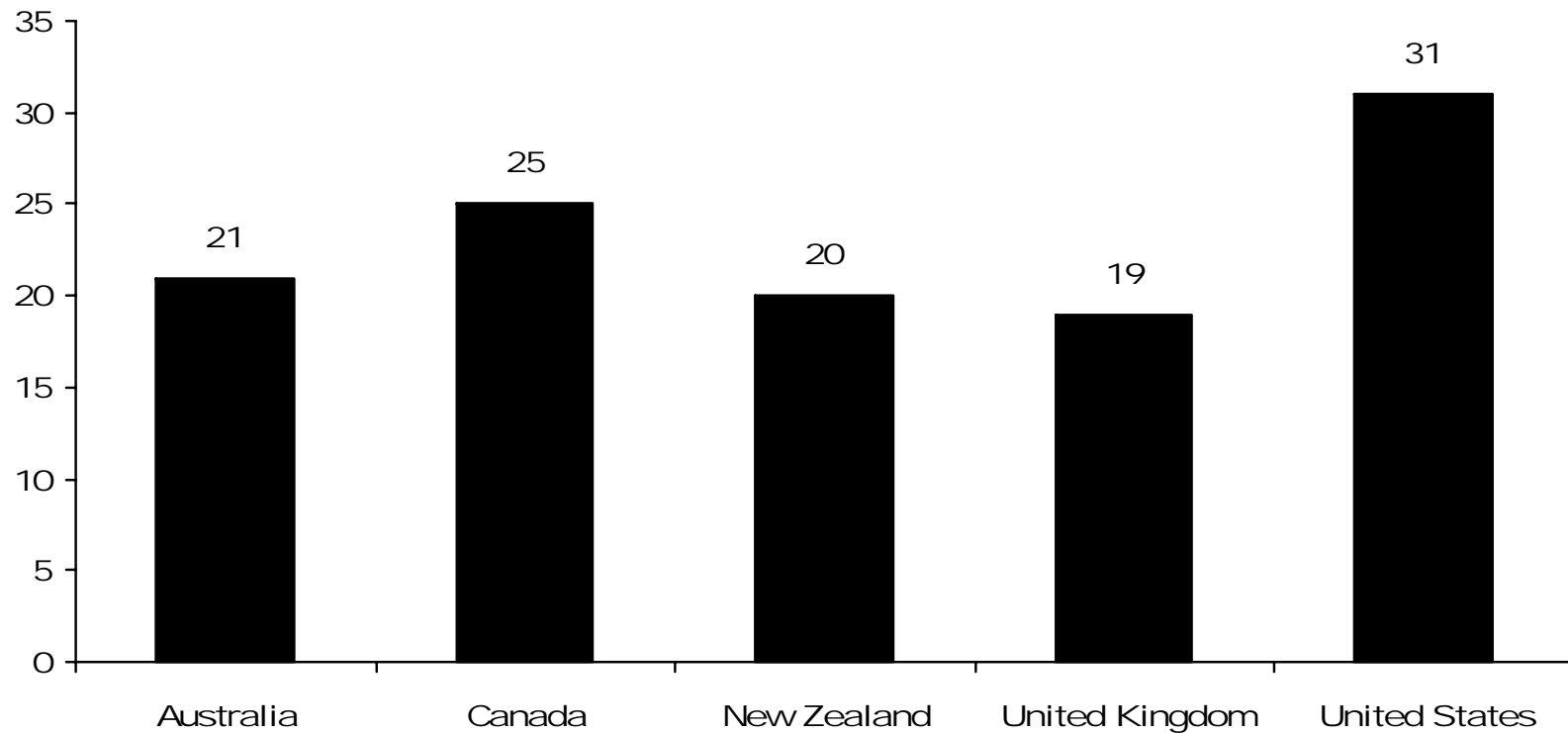
Source: Canadian health system performance framework. Canadian Institute for Health Information. *A Roadmap Initiative*. Ottawa: CIHI, 1999.

Patient–Doctor Communication: Getting Questions Answered

- ***Findings:*** More than one of five sicker adults in all five countries left their doctor’s office without getting an answer to an important question within the past two years. The rate was highest in the United States.
- ***How is this measured?*** This question was asked on a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. This indicates the *acceptability* with which doctor–patient communication meets sicker adults’ expectations for how they should be treated.
- ***What are the implications?*** Good communication can improve care and moderate or minimize the risk of error. Patients who receive answers to all the important questions they have for their doctor may better understand their care options, self-manage their health, be more likely to comply with treatment recommendations, and be more satisfied with the care process.
- ***What other information would we like to have?*** Information on population characteristics (e.g., age, sex, income, education, language barriers, and race/ethnicity); impact on compliance with doctor’s recommendations; and length of visits.
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Patient–Doctor Communication: Getting Questions Answered

Percent of sicker adults who left a doctor's office without getting important questions answered in the past two years



Note: Taken from the 2002 Commonwealth Fund International Health Policy Survey of Sicker Adults, a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. For full notes, please refer to the Technical Appendix.

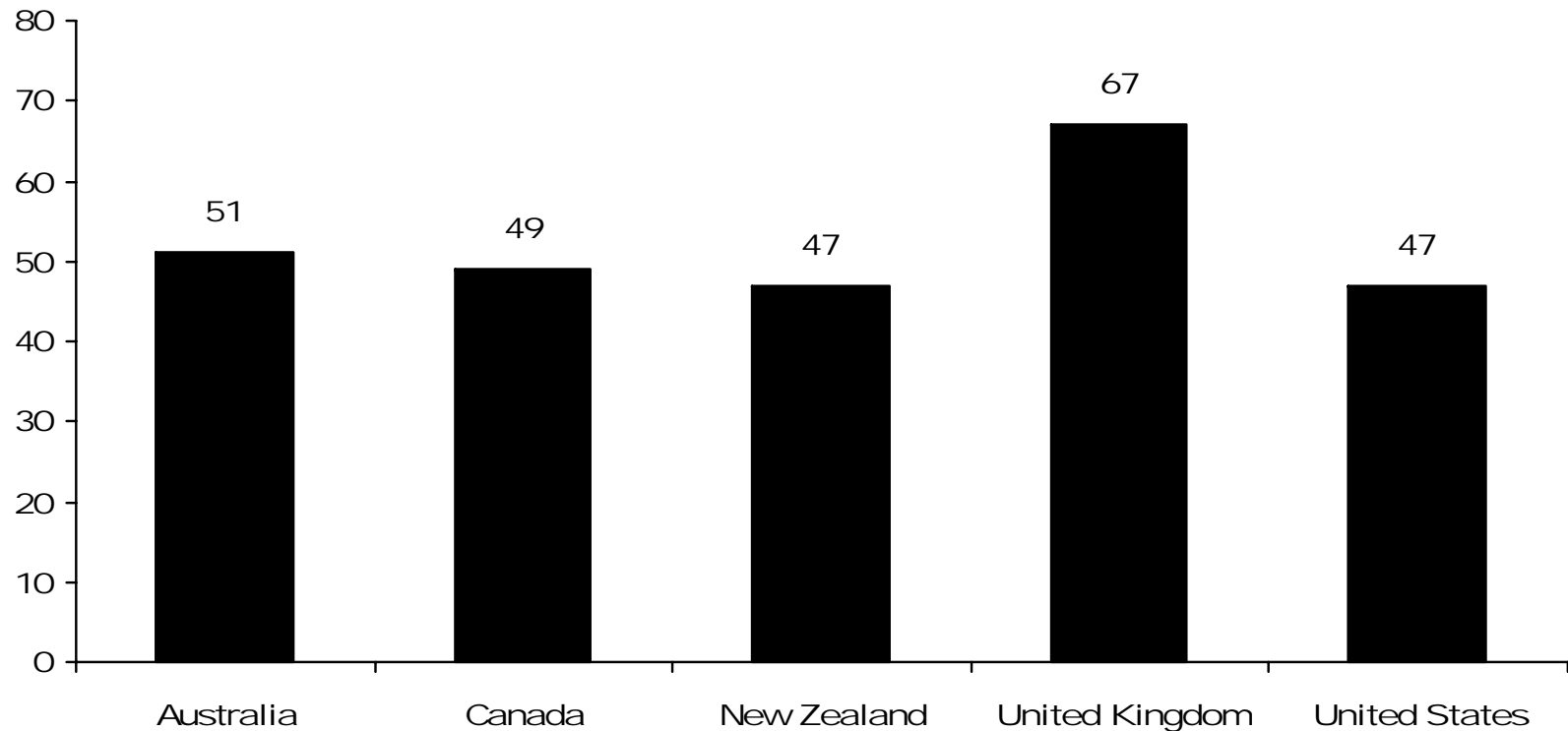


Patient–Doctor Communication: Patient Input on Treatment

- ***Findings:*** About half of sicker adults in Australia, Canada, New Zealand, and the United States and almost 70 percent in the United Kingdom reported that their doctor did not ask for their ideas and opinions about treatment and care.
- ***How is this measured?*** This question was asked on a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. This indicates the *acceptability* with which doctor–patient communication meets sicker adults’ expectations for how they should be treated.
- ***What are the implications?*** Patients who are involved in their care may better self-manage their health and be more satisfied with the care process. Poor doctor–patient communication and lack of patient engagement in treatment decisions may also lead to poor patient compliance.
- ***What other information would we like to have?*** Information on population characteristics (e.g., age, sex, income, education, language barriers, and race/ethnicity) and information on patient compliance, patient satisfaction, and patient outcomes.
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Patient–Doctor Communication: Patient Input on Treatment

Percent of sicker adults reporting regular doctor does NOT ask for their ideas and opinions about treatment and care



Note: Taken from the 2002 Commonwealth Fund International Health Policy Survey of Sicker Adults, a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. For full notes, please refer to the Technical Appendix.

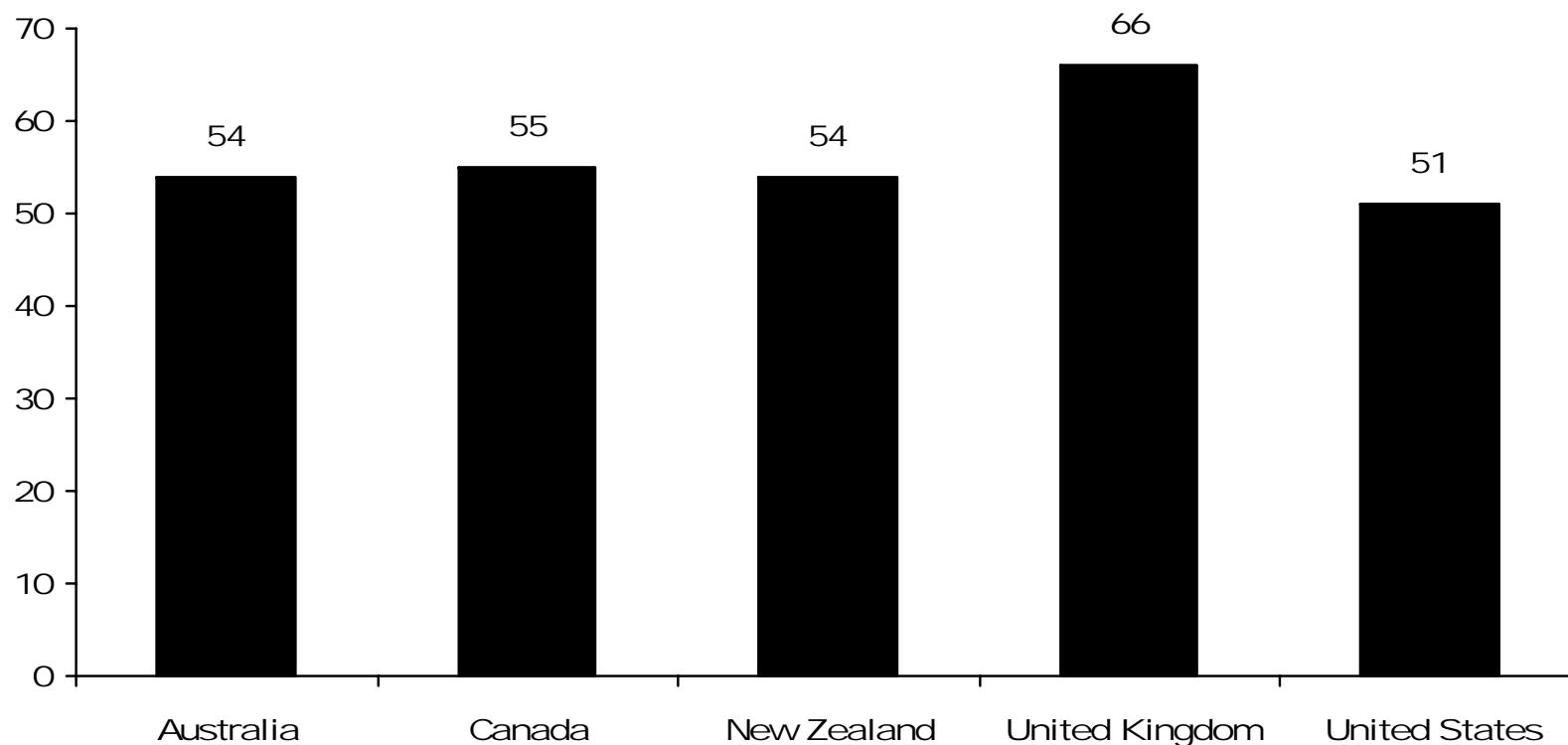


Patient–Doctor Communication: Coping with Emotional Burden of Illness

- ***Findings:*** Over half of sicker adults in Australia, Canada, New Zealand, and the United States and almost 70 percent in the United Kingdom reported that their doctor had not discussed the emotional burden of coping with their condition in the past two years.
- ***How is this measured?*** This question was asked on a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. This indicates the *acceptability* with which doctor–patient communication meets sicker adults’ expectations for how they should be treated.
- ***What are the implications?*** Coping with serious or chronic illnesses can result in a considerable emotional burden for sicker adults. Discussing this emotional burden with their physician may improve patient satisfaction, help identify depression, and lead to treatment recommendations and support services that may improve quality of life and outcomes.
- ***What other information would we like to have?*** Information on self-reported depression, patients’ perceptions of coping ability and needed medical/social services support. Information on population characteristics (e.g., age, sex, income, education, language barriers, and race/ethnicity).
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Patient–Doctor Communication: Coping with Emotional Burden of Illness

Percent of sicker adults saying doctor had NOT discussed the emotional burden of coping with condition in the past two years



Note: Taken from the 2002 Commonwealth Fund International Health Policy Survey of Sicker Adults, a survey of 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past two years. For full notes, please refer to the Technical Appendix.

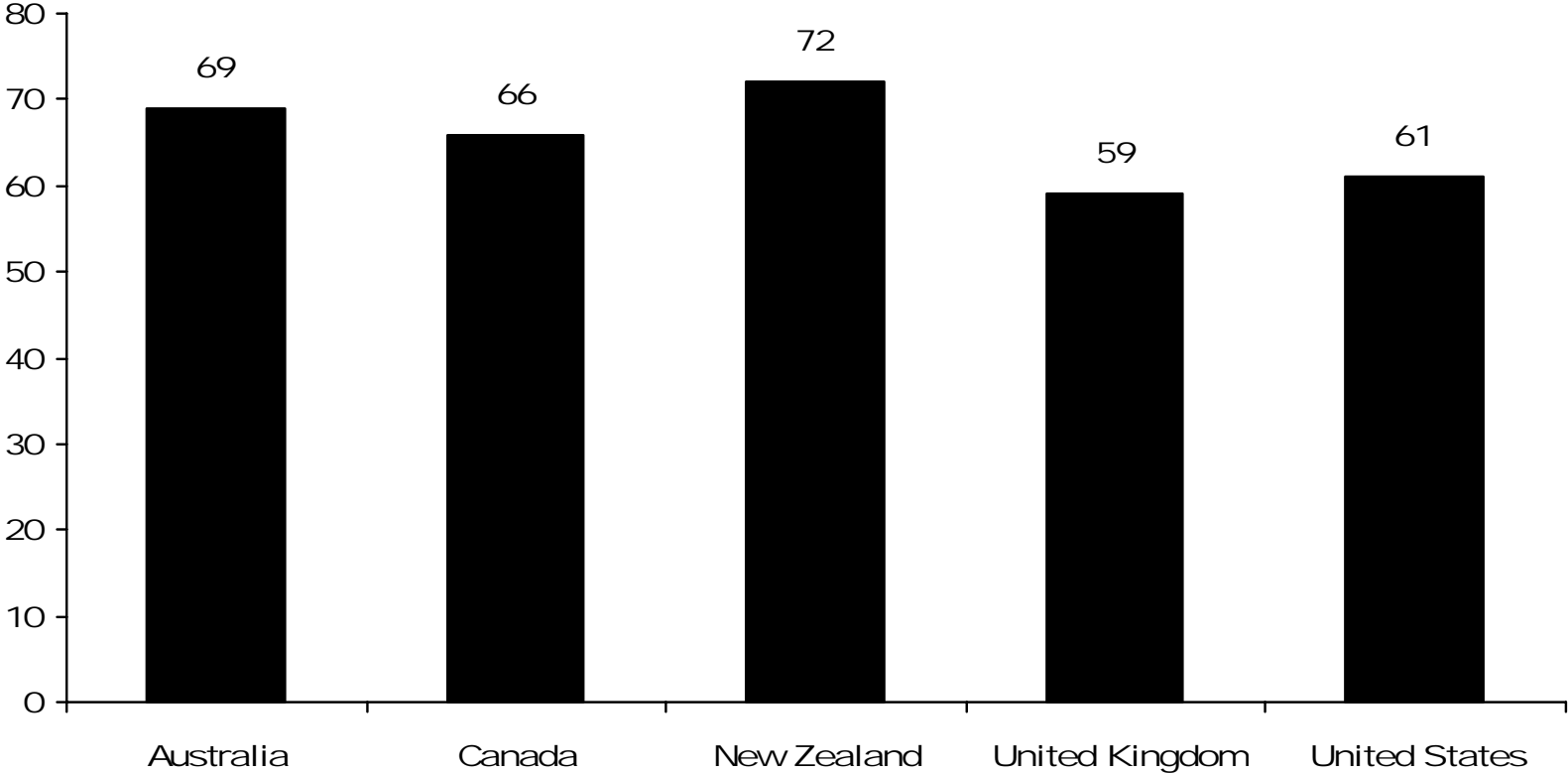


Composite Physician Responsiveness Ratings

- ***Findings:*** The majority of respondents in all five countries rated their physicians excellent or very good, with New Zealand and Australian doctors rated highest.
- ***How is this measured?*** This question was asked on a survey of 1,400 adults in each of the five countries. Respondents were asked to rate their physician in six areas: treating you with dignity and respect, listening carefully, being accessible by phone or in person, spending enough time, knowing you, and providing you with all the information you want. This indicates the *acceptability* of how physicians care for sicker adults.
- ***What are the implications?*** Despite reporting some problems with aspects of patient–doctor communications, respondents in all five countries nevertheless largely rated their doctors highly in terms of overall responsiveness.
- ***What other information would we like to have?*** Information on length of the doctor–patient relationship, and population characteristics (e.g., age, sex, income, education, language barriers, and race/ethnicity).
- ***What are the concerns with the data?*** Differences in cultural expectations could account for some of the differences between countries.

Composite Physician Responsiveness Ratings

Percent rating physicians excellent or very good on six measures of responsiveness



Note: Taken from the 2001 Commonwealth Fund International Health Policy Survey, a survey of 1,400 adults in each of the five countries. For full notes, please refer to the Technical Appendix.



Technical Appendix

All Cancer Survival Rates.

Age-standardization. Age-standardization to a common standard population is necessary for comparing survival rates internationally because the age structure of populations varies and survival probability is related to age. All survival rates have been age-standardized to an OECD standard 1980 population using the direct method. SEER. In the United States, all cancer statistics are based on a large sample that is not nationally representative (SEER).

Regression modeling for relative survival rates.

Relative survival rates are estimated using several methods: Esteve et al. in England and Canada, Hakulinen in Australia and New Zealand, and Ederer in the United States. These methods have differing sensitivity to assumptions of the proportional hazard model (independence of the death and censor process and proportionality of risks).¹ A comparison between the Hakulinen and Ederer methods on the same dataset produced 0.1 percent or lower differences in relative survival rates.²

¹ Gatta G et al., "Toward a Comparison of Survival in American and European Cancer Patients," *Cancer* 89, 2000: 893–900.

² Giorgi R, Hedelin G, and Schaffer P, "Relative Survival: Comparison of Regressive Models and Advice for the User," *Journal of Epidemiology and Biostatistics* 6(6), 2001: 455–462.

Cancer registries. Registries may differ between countries in the methods for recording and verifying diagnoses, following up cases, and other related factors. Additionally, regional registries within countries may also differ in these regards.

Confidence intervals. Confidence intervals are provided where available. In England, confidence intervals are not available for relative survival rates, but are generally expected to be small due to large sample sizes.

Lead-time bias. Lead-time bias has been found in longitudinal studies of cancer survival rates. Welch et al. concluded that for many cancers apparent increases in survival rates over time were attributable to lead-time bias and not to improved treatment.³ This finding was based on the observation that increasing survival rates for certain cancers were correlated with increased incidence, but not decreased mortality, suggesting that more early cases were being detected by better diagnostic measures without improving prognosis.

Data availability. More recent survival rates are available for England but not for the other countries. These data show that rates have been increasing over time (see introduction).

³ Welch HG, Schwartz LM, Woloshin S. "Are increasing 5-year survival rates evidence of success against cancer?" *JAMA* 2000. 283(22): 2975–78.

Technical Appendix (cont.)

Breast Cancer Five-Year Survival Rate.

Confidence intervals (95%):

- Australia: relative (77.8, 81.8); observed (74.6, 78.8)
- Canada: relative (76, 80); observed (73, 77)
- England: not available
- New Zealand: relative (77.0, 81.8); observed (68.8, 73.2)
- United States: relative (83.0, 88.0); observed (80.2, 84.9)

Age exclusions. The Australian rate excludes women under age 20 and the Canadian and English rates include women ages 15–99. The New Zealand and United States rates include all ages. *Age standardization.* All rates were age-standardized to the OECD population in 1980. Standardization used five-year age groups except in Canada and the observed rate for England, where broader age groups were used. *Diagnosis codes.* All rates are for ICD–9 174. *Additional notes.* Please see the general comments pertaining to all cancer survival rates.

Breast Cancer Screening Rate.

Surveys vs. Organized Programs. Surveys in the five countries may differ on dimensions including questions used, survey design and administration, sampling methodology, sample size, response rate, cultural orientation of respondents, etc. Data from organized programs, on the other hand, are based on administrative records. Organized programs are aimed at specific target populations which may differ between countries. *Australia* has provided rates from both a national population survey and an organized screening program. The organized program, the BreastScreen Australia Program, is a program of screening and assessment services throughout metropolitan, rural and remote areas of all Australian States and Territories. Services are fixed or mobile and provide free biennial mammograms and follow-up of any suspicious lesions. It is aimed at women 50–69 years without symptoms although 40–49 years and >70 years may attend. *The English* organized breast screening program excludes women who are ineligible for medical reasons (0.2% of women in the target age range—women who have had a double mastectomy, terminally ill women, etc.) Women ages 65–69 are not routinely invited for screening, but there is a commitment to extend the program to this group by 2004. *Age-standardization.* The rate for the United States is age-adjusted to the domestic population in 2000.

Technical Appendix (cont.)

Breast Cancer Mortality Rate.

Diagnosis codes. All rates are for ICD-9 174. *Age standardization.* All rates were age-standardized to the OECD population in 1980.

Cervical Cancer Five-Year Survival Rate.

Confidence intervals (95%):

- Australia: relative (76.2, 79.0); observed (74.3, 77.0)
- Canada: relative (72,76); observed (70,74)
- England: not available
- New Zealand: relative (66.4, 78.0); observed (62.9, 75.7)
- United States: relative (69.4, 81.5); observed (70.1, 77.1)

Age exclusions. The Australian rate excludes women under age 20 and the English rates include women ages 15-99. The New Zealand and United States rates include all ages. *Age standardization.* All rates were age-standardized to the OECD population in 1980. Standardization used five-year age groups except the observed rate for England, where broader age groups were used. *Diagnosis codes.* All rates are for ICD-9 180. *Additional notes.* Please see the general comments pertaining to all cancer survival rates.

Cervical Cancer Screening Rate.

Surveys vs. Organized Programs. Surveys in the five countries may differ on dimensions including questions used, survey design and administration, sampling methodology, sample size, response rate, cultural orientation of respondents, etc. Data from organized programs, on the other hand, are based on administrative records. Organized programs are aimed at specific target populations which may differ between countries. *Exclusions.* Women who have had a hysterectomy have been excluded from the denominator, except in the United States. *National policy in England* is that eligible women ages 25-64 should be screened every 3 to 5 years.

Cervical Cancer Mortality Rate.

Diagnosis codes. All rates are for ICD-9 180. *Age standardization.* All rates were age-standardized to the OECD population in 1980.

Technical Appendix (cont.)

Colorectal Cancer Five-Year Survival Rate.

Confidence intervals (95%):

- Australia: relative (59.9, 64.0); observed (57.1, 61.2)
- Canada: relative (58, 63); observed (55,60)
- England: not available
- New Zealand: relative (63.3, 67.6); observed (51.1, 54.6)
- United States: relative (50.7, 64.3); observed (47.7, 61.0)

Age exclusions. The Australian rate excludes people under age 20 and the Canadian rate includes people ages 15–99. The New Zealand and United States rates include all ages. *Age standardization.* All rates were age-standardized to the OECD population in 1980. Standardization used five-year age groups except in Canada and the observed rate for England, where broader age groups were used. *Diagnosis codes.* All rates are for ICD–9 153 and 154. *Additional notes.* Please see the general comments pertaining to all cancer survival rates.

Colorectal Cancer Mortality Rate.

Diagnosis codes. All rates are for ICD–9 153 and 154. *Age standardization.* All rates were age-standardized to the OECD population in 1980.

Childhood Leukemia Cancer Five-Year Survival Rate.

Confidence intervals (95%):

- Australia: relative (65.4, 72.3); observed (65.4, 72.2)
- Canada: relative (72.0, 87.7); observed (71.9, 87.6)
- England: observed (73, 77)
- New Zealand: relative (55.8, 84.9); observed (55.7, 84.8)
- United States: relative(71.0, 80.1); observed (70.9, 80.0)

Technical Appendix (cont.)

Non-Hodgkin's Lymphoma Five-Year Survival Rate.

Confidence intervals (95%):

- Australia: relative (65.3, 68.8); observed (63.7, 67.2)
- Canada: relative (59, 64); observed (57, 62)
- England: not available
- New Zealand: relative (61.5, 71.7); observed (51.8, 60.3)
- United States: relative (57.0, 68.9); observed (55.1, 66.7)

Age exclusions. The English rate includes people ages 15–99. The Australian, New Zealand and United States rates include all ages. *Age standardization.* All rates were age-standardized to the OECD population in 1980.

Standardization used five-year age groups. *Diagnosis codes.* All rates are for ICD–9 200 and 202. *Additional notes.* Please see the general comments pertaining to all cancer survival rates.

Non-Hodgkin's Lymphoma Mortality Rate.

Diagnosis codes. All rates are for ICD–9 200 and 202. *Age standardization.* All rates were age-standardized to the OECD population in 1980.

Kidney Transplant Five-Year Survival Rate.

Confidence intervals (95%):

- Australia: (86.1, 89.9)
- Canada: not available
- England: (86.0, 87.0)
- New Zealand: (81.3, 91.4)
- United States: not available

Survival Calculations. In Australia, England, New Zealand, and the United States, the Kaplan–Meier method is used to calculate survival rates; in Canada, the actuarial method is used. The same principles are used, but the Kaplan–Meier method does not set time intervals a priori but rather by the occurrence of death.

Liver Transplant Five-Year Survival Rate.

Confidence intervals (95%):

- Australia and New Zealand: (75.0, 81.0)
- Canada: not available
- England: (68.0, 74.0)
- United States: not available

Survival Calculations. In Australia, England, New Zealand, and the United States, the Kaplan–Meier method is used to calculate survival rates; in Canada, the actuarial method is used. The same principles are used, but the Kaplan–Meier method does not set time intervals a priori but rather by the occurrence of death.

Technical Appendix (cont.)

AMI 30-Day Case-Fatality Rate.

Diagnosis codes: Australia used ICD-10-AM I21, Canada and New Zealand used ICD-9 410. *In-hospital rates.* In-hospital case-fatality rates exclude deaths that occur before admission to the hospital and deaths that occur after discharge. Hospital admission and discharge patterns could cause some of the differences. In-hospital case-fatality rates are closely related to all-setting case-fatality rates in countries with patient-level data available. Other countries relying only on hospital administrative data can only provide the in-hospital rates. Due to the use of in-hospital rates and lack of risk adjustment, England and the United States opted not to provide data. *Age-standardization:* the combined number of admissions per age category in the three countries was used to construct a standard population. Each country's rates were then age-standardized to this pooled reference population using the direct method.

AMI Mortality Rate.

Diagnosis codes: Australia used ICD-10-AM I21, Canada, New Zealand, and the United States used ICD-9 410. *Age standardization.* All rates were age-standardized to the OECD population in 1980.

Ischemic Stroke Case-Fatality Rate.

Diagnosis codes: Australia used ICD-10-AM I63 and I64 for ischemic stroke. Canada and New Zealand used ICD-9 433, 434 and 436 for ischemic stroke. *In-hospital rates.* In-hospital case-fatality rates exclude deaths that occur before admission to the hospital and deaths that occur after discharge. Hospital admission and discharge patterns could cause some of the differences. In-hospital case-fatality rates are closely related to all-setting case-fatality rates in countries with patient-level data available. Other countries relying only on hospital administrative data can only provide the in-hospital rates. Due to the use of in-hospital rates and lack of risk adjustment, England and the United States opted not to provide data. *Age-standardization:* the combined number of admissions per age category in the three countries was used to construct a standard population. Each countries rates were then age-standardized to this pooled reference population using the direct method.

Ischemic Stroke Mortality Rate.

Diagnosis codes: Australia used ICD-10-AM I63 and I64. Canada, New Zealand, and the United States used ICD-9 433, 434 and 436. *Age standardization.* All rates were age-standardized to the OECD population in 1980.

Technical Appendix (cont.)

Asthma Mortality Rate.

Recording of diagnosis. Some of the observed differences between countries may be due to differences in how the cause of mortality is diagnosed and recorded on death certificates. Ages 5–39 were used because these are the ages where an asthma cause-of-death diagnosis is considered most reliable. Some differences over time may also be attributable to changes in diagnosis classification systems. For example, a dual coding study in Australia found a 25 percent difference between asthma deaths coded by ICD–9 and ICD–10 due to changes in the classification. It was shown that this affected the older age group of patients. A conversion factor available for converting ICD–9 to ICD–10 rates of asthma mortality (i.e., multiplying the ICD–9 rate by 0.75) was not used since it is not available in other countries.

Suicide Rate.

Diagnosis codes. ICD–9 E950 to E959, except ICD–10: X60–X84 in Australia. The definition usually used for counting suicides within the UK is E950–E959 plus E980–E989 (“open verdict” deaths) excluding E988.8. This wider definition clearly includes some deaths that are not suicides. For example, there were 4 deaths in the under 1 age group, which cannot be true suicides. However, the wider definition is still considered a more accurate reflection of the likely incidence of suicide, and hence why it is the definition usually used to count suicides in the UK.

Vaccination Rate for Influenza, Age 65 and Over.

Surveys vs. Insurance Claims Data. Surveys may differ on dimensions including questions used, survey design and administration, sampling methodology, sample size, response rate, cultural orientation of respondents, etc. Data from insurance claims, on the other hand, are drawn from sources that are primarily used as a method of reimbursing physicians, not providing information. *Age-standardization.* The rate for the United States was age-standardized to the 2000 domestic standard population.

Vaccination Rate for Polio, Age 2 Years.

Surveys vs. Insurance Claims Data. Surveys may differ on dimensions including questions used, survey design and administration, sampling methodology, sample size, response rate, cultural orientation of respondents, etc. Data from insurance claims, on the other hand, are drawn from sources that are primarily used as a method of reimbursing physicians, not providing information. In Canada, claims showed 92 percent of children at age 2 had received DPT vaccination, which is delivered with polio; therefore, either the Canadian survey has underestimated the polio vaccination rate, or the claims provide an overestimate.

Technical Appendix (cont.)

Non-Smoking Rate.

Surveys as a Source of Data. Surveys may differ on dimensions including questions used, survey design and administration, sampling methodology, sample size, response rate, cultural orientation of respondents, etc. *Definition of a Regular Smoker.* Definitions vary between countries. The rate for Australia includes daily, weekly, and less than weekly smokers, while the rates for Canada and the United States include only daily smokers. Cigarettes only are included in definitions for all.

Incidence of Vaccine-Preventable Diseases.

Notifications vs. Confirmed Cases. Australia and the United States report confirmed cases only, England reports confirmed cases for some diseases and notifications for others, and New Zealand reports notifications for all diseases. Criteria for confirmation vary by country and disease. Rates for England include Wales.

Difficulty Seeing a Specialist.

Sample size. The sample included 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past 2 years. *Survey question.* The full text of the survey question was “How difficult is it for you to see a specialist (or consultant) when you need to? Very difficult, somewhat difficult, not too difficult, not at all difficult, not sure, or decline to answer?”

Difficulty Getting Care Nights or Weekends.

Sample size. The sample included 1,400 adults in each of the five countries. *Survey question.* The full text of the survey question was “Other than the [IF AU,CA,NZ,US (CC/1,2,3,5) “emergency room”; IF UK (CC/4) “Accident and Emergency room”], how easy or difficult is it for you to get medical care when needed on weekday evenings or during weekends? Very easy, somewhat easy, somewhat difficult, very difficult, not sure, or decline to answer?”

Technical Appendix (cont.)

Ability to Make a Same-Day Doctor's Appointment When Needed.

Sample size. The sample included 1,400 adults in each of the five countries. *Survey question.* The full text of the survey question was “Last time you were sick or needed medical attention, how quickly could you get an appointment to see a doctor? Please do not include a visit to the emergency room. Same day, 1 day, 2 days, 3–4 days, 5–7 days, 8–14 days, more than two weeks, not sure, decline to answer?”

Waiting for Emergency Care a Big Problem.

Sample size. The sample included 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past 2 years. *Survey question.* The full text of the survey question was “In the past two years, have you used or tried to use a hospital [IF AU,CA,NZ,US (Q60/1,2,3,5) “emergency room”; IF UK (Q60/4) “Accident and Emergency room”] for yourself? If yes: Was the length of time you had to wait for emergency care a big problem, small problem or not a problem?”

Waiting Time for Elective Surgery.

Sample size. The sample included 1,400 adults in each of the five countries. *Survey question.* The full text of the survey question was “In the past 2 years, have you or has a family member needed non-emergency or elective surgery, or not? (IF NECESSARY: By non-emergency or elective surgery we mean surgery for conditions that aren't immediately life threatening such as a hip replacement or a cataract removal.) If yes: How many days, weeks or months did you or your family member have to wait for the non-emergency or elective surgery?”

Financial barriers to Getting Medical Care, Filling a Prescription, or Getting a Test, Treatment, or Follow-Up Care.

Sample size. The sample included 1,400 adults in each of the five countries. *Survey question.* The full text of the survey question was “During the past 12 months, was there a time when you (1) did not [AU,NZ,US,CA (CC/1,2,3,5) “fill”; UK (CC/4) “collect”] a prescription for medicine because of the cost, (2) had a specific medical problem but did not visit a doctor because of the cost, (3) did not get some medical test, treatment, or follow-up that was recommended by a doctor because of the cost?”

Technical Appendix (cont.)

Conflicting Medical Information from Different Providers.

Sample size. The sample included 1,400 adults in each of the five countries. *Survey question.* The full text of the survey question was “Have you had a serious or chronic illness, injury, or disability that has required a lot of medical care in the last two years? If yes: Thinking about the care you received for this illness, injury or disability, how often, if ever, were you given conflicting information from different doctors, nurses or other health professionals? Often, sometimes, hardly ever, never, not applicable/only one doctor involved, not sure, or decline to answer?”

Patient–Doctor Communication: Getting Questions Answered.

Sample size. The sample included 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, being hospitalized or having had major surgery in the past 2 years. *Survey question.* The full text of the survey question was “In the past two years, when getting care for a medical problem, was there ever a time when you left a doctor’s office without getting important questions about your care or treatment answered?”

Patient–Doctor Communication: Patient Input on Treatment.

Sample size. The sample included 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, been hospitalized or had major surgery in the past 2 years. *Survey question.* The full text of the survey question was “Does the doctor that you rely on most for your care ask for your ideas and opinions about treatment and care?”

Patient–Doctor Communication: Coping with Emotional Burden of Illness.

Sample size. The sample included 750 adults in each of the five countries who reported being in fair or poor health, having had a serious illness, been hospitalized or had major surgery in the past 2 years. *Survey question.* The full text of the survey question was “The next question is about the doctor that you rely on most for your medical care. In the last two years, has this doctor discussed the emotional burden of coping with your condition?”

Technical Appendix (cont.)

Rating Physician Responsiveness as Excellent/ Very Good.

Sample size. The sample included 1,400 adults in each of the five countries. *Survey question.* The full text of the survey question was “How would you rate the doctor you usually go to on treating you with dignity and respect, listening carefully to your health concerns, being accessible either by phone or in person when you need care, spending enough time with you, knowing you and your family situation as it affects your health, and providing you with all the information you want?”

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- *England*: Department of Health.
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- *United States*: SEER.

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Colorectal Cancer Five–Year Survival.

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- *England*: Office for National Statistics.
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- *England*: National Registry of Childhood Tumours.
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- *England:* Office for National Statistics.
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- *Australia:* Australia and New Zealand Dialysis and Transplant Registry.
- *Canada:* Canadian Organ Replacement Registry.
- *England:* UK Transplant Statistics.
- *New Zealand:* NMDS.
- *United States:* Scientific Registry of Transplant Recipients.

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- *Canada:* Canadian Organ Replacement Registry.
- *England:* UK Transplant Statistics.
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- *United States:* Scientific Registry of Transplant Recipients.

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- *Canada:*
- *England:* Office for National Statistics.
- *New Zealand:* New Zealand Deaths 1998.
- *United States:* National Center for Health Statistics, National Vital Statistics System.

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- *England:* Office for National Statistics.
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- *OECD Health Data 2003.*

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- *England:* Office for National Statistics.
- *New Zealand:* New Zealand Mortality Registry.
- *United States:* CDC Wonder.

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- *United States:* Healthcare Cost and Utilization Project National Inpatient Sample.

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- *United States:* National Health Interview Survey.

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- *England:* NHS Immunization Statistics.
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Section 3. Summaries of Quality Reporting Activity in the Five Countries

Australia

Quality improvement has been a specific focus of the Australian Health Care Agreements that provide vehicles for public hospital funding. There has been significant funding allocated for quality improvement, with \$680 million for the previous five-year period and \$783.4 million for 2003–08. Measurement and assessment of performance have been conducted in Australia through the work of several governmental bodies. The Australian Council for Safety and Quality in Health Care provides national collaboration on safety and quality improvement. It has produced reports on the adequacy of existing national data sources to identify and measure safety problems as well as directions for a national approach to a safety reporting system. The National Institute of Clinical Studies was established as an independent company to lead clinicians in priority areas, with a focus on closing the gaps between evidence and practice. The National Health Priority Action Council focuses on the need to improve performance in specific priority disease areas and for particular population groups. Its role is to drive improvements in health services to achieve better outcomes in the national health priority areas, including those for disadvantaged groups. Monitoring information about these areas is reported every two years through the publication *Australia's Health* (Australian Institute for Health and Welfare). Further development of indicators focusing on quality of health care is under way. Finally, the National Health Performance Committee develops and maintains a national performance measurement framework for the health care system. It reports to health ministers each year against a small set of key indicators.

Canada

In Canada, a federally funded agency, the Canadian Institute for Healthcare Information (CIHI), has the responsibility for reporting on health care quality at the national level. In this role, CIHI has now published three annual reports (2001, 2002, 2003) entitled *Health Care in Canada*. These reports have been well received in the country and have each year provided the data and information for national media reports on health care. They have also supported many provincial and national investigations and commissions into the status of health care quality in the country. In addition, through the cooperation of the health ministers and first ministers across the country, there has been an agreement to report to citizens on health care system performance using an agreed-upon set of performance indicators. These have been developed by the Performance Indicators Review Committee and have been the basis of performance reports for each of the provinces. Extensive research is also under way in Canada across the spectrum of health care system performance. CIHI, in partnership with the Canadian Institute for Health Research (Institute for Health Services and Policy and the Institute for Population and Public Health) has commissioned research into the incidence of adverse events in the Canadian hospital system. Additional research subjects include: establishing standards for wait times, appropriateness of care, quality of primary care, continuity of care, effectiveness and outcomes research, health economics, and health worker safety.

New Zealand

The New Zealand health care system is predominantly publicly funded but also relies on private health insurance, which is purchased by about one-third of its population. The Ministry of Health publishes reports on specific quality indicators designed to assess system performance. They include a number of other indicators that provide information on the quality of services provided in key priority areas—for example, measures that ensure integration of services and minimization of avoidable admissions. The Ministry of Health also requires District Health Boards to report quarterly on a series of measures in a “balanced scorecard.” This includes the following indicators: percentage of consumer complaints resolved within 30 days; emergency department triage times; hospital-acquired blood stream infections; and ratings received from a nationally standardized patient satisfaction survey. In addition, the Ministry of Health Mental Health Directorate compiles data from District Health Board Mental Health Service on several key mental health service quality indicators, including access rates, discharge rates, informal discharge rates, Mental Health Act use rates, acute admission rates, and length of stay.

The Ministry of Health has released a strategy, “Improving Quality (IQ): A Systems Approach for the New Zealand Health and Disability Sector for Quality Improvement.” The Health and Disability Services (Safety) Act 2001 sets standards for health care providers. The Health Practitioners Competency Assurance Act 2004 and a credentialing regime have been introduced to ensure health professionals are competent to practice. Recently, the National Epidemiology and Quality Assurance Advisory Committee (Epiqual) was established under Section 17 of the New Zealand Public Health and Disability Act 2000. The members are appointed by, and accountable to, the Minister of Health. Epiqual will provide independent advice to the minister on quality improvement in the health sector through monitoring of the national quality initiative and advising on how clinical outcomes may be improved.

United Kingdom

Quality is the central component of the government’s agenda for modernizing the National Health Service (NHS). The quality agenda was first set out in a white paper entitled, *The New NHS: Modern and Dependable*, developed further in *A First Class Service: Quality in the New NHS*, and expanded and strengthened in the *NHS Plan*, published in July 2000. The agenda is underpinned by The Health Act 1999, which places a statutory duty of quality on all NHS organizations that provide direct patient care. It is also attached to investment, following the announcements on health spending in the 2002 budget. The basic elements of the NHS quality program are:

- clear national standards to help raise standards of care and reduce unacceptable variations for specific treatments and conditions and for patient safety, through routes including the National Institute for Clinical Excellence, National Service Frameworks, and a National Cancer Plan;

- modern organizational delivery mechanisms to implement national standards effectively, dependably, and safely—coordinated through comprehensive clinical governance arrangements;
- strong monitoring mechanisms, including the new Healthcare Commission, performance ratings for NHS trusts and Primary Care Trusts, and national and local patient surveys;
- a new mandatory reporting scheme for adverse health care events, to help minimize patient risk and improve the quality and safety of care; and
- measures to improve patients’ experiences of NHS services, including greater patient and public representation and improved customer focus.

United States

Publicly released quality information in the United States dates back to the mid-1980s. In the last decade, interest in publicly reported quality indicators has increased rapidly. Consumer groups, states, federal agencies, private businesses, and business associations have all published quality information at the provider, health plan, or regional level. At the federal government level, the Agency for Healthcare Research and Quality (AHRQ) is active in several areas of quality improvement, including the publication of two national reports, the *National Quality Report* and the *National Disparities Report*; the dissemination of quality indicators through an online database of measures, the National Quality Measures Clearinghouse; the publication of the AHRQ Quality Indicators for inpatient care, patient safety, and prevention; and grants supporting research on quality of care and patient safety. The Centers for Medicare and Medicaid Services has begun publishing data on the performance of individual hospitals in the Hospital Quality Information Initiative. The Quality Interagency Coordination Task Force coordinates U.S. federal agencies’ work on quality improvement.