

World in Your Pocket

A Handbook of International
Health Economic Statistics

2007

IHE

INSTITUTE OF
HEALTH ECONOMICS
ALBERTA CANADA

The Institute of Health Economics (IHE) is an independent, not-for-profit organization that performs research in health economics and synthesizes evidence in health technology assessment to assist health policy making and best medical practice.

Board members

Dr. Lorne Tyrrell - Chair, Institute of Health Economics and Professor and GSK Virology Chair, University of Alberta

Government

Ms. Paddy Meade - Deputy Minister, Alberta Health and Wellness

Dr. Kevin Keough - President and CEO, Alberta Heritage Foundation for Medical Research

Dr. Chris Eagle - Executive Vice President and Chief Clinical Officer, Calgary Health Region

Dr. Tom Feasby - Vice President of Academic Affairs, Capital Health

Academia

Dr. Grant Gall - Dean, Faculty of Medicine, University of Calgary

Dr. Franco Pasutto - Dean, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta

Dr. Gary Kachanoski - Vice President (Research), University of Alberta

Dr. Elizabeth Wilman - Head, Department of Economics, University of Calgary

Dr. Dennis Salahub - Vice President (Research and International), University of Calgary

Dr. Tom Marrie - Dean, Faculty of Medicine and Dentistry, University of Alberta

Dr. Andre Plourde - Chair, Department of Economics, University of Alberta

Industry

Mr. Terry McCool - Vice President, Corporate Affairs, Eli Lilly Canada Inc.

Mr. Geoffrey Mitchinson - Vice President, Public Affairs, GlaxoSmithKline Inc.

Dr. Penny Albright - Vice-President, Government and Health Economics, Janssen-Ortho Inc. (Canada)

Mr. William Charnetski - Vice President, Corporate Affairs and General Counsel, AstraZeneca Canada Inc.

Mr. Gregg Szabo - Vice President, Corporate Affairs, Merck Frosst Canada Ltd.

Preface

World In Your Pocket - a Handbook of International Health Economic Statistics is designed to be an easy and portable international reference guide to indicators of health care and health economics. We define “economic” broadly to include both means (personal and formal resources) and ends (health outcomes).

The chart book is intended to provide the user with a reasonably comprehensive overview of how we use health resources, and how well we use them. We have included the most recent data available from a broad array of sources. Variables are subject to reporting lag and not all data are reported for each year.

Project Staff

Anderson Chuck
Ken Eng
Rhonda Lothammer
Janice Varney

Project Advisors

Philip Jacobs
Egon Jonsson
Don Schopflicher

Introduction

How the chartbook is organized

World In Your Pocket - a Handbook of International Health Economic Statistics includes the most current available data, presented in separate sections on health status, health care costs, health resources, health resource utilization and health system performance. The basic unit of observation is the individual country. Indicators are reported at the international level.

Space limitations require us to limit the number of countries in the international charts. We selected a group of countries with approximately the same level of economic development as Canada, including Australia, Finland, France, Germany, Italy, Japan, the Netherlands, New Zealand, Spain, Sweden, the United Kingdom and the United States. Data was not available for all countries in every chart.

We also included a number of developing countries in a select number of international charts. We selected a group of countries that have approximately the lowest Gross Domestic Product (GDP) in Africa, South America, and Asia. These countries include Malawi, Rwanda, Democratic Republic of the Congo, Chad, Kenya, Ethiopia, Bolivia, Haiti, Vietnam, Cambodia, Nepal, Lao People's Democratic Republic, India and Bangladesh.

Source of Data

A variety of topics are included in the broad subject matter of health economic indicators. Thus, an array of data is summarized in the chart book from sources including the Organization for Economic Cooperation and Development and World Health Organization.

Feedback

We hope you will find this chartbook useful and would appreciate your comments, questions and suggestions. Please contact us by email at info@ihe.ca or by telephone at 780-448-4881.

Table of Contents

Health Status	page	01
HALE	page	02
Life Expectancy at Birth	page	03
Infant Mortality	page	05
Population Reporting Good or Better Health	page	07
Physical Activity	page	08
Consumption of Fruits and Vegetables	page	09
Percentage of Population Who Smoke Daily	page	10
Prevalence of Obesity	page	11
Costs	page	13
Health Care Expenditure per Capita	page	14
Health Care Expenditure as % of GDP	page	15
Pharmaceutical Expenditure	page	16
Family Physician Salaries	page	17
Specialist Physician Salaries	page	18
Per Person Spending by Age	page	19
Per Person Spending by Service Category and Age	page	20
Elderly Dependency Ratio	page	21
Cost at End of Life	page	22
Total Health Care Cost in Alberta	page	23

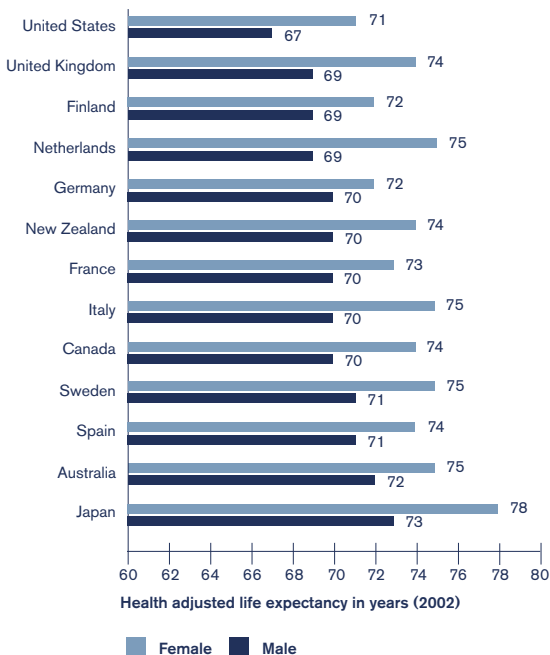
Table of Contents continued

Health Resources	page	25
Number of Physicians	page	26
Number of Nurses	page	27
Number of Pharmacists	page	28
Number of Dentists	page	29
Number of CT Imaging Scanners	page	30
Number of MRI Imaging Scanners	page	31
Number of Hospital Beds	page	32
Health Resource Utilization	page	33
Average Length of Stay in Hospital	page	34
Hospital Discharge Rate	page	35
Health System Performance	page	37
Unemployment Rate	page	38
Public Satisfaction in Health Care	page	39
Median Waiting Times	page	40
Health Expenditure and Life Expectancy	page	41
Health Expenditure and Infant Mortality.....	page	43
QALY League Tables	page	45
Cataract Surgery	page	46
Organ Transplantation	page	47
Hip Replacement	page	48
Vaccination	page	49

Health Status



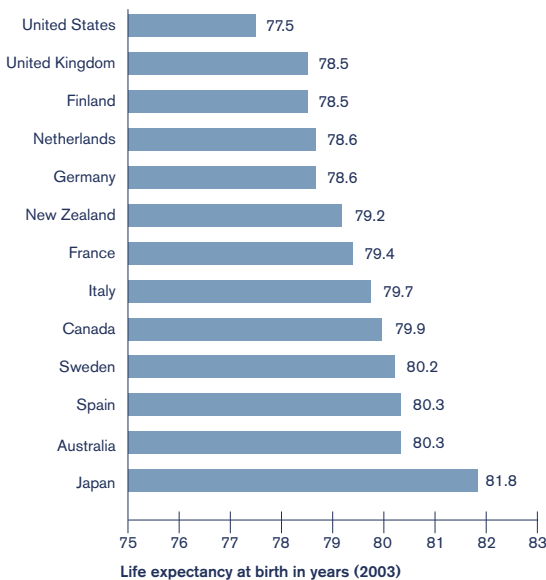
Health Adjusted Life Expectancy (HALE) In Selected Countries



Note: Health Adjusted Life Expectancy (HALE) represents the number of expected years of life equivalent to years in full health.

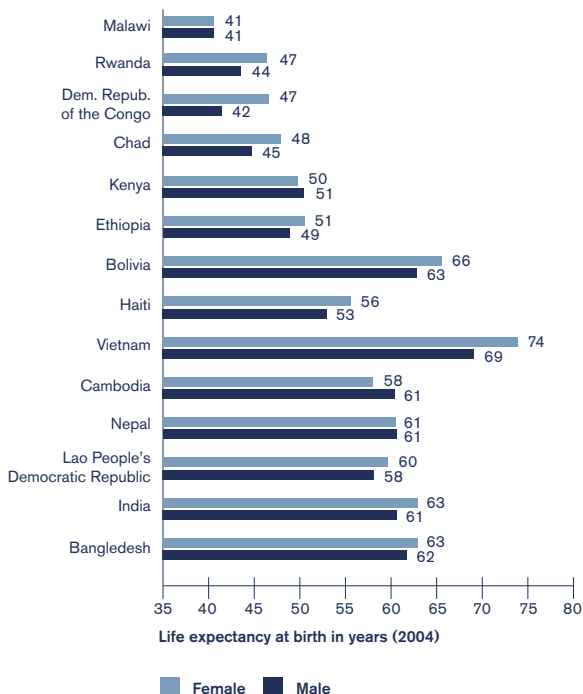
Source: Statistical annex table 4. Healthy life expectancy (HALE) in all WHO member states, estimates for 2004. World Health report, 2004: Changing history. Geneva: World Health Organization; 2004.

Life Expectancy at Birth In Selected Countries



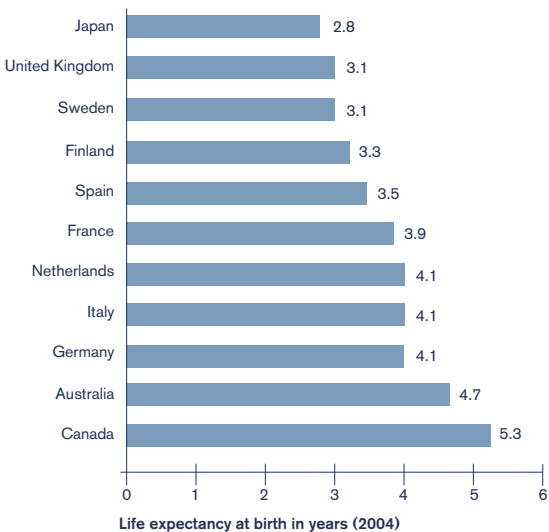
Source: OECD health data; 2006.

Life Expectancy at Birth In Selected Developing Countries



Source: World health statistics, 2006. Geneva: World Health Organization; 2006.
Available at: www.who.int/whosis/whostat2006.pdf.

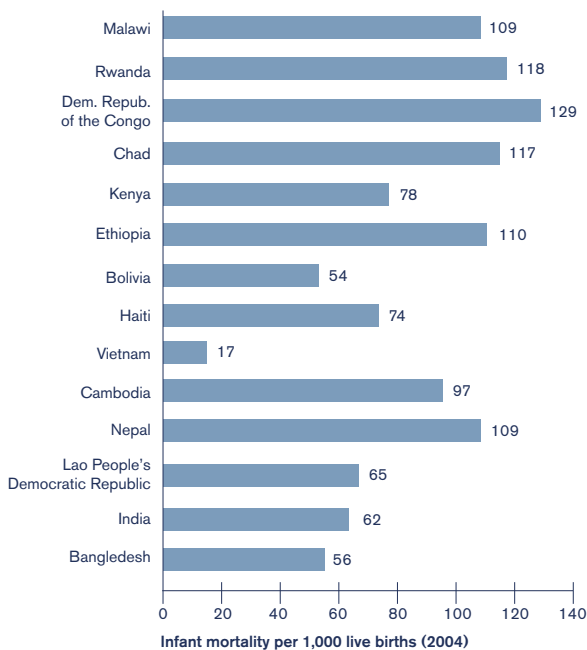
Infant Mortality In Selected Countries



Note: Canada is 2003 data;

Source: OECD health data; 2006.

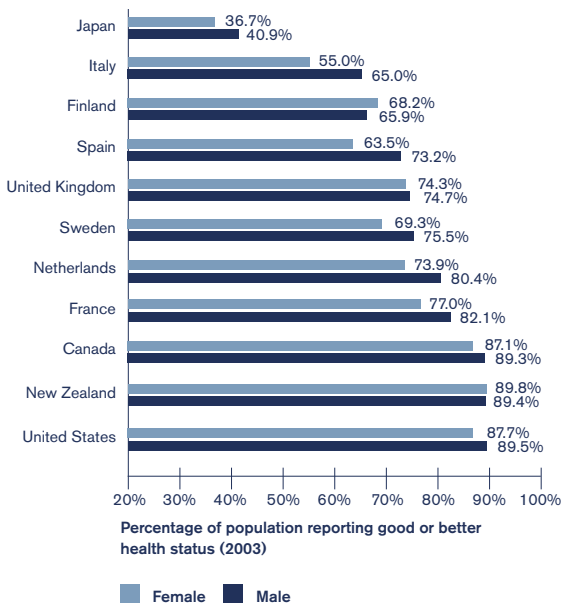
Infant Mortality In Selected Developing Countries



Source: World health statistics, 2006. Geneva: World Health Organization; 2006.
Available at: www.who.int/whosis/whostat2006.pdf.

Percentage of People Reporting Good or Better Health Status (2003)

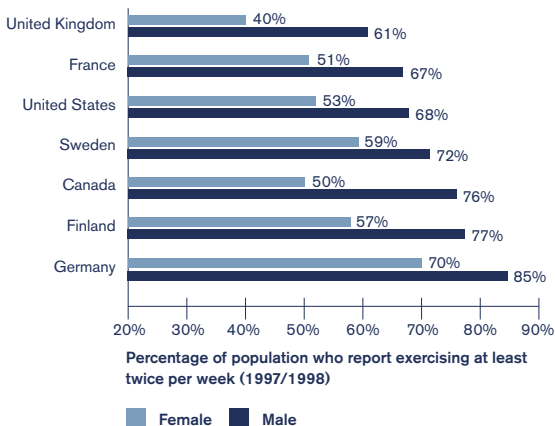
In Selected Countries



Note: France, Japan, Finland, Netherlands, Sweden and United States are 2004 data

Source: OECD health data; 2006.

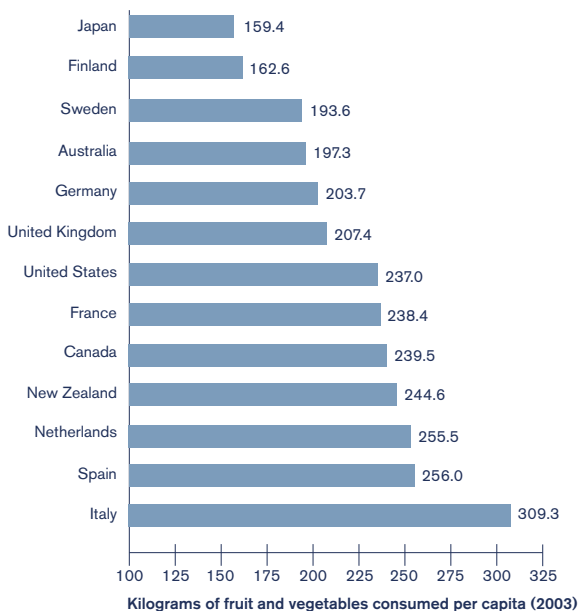
Physical Activity In Selected Countries



Source: Currie C, Hurrelmann K, Setteertobulte W, Smith R, Todd J, editors. Health and health behaviour among young people: Health behaviour in school-aged children: A WHO cross national study (HBSC) international report. Copenhagen: World Health Organization; 2000.

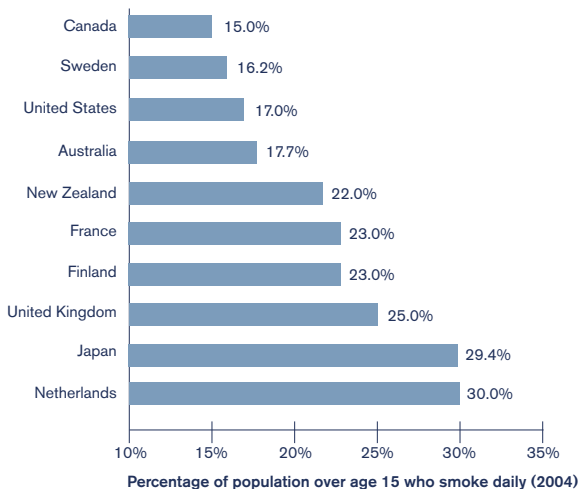
Consumption of Fruits and Vegetables

In Selected Countries



Source: OECD health data; 2006.

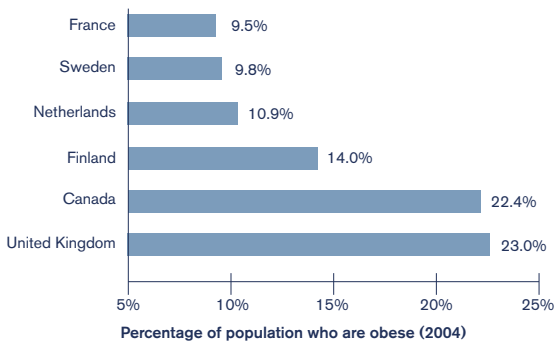
Percentage of Population Who Smoke Daily In Selected Countries



Note: The OECD defines daily smokers as the percentage of the population aged 15 or more years who report that they are daily smokers.

Source: OECD health data; 2006.

Prevalence of Obesity In Selected Countries



Note: Obesity is defined as Body Mass Index (BMI) ≥ 30.0 where $BMI = \text{Mass}(\text{kg}) / \text{height}(\text{m})^2$

United States data is unavailable from source.

Source: OECD health data; 2006.

Costs



Total Health Expenditure Per Capita in Selected Countries



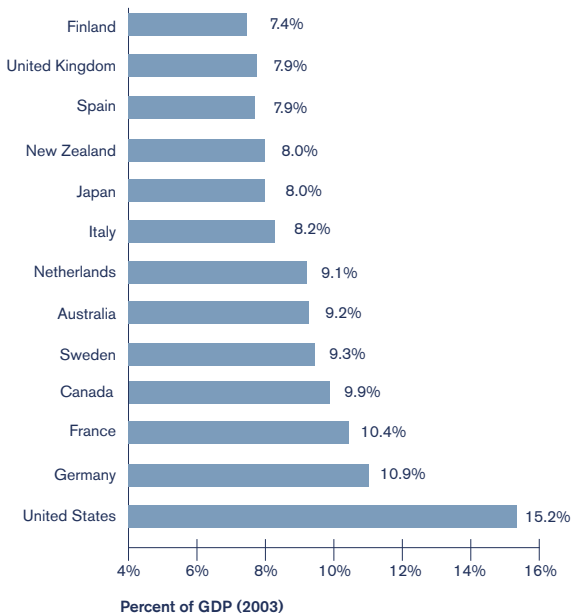
Note: Purchasing power parity is a currency conversion rate that both converts to a common currency and equalizes the purchasing power of different currencies. It eliminates the differences in price levels between countries in the process of conversion.

Data for Japan, France, Germany, and Australia are for 2003.

Source: OECD health data; 2006.

Total Health Expenditure

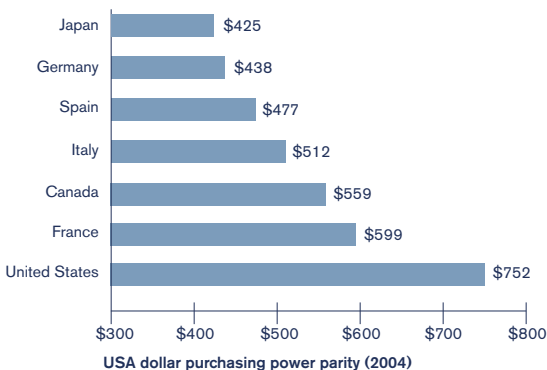
As a Percentage of GDP in Selected Countries



Source: OECD health data; 2006.

Total Pharmaceutical Expenditure

Per Capita in Selected Countries



Note: Purchasing power parity is a currency conversion rate that both converts a common currency and equalizes the purchasing power of different currencies. It eliminates the differences in price levels between countries in the process of conversion.

Data for Japan and Germany are for 2003.

Source: OECD health data; 2006.

Family Physician Salaries In Selected Countries



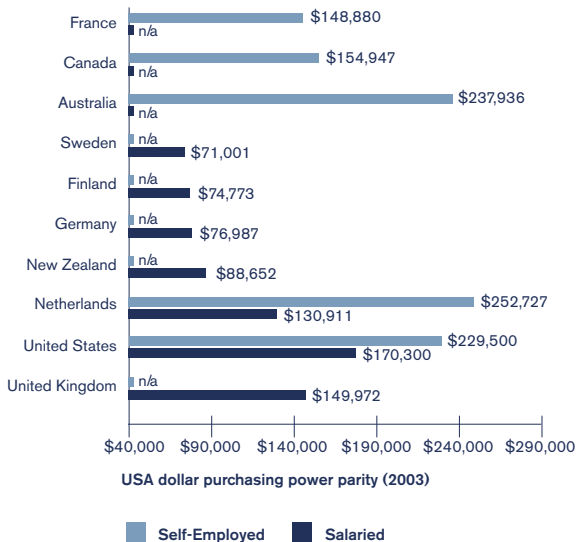
Note: Purchasing power parity is a currency conversion rate that both converts a common currency and equalizes the purchasing power of different currencies. It eliminates the differences in price levels between countries in the process of conversion.

Data for Sweden is for 2002.

Data for the United States is for 2001.

Source: OECD health data; 2006.

Specialist Physician Salaries In Selected Countries



Note: Purchasing power parity is a currency conversion rate that both converts a common currency and equalizes the purchasing power of different currencies. It eliminates the differences in price levels between countries in the process of conversion.

Data for the United States is for 2001.

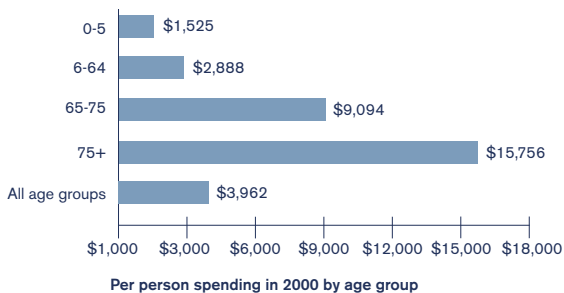
Data for Sweden is for 2002.

Data for United Kingdom is for 2004.

Data for Germany is for 2004.

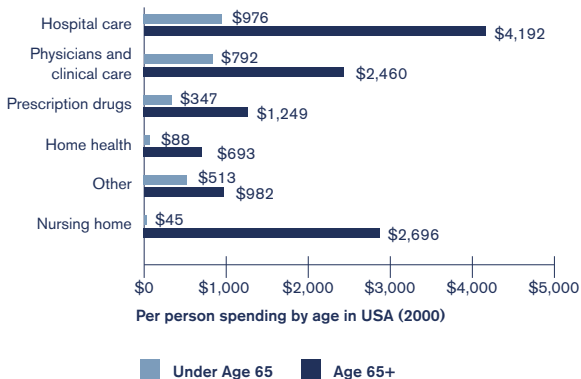
Source: OECD health data; 2006.

Per Person Spending by Age In the United States for 2000



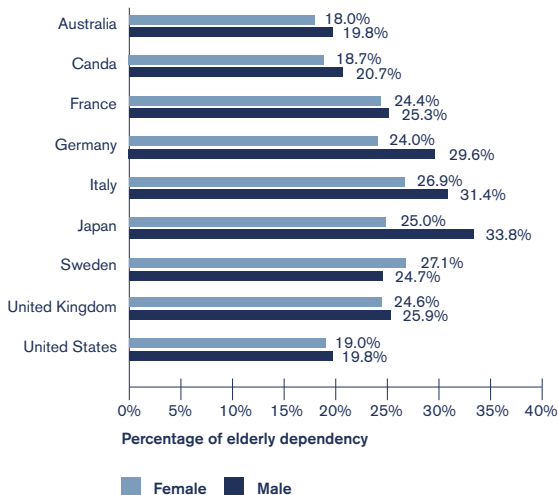
Source: Meara E, White C, Cutler D. Trends in medical spending by age, 1963-2000. Health Affairs 2004;23(4):176-83.

Per Person Spending by Service Category and Age In the United States (2000)



Source: Meara E, White C, Cutler D. Trends in medical spending by age, 1963-2000. *Health Affairs* 2004;23(4):176-83.

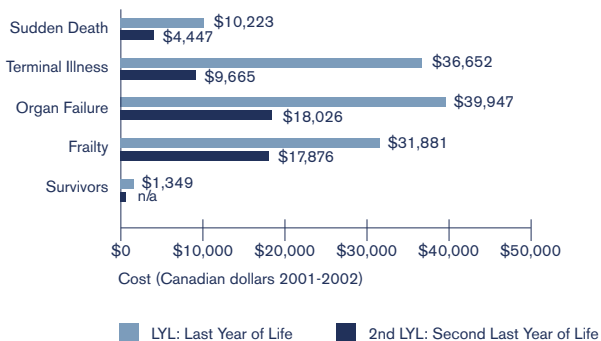
Elderly Dependency Ratio In Selected Countries



Note: The elderly population dependency ratio is defined as the population age 65 and over as a percentage of the working-age population (i.e. the population aged 15-64).

Source: Jacobzone S, Cambois E, Robine JM. Is the health of older persons in OECD countries improving fast enough to compensate for population aging? OECD Economic Studies; 2000.

End of Life Total Costs and Utilization in Alberta (any service)

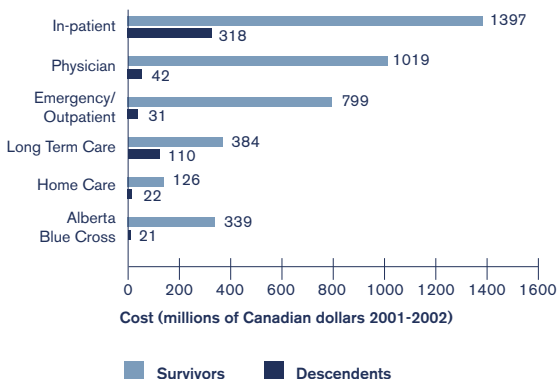


Source: Fassbender K, Smythe JG, Carson M, Finegan BA, Booth PM. Report of the Institute for Public Economics Health Research Group to Alberta Health and Wellness: cost and utilization of health care services at end of life in Alberta, 1999-2002. Edmonton, AB: University of Alberta; 2006.

Total Health Care Costs

In Alberta for 2001-02

by Cost Category

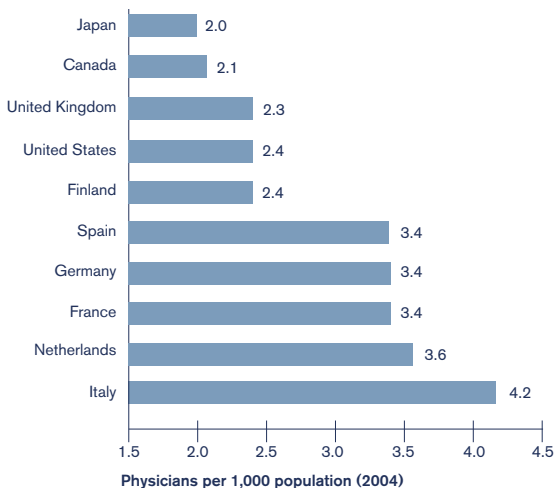


Source: Fassbender K, Smythe JG, Carson M, Finegan BA, Booth PM. Report of the Institute for Public Economics Health Research Group to Alberta Health and Wellness: cost and utilization of health care services at end of life in Alberta, 1999-2002. Edmonton, AB: University of Alberta; 2006.

Health Resources

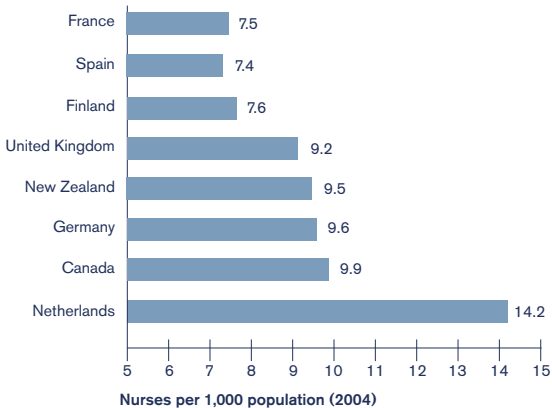


Number of Physicians In Selected Countries



Source: OECD health data; 2006.

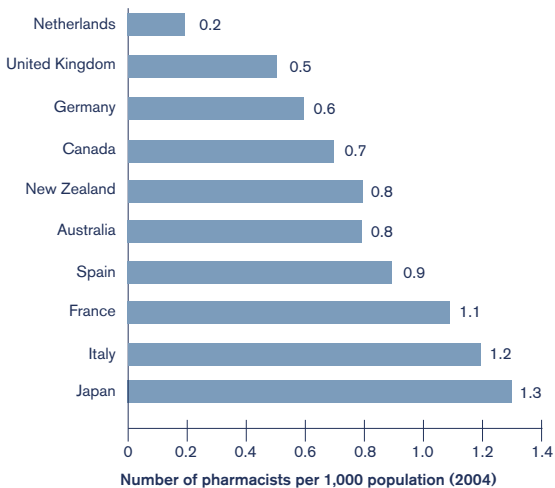
Number of Nurses In Selected Countries



Note: Includes both Registered Nurses (RN) and Licensed Practical Nurses (LPN).

Source: OECD health data; 2006.

Number of Pharmacists In Selected Countries



Notes: Data for Australia and United Kingdom are for 2003.

Source: OECD health data; 2006.

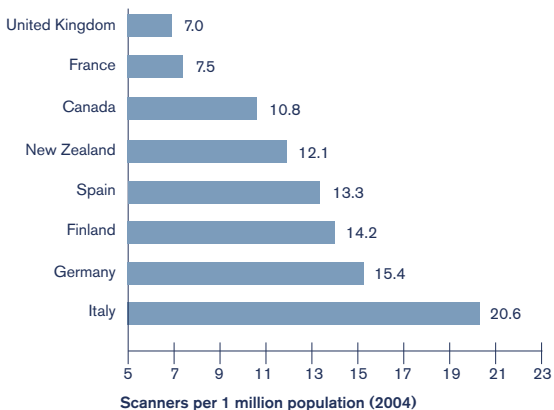
Number of Dentists In Selected Countries



Note: Data for Australia, New Zealand and Sweden are from 2003.

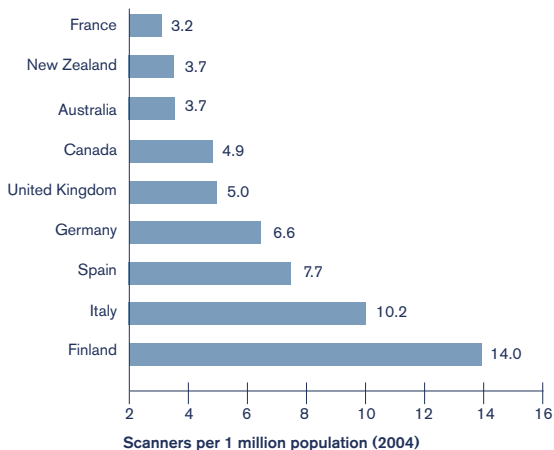
Source: OECD health data; 2006.

Number of CT Imaging Scanners In Selected Countries



Source: OECD health data; 2006.

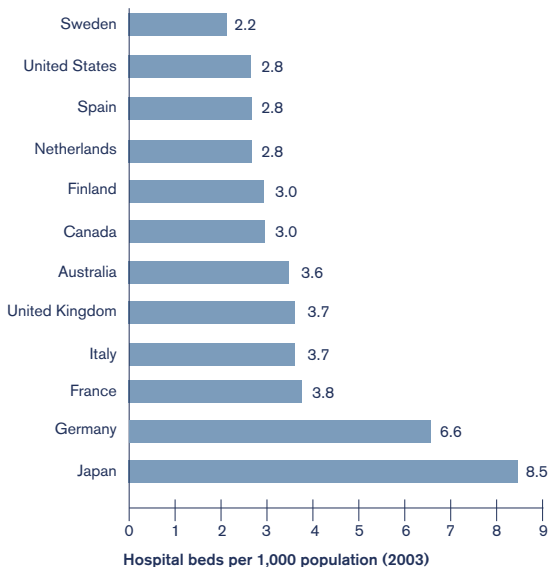
Number of MRI Imaging Scanners In Selected Countries



Note: Data for New Zealand is for 2003.

Source: OECD health data; 2006.

Number of Hospital Beds In Selected Countries



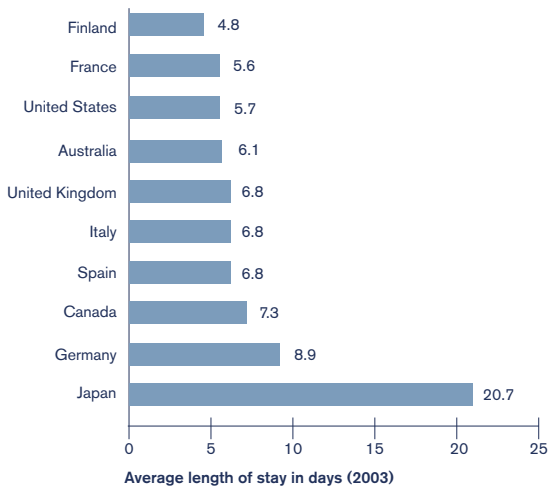
Source: OECD health data; 2006.

Health Resource Utilization



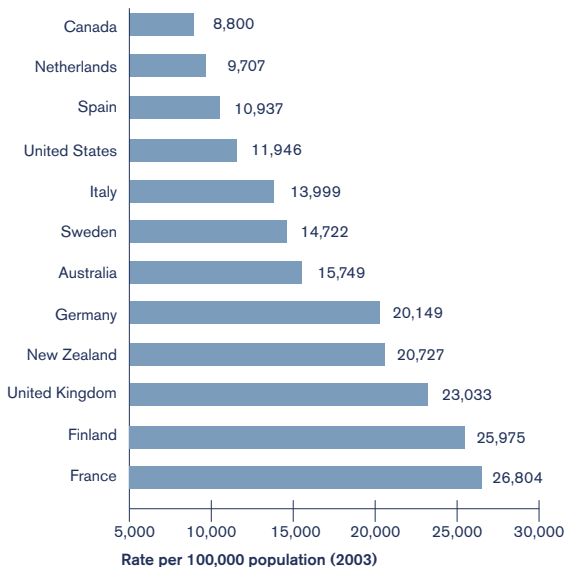
Average Length of Stay in Hospital

In Selected Countries



Source: OECD health data; 2006.

Hospital Discharge Rate In Selected Countries

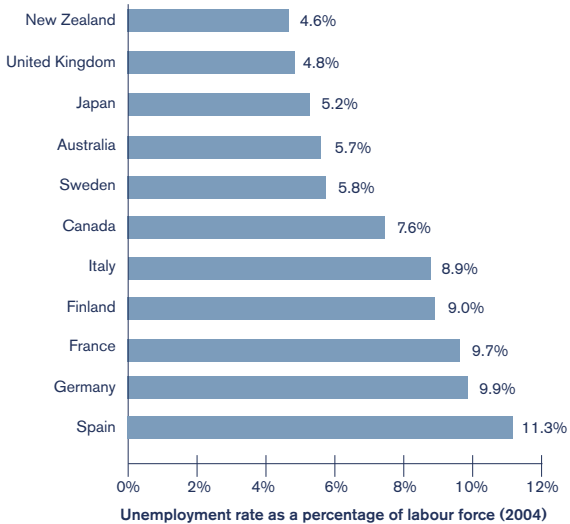


Source: OECD health data; 2006.

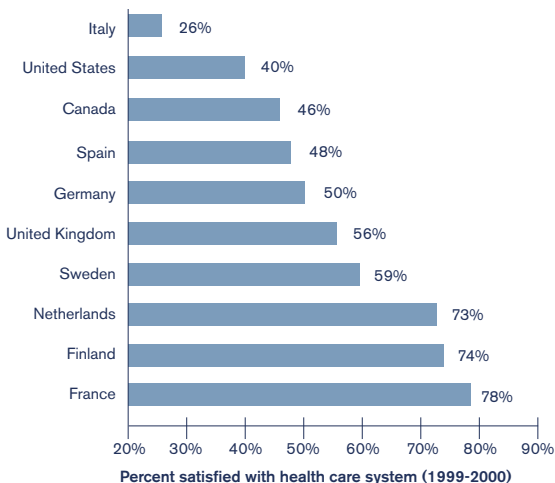
Health System Performance



National Unemployment Rate In Selected Countries



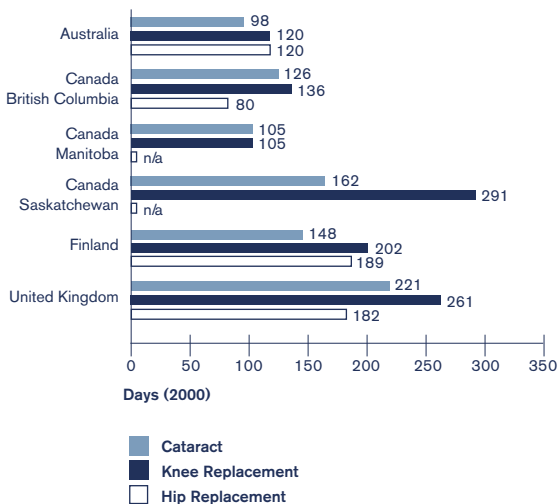
Public Satisfaction with Health Care System In Selected Countries



Note: United States and Canada data from Harvard School of Public Health (2000).

Source: Blendon R, Minah K, Benson J. The public versus the world health organization on health system performance. *Health Affairs* 2001;20(3):10-20.

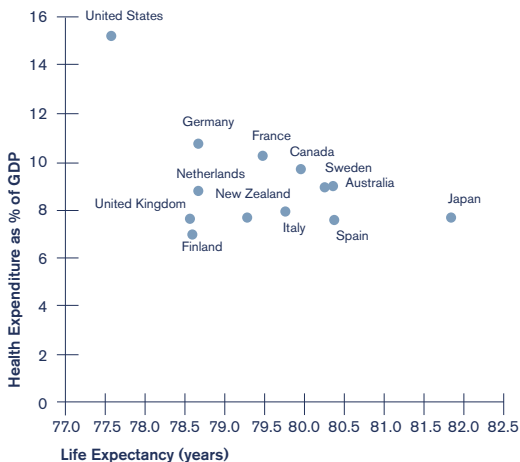
Median Waiting Times In Selected Countries



Note: Waiting time is defined as time after making appointment with a specialist. Data unavailable for Alberta and most other Canadian provinces.

Source: Sicilani L, Hurst J. Explaining waiting times variations for elective surgery across OECD countries, OECD economic studies no. 38. OECD: Paris; 2004.

Health Expenditure & Life Expectancy In Selected Countries

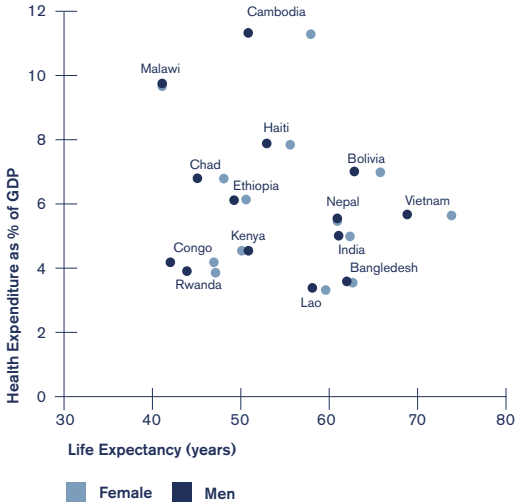


Note: Data is for 2004.

Source: OECD health data; 2006.

Health Expenditure & Life Expectancy

In Selected Developing Countries



Note: Data is for 2004.

Source: World health statistics, 2006. Geneva: World Health Organization; 2006. Available at: www.who.int/whisis/whostat2006.pdf.

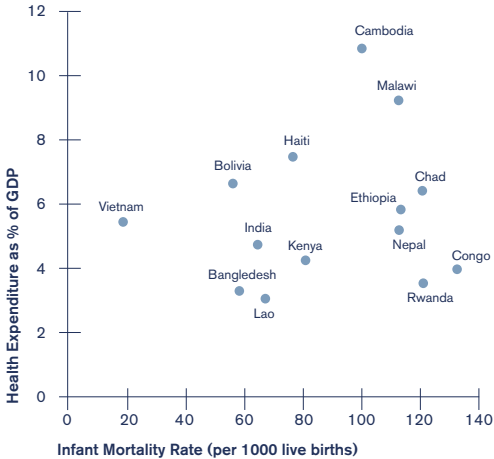
Health Expenditure & Infant Mortality In Selected Countries



Note: Infant mortality rate for Canada is 2003 data.

Source: World Health Organization, The World Health Report 2006.

Health Expenditure & Infant Mortality In Selected Developing Countries



Source: World health statistics, 2006. Geneva: World Health Organization; 2006.
Available at: www.who.int/whisis/whostat2006.pdf.

**Quality-Adjusted Life Years (QALY)
League Tables**



Quality-Adjusted Life Years (QALY) League Tables

for Cataract Surgery

Cataract Surgery		
Year of Pub	Intervention VS Comparator in Target population	\$/QALY in 2002 US\$
2003	Cataract and posterior chamber intraocular lens implantation VS No treatment IN patients with bilateral cataracts with 20/83 vision – age 73	\$1,600
2002	Initial cataract surgery VS. Observation IN patients who undergo initial cataract surgery	\$2,100
2003	Second-eye cataract surgery VS. Preexisting unilateral pseudophakia IN Cohort of US patients with prior successful cataract surgery in fellow eye – median age 73	\$2,800
2002	Cataract surgery VS. No Cataract surgery IN patients scheduled for cataract extraction in one eye	\$4,500

Note: A QALY League table provides a rank ordering of interventions in ascending order of their incremental cost effectiveness ratio. A low cost per QALY appearing towards the top of the league table does not necessarily mean that the program/intervention is more worthwhile from a societal perspective than a program/intervention appearing lower down the table.

Source: Centre for the Evaluation of Value and Risk in Health. Tufts – New England Medical Centre. Available at: <http://www.tufts-nemc.org/cearegistry/data/docs/PhaseIIACompleteLeagueTable.pdf>.

Quality-Adjusted Life Years (QALY) League Tables

for Organ Transplantation

Organ Transplantation		
Year of Pub	Intervention VS Comparator in Target population	\$/QALY in 2002 US\$
2003	Cadaveric donor renal transplantation with no wait VS Continued dialysis IN non-diabetic patients who are stable on dialysis – age 65+	\$1,600
2003	Living donor renal transplantation with 4 year wait VS Continued dialysis IN non-diabetic patients ho are stable on dialysis – age 65+	\$24,000
2003	Cadaveric renal transplantation with 2 year wait VS. Continued dialysis IN non-diabetic patients who are stable on dialysis – age 65+	\$210,000
2003	Cadaveric donor renal transplantation with 4 year wait VS Continued dialysis in non-diabetic patients who are stable on dialysis – age 65+	\$210,000

Note: A QALY League table provides a rank ordering of interventions in ascending order of their incremental cost effectiveness ratio. A low cost per QALY appearing towards the top of the league table does not necessarily mean that the program/ intervention is more worthwhile from a societal perspective than a program/ intervention appearing lower down the table.

Source: Centre for the Evaluation of Value and Risk in Health. Tufts – New England Medical Centre. Available at: <http://www.tufts-nemc.org/cearegistry/data/docs/PhaseIIACompleteLeagueTable.pdf>.

Quality-Adjusted Life Years (QALY) League Tables

for Hip Replacement

Hip Replacement		
Year of Pub	Intervention VS Comparator in Target population	\$/QALY in 2002 US\$
2002	Total hip replacement surgery VS. No total hip replacement surgery IN females undergoing hip replacement surgery – age 60-69	\$1,200
2002	Total hip replacement surgery VS. No total hip replacement surgery IN males undergoing hip replacement surgery – age 60-69	\$1,500
2002	Total hip replacement surgery VS. No total hip replacement surgery IN females undergoing hip replacement surgery – age 70-79	\$2,000
2002	Total hip replacement surgery VS. No total hip replacement surgery IN males undergoing hip replacement surgery – age 70-79	\$2,500

Note: A QALY League table provides a rank ordering of interventions in ascending order of their incremental cost effectiveness ratio. A low cost per QALY appearing towards the top of the league table does not necessarily mean that the program/intervention is more worthwhile from a societal perspective than a program/intervention appearing lower down the table.

Source: Centre for the Evaluation of Value and Risk in Health. Tufts – New England Medical Centre. Available at: <http://www.tufts-nemc.org/cearegistry/data/docs/PhaseIIACompleteLeagueTable.pdf>.

Quality-Adjusted Life Years (QALY) League Tables

for Vaccination

Vaccination		
Year of Pub	Intervention VS Comparator in Target population	\$/QALY in 2002 US\$
2003	Four doses of seven-valent pneumococcal conjugate vaccine VS. No vaccination IN 80% of the Canadian population	\$25,000
2003	Universal infant vaccination program with a hypothetical 7-valent conjugated pneumococcal vaccine VS No vaccination IN infants and children in the Netherlands – birth to age 10	\$81,000

Note: A QALY League table provides a rank ordering of interventions in ascending order of their incremental cost effectiveness ratio. A low cost per QALY appearing towards the top of the league table does not necessarily mean that the program/intervention is more worthwhile from a societal perspective than a program/intervention appearing lower down the table.

Source: Centre for the Evaluation of Value and Risk in Health. Tufts – New England Medical Centre. Available at: <http://www.tufts-nemc.org/cearegistry/data/docs/PhaseIIACompleteLeagueTable.pdf>.

Figures Index

Health Status	page 01
HALE in Selected Countries	page 02
Life Expectancy at Birth in Selected Countries	page 03
Life Expectancy at Birth in Selected Developing Countries	page 04
Infant Mortality in Selected Countries	page 05
Infant Mortality in Selected Developing Countries.....	page 06
Percentage of People Reporting Good or Better Health Status (2003) in Selected Countries	page 07
Physical Activity in Selected Countries	page 08
Consumption of Fruits and Vegetables in Selected Countries	page 09
Percentage of Population Who Smoke Daily in Selected Countries	page 10
Prevalence of Obesity in Selected Countries	page 11
Costs	page 13
Health Care Expenditure Per Capita in Selected Countries	page 14
Health Care Expenditure as % of GDP in Selected Countries	page 15
Pharmaceutical Expenditure Per Capita in Selected Countries	page 16
Family Physician Salaries in Selected Countries	page 17
Specialist Physician Salaries in Selected Countries	page 18
Per Person Spending by Age in the United States for 2000.....	page 19

Per Person Spending by Service Category and Age in the United States (2000)	page 20
Elderly Dependency Ratio in Selected Countries	page 21
End of Life Total Cost and Utilization in Alberta.....	page 22
Total Health Care Cost in Alberta	page 23
Health Resources	page 25
Number of Physicians in Selected Countries	page 26
Number of Nurses in Selected Countries	page 27
Number of Pharmacists in Selected Countries	page 28
Number of Dentists Practitioners in Selected Countries	page 29
Number of CT Imaging Scanners in Selected Countries	page 30
Number of MRI Imaging Scanners in Selected Countries	page 31
Number of Hospital Beds in Selected Countries	page 32
Health Resource Utilization	page 33
Average Length of Stay in Hospital In Selected Countries	page 34
Hospital Discharge Rate in Selected Countries	page 35
Health System Performance	page 37
National Unemployment Rate in Selected Countries	page 38
Public Satisfaction with Health Care System in Selected Countries	page 39
Median Waiting Times in Selected Countries	page 40

Figures Index continued

Health Expenditure & Life Expectancy in Selected Countries	page 41
Health Expenditure & Life Expectancy in Selected Developing Countries	page 42
Health Expenditure & Infant Mortality in Selected Countries	page 43
Health Expenditure & Infant Mortality in Selected Developing Countries	page 44
QALY League Tables	page 45
QALY League Tables for Cataract Surgery	page 46
QALY League Tables for Organ Transplantation	page 47
QALY League Tables for Hip Replacement	page 48
QALY League Tables for Vaccination	page 49

IHE Publications

- Cost-effectiveness in the detection of syphilis
- The use and benefit of teleoncology services
- Screening newborns for hearing
- Screening newborns for cystic fibrosis
- The use of nitric oxide in acute respiratory distress syndrome
- Routine Pre-operative testing – is it necessary?
- Consensus Statement on Self-monitoring in Diabetes
- Consensus Statement on How to Prevent Low Birth Weight

Institute of Health Economics
1200 - 10405 Jasper Avenue
Edmonton AB Canada T5J 3N4
Tel. 780.448.4881 Fax. 780.448.0018
info@ihe.ca

World In Your Pocket—a Handbook of International Health Economic Statistics includes the most current available data, presented in separate sections on health status, health care costs, health resources, health resource utilization and health system performance.

www.ihe.ca

ISBN 978-0-9780024-6-6 (print)

ISBN 978-1-926929-46-0 (online)