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INTERNATIONAL HEALTH CARE SYSTEMS

A System in Name Only — Access, Variation, and Reform in Canada's Provinces

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All universal health care systems are unique, but Canadian health care is a genuine enigma. Although it is usually described as a single-payer system, the public share of total spending is, at 70%

(see table), low by northern European standards. Complexities arise from the fact that it's a federal system that divides responsibilities between the national government (responsible for services to some Native Canadians [First Nations and Inuit peoples], the armed forces, the Royal Canadian Mounted Police, and inmates of federal prisons, as well as some aspects of health protection) and the provinces (constitutionally responsible for everything else).

An interactive graphic is available at NEJM.org

Both universal hospital insurance (initiated in 1947) and medical care insurance (initiated in 1962) began in Saskatchewan, a prairie province that had elected North America's first social democratic government in 1944. The adoption of universal hospital insurance was broadly supported, but state-funded medical insurance emerged from a bitter political struggle culminating in a 23-day doctors' strike that began on the date of implementation. The depth, rancor, and divisiveness of the struggle were by Canadian standards the public-policy equivalent of a civil war. Despite these fraught beginnings, the spread was benign. Even provinces that were reluctant to follow Saskatchewan's lead had implemented hospitalization plans by 1961 and medical insurance plans by 1971. The irresistible carrot was the federal government's offer to pay roughly half the costs of these programs.

Much has changed since then, however — first and foremost, the federal role, which has gradually shrunk. The federal government began reducing its funding commitments in the 1970s and ceded some taxation power (known as tax points) to the provinces as compensation. Today, Ottawa provides about 20% of total public spending through cash transfers to the provinces. The cash is largely unconditional: the provinces need only adhere to the Canada Health Act (1984), the essence of which requires the provision of hospital and physician services to all residents without charge, reinforcing the principle of universal

Selected Characteristics of the Health Care System and Health Outcomes in Canada.*

Variable	Value
Health expenditures	
Per capita ($ U.S.)	5,741
Percentage of GDP	10.9
Out-of-pocket (% of private expenditures on health)	50.1
Public sources (% of total)	70.1
Health insurance	
Rate in population (%)	100
Source of funding	Federal and provincial taxes for public portion
Generalist–specialist balance (%)	
Generalists	47
Specialists	53
Access	
No. of hospital beds per 10,000 population in 2010	27
No. of physicians per 1000 population	2.5
Percentage of total government health expenditures spent on mental health care in 2011	7.2
Primary care physicians using electronic medical records exclusively in 2014 (%)	42
Life and death	
Life expectancy at birth (yr)	81
Additional life expectancy at 60 yr (yr)	25
Annual no. of deaths per 1000 population	7
Annual no. of infant deaths per 1000 live births in 2013	5
Annual no. of deaths of children <5 yr of age per 1000 live births in 2013	5
Annual no. of maternal deaths per 100,000 live births in 2013	11
Fertility and childbirth	
Average no. of births per woman	1.6
Births attended by skilled health personnel in 2011 (%)	98
Pregnant women receiving any prenatal care in 2007 (%)	100
Preventive care	
General availability of colorectal-cancer screening at primary care level in 2010	Yes
Children 12–23 mo of age receiving measles immunization in 2013 (%)	95
Prevalence of chronic diseases (%)	
Diabetes (% of 2013 population 29–79 yr old)	7.9
HIV	0.2
Prevalence of risk factors (%)	
Obesity in adults >20 yr of age in 2008	24.3
Overweight in children 5–17 yr of age in 2011	31.5
Smoking in 2013	19.3

* Data are from the World Bank, the Organization for Economic Cooperation and Development, the Commonwealth Fund, the National Physician Survey, the Public Health Agency of Canada, Statistics Canada, and the World Health Organization, and are for 2012 except as noted. GDP denotes gross domestic product, and HIV human immunodeficiency virus.

access to care enshrined in law two decades earlier.

There is, then, no national health care system but rather 10 provincial (and 3 territorial) systems for which government is the single payer. Health care consumes 35 to 50% of provincial budgets. When the basic architecture of the systems took shape decades ago, health care largely meant doctors and hospitals. Contemporary health care is much more diverse, the population is older, and these so-called core services now account for less than half of total spending. The public system has nonetheless hewed close to its origins: the government pays for 91% of hospital care and 99% of physician care, an emphasis that successfully meets the needs of patients requiring short-term care (see case descriptions). By contrast, it pays for almost none of the care provided by nonphysician professionals. Nothing prevents provinces from publicly funding all or portions of other services, such as optometry, prescription drugs, or home care, but nothing requires them to do so, either. Their inclination to expand the scope of publicly financed services waxes and wanes, depending on the governing party's ideology and the province's fiscal circumstances.

The result is that provincial systems are quite different from each other beyond the hospital and physician sectors. Social care is less generously funded than medical care. Supportive housing, assisted living, and community care to help with the activities of daily living are largely self-financed. Nursing home care is covered to some extent, but decades ago, costs were capped at a relatively modest fixed room-and-board charge in most provinces.

Myocardial Infarction

A 55-year-old man with no serious health conditions has a moderately severe myocardial infarction.

Mr. Smith, a public-sector employee with a middle-class income, is the sort of patient for whom the Canadian public system is designed and performs best. When he collapses with chest pain, his wife calls 911 (the emergency number), an ambulance is dispatched, and Mr. Smith is taken to the nearest emergency room. All his diagnostic tests such as angiography, interventions such as stenting, in-hospital rehabilitation, and in-hospital drugs are fully state-financed, as are all subsequent follow-up medical visits and outpatient clinic services and consultations. Should Mr. Smith require 2 weeks of post-hospital home care, it will be fully covered anywhere in the country.

When patients need longer-term pharmacotherapy, home support for the activities of daily living, or more intensive rehabilitation, responsibility for payment varies by province. Mr. Smith's employment-based benefits package is likely to reduce out-of-pocket costs to near zero and may provide him with more comprehensive rehabilitation and home support than would be available from the public system. If he were self-employed or a nonunionized worker in a low-income job with no supplementary health insurance, he might be expected to pay from hundreds to the low thousands of dollars out of pocket, depending on the costs of services not insured by the state, which could include drugs, ambulance, and some forms of home care and rehabilitation.

Today, most provinces set rates on the basis of income, which results in substantially increased costs for many residents. That reality partly explains the expanding for-profit retirement-home industry that caters to the growing population of prosperous seniors who seek a combination of attractive housing, meals, and activities.

The major gaps in publicly funded services would appear to flout the principle of comprehensiveness embodied in the Canada Health Act, but the legislative definition of "comprehensive," like that of "medically necessary," bears little resemblance to common usage. Third-party insurance bridges some of the gap for public-sector employees and those who work for relatively large private-sector firms. Overall, out-of-pocket spending is 14% of the total — high by the standards of the Organization for Economic Cooperation and Development.

Drug coverage is especially problematic — only half of prescription-medication costs are paid by the state. Many reports and task forces have called for a national pharmacare program, but there is little appetite for implementation, despite estimates that the purchasing power of government combined with improved prescribing practices could save billions of dollars.[1] Coverage varies considerably among provinces. Some have generous programs for all seniors with modest copayments and no income testing. Others restrict public funding to those on social assistance and people with very high annual drug costs. The consequences of this fragmented approach are high prices, substantial rates of nonadherence to care plans, and considerable inappropriate utilization. One positive development has been interprovincial collaboration to reduce generic-drug prices, previously among the world's highest, to 18% of the brand-name cost (still higher than necessary, in the view of some analysts).[2]

Most reform efforts have focused on improving access and reducing costs rather than expanding coverage, though change is slow. Among the more promising developments has been the reform of primary care in Ontario, the largest province. Doctors are organized into family health teams, which have enrolled more than a million patients who previously had no regular source of medical care. Many teams have chosen non–fee-for-service funding models. Community health centers with salaried doctors and multidisciplinary clinics have been shown to provide superior care for high-needs patients. Most provinces have created organizations mandated to improve quality and safety, supported by national agencies such as the Canadian Patient Safety Institute and the Canadian Foundation for Healthcare Improvement.

Such recent successes notwithstanding, Canadian health care continues to be an underachiever. The Commonwealth Fund ranks its system 10th among those of 11 prosperous countries, and in the bottom 3 on measures of safety, quality, access, and efficiency.[3] There is a chasm between the widely shared ambitions articulated in major reviews of the system and performance on the ground. In the 1970s and 1980s, Canada produced internationally renowned documents that highlighted the social determinants of health and the importance of population-level interventions[4,5] — later echoed in the 1997 report of the National Forum on Health. The 2002 Commission on the Future of Health Care called for expansion of publicly financed health care. Virtually nothing stuck. Governments reduced their share of to-

Pregnancy and Childbirth

A healthy 23-year-old woman is pregnant for the first time.

When Ms. Li gets pregnant, all visits to physicians are provided at no cost to her. In British Columbia, where she lives, as in six other provinces, she is entitled to publicly financed midwifery care if she so chooses, although availability varies. All tests ordered for Ms. Li by a physician — prenatal ultrasounds, genetic screening, other laboratory tests — will be paid for by the state. If her pregnancy is uncomplicated and there are no known risk factors, she will be seen periodically by her family physician or, increasingly in large urban areas, an obstetrician, in accordance with national prenatal care guidelines.

Ms. Li's baby will be delivered either by her family physician (about a quarter of all births) or by an obstetrician; sometimes, though more rarely, babies are delivered by midwives. Almost all women deliver in the hospital and stay 1 or 2 nights, or about 3 nights in the case of a cesarean section (which is used in more than a quarter of all births). Within 24 to 48 hours after going home, the mother and child will be contacted or visited by public health nurse. There will be several postpartum physician visits (with either a family doctor or a pediatrician) and regular developmental monitoring during the baby's early years.

If Ms. Li has complications, all specialty care, nonroutine testing, precautionary hospitalization, neonatal intensive care, and specialized postpartum services will be fully covered. There are specialized children's hospitals in most provinces and quite extensive programs for developmentally delayed infants and children.

tal spending from a peak of 76% to about 70%, deinsured some services, instituted income-based charges for long-term residential care, and made few major investments to alter the nonmedical determinants of health.

An audio interview with Dr. Lewis is available at NEJM.org

But they did pour money into health care, doubling spending in real terms between about 1998 and 2010. Even this massive and sustained investment did not solve access problems or expand the range of covered services, which suggests that more deeply rooted organizational factors and practice cultures remain major obstacles to improvement. A critical factor is that physicians practice with a high degree of autonomy, which results in major unjustified variations in practice. Fee for service is still the dominant physician-payment method in most provinces. Canada is a late adopter of the electronic health record and lacks a clinical culture that seeks and uses performance data to drive improvement.

Having recognized that fragmentation was a serious problem, all provinces except Ontario created health regions in the 1980s and 1990s (since eliminated by Alberta, Prince Edward Island, and Nova Scotia) that ostensibly integrated all services under a single governance structure. This structural reform proved no match for old cultures, and funding and payment incentives were and continue to be misaligned with broader system goals. A critical compromise was that physicians remained detached from the regions, which severely restricts the governance and management of clinical practice. It has proved difficult to move substantial funding upstream toward primary and community-based care — a long-standing goal of regionalization.

A mantra of the quality-improvement movement is that we learn more from failure than from success. If that's true, other countries have a lot to learn from Canada. The main lessons are that a public system that is too narrowly focused on hospital and physician care will perform poorly on many measures; even massive spending increases will not solve problems unless they are accompanied by essential policy, structural, funding, and payment reforms; and limited improvement will occur in the absence of robust service integration and shared accountability for performance supported by first-rate health information systems. Most critically, doctors have to be full partners in the system, fully engaged in charting its direction, and fully committed to improving access, quality, and efficiency.

Disclosure forms provided by the author are available with the full text of this article at NEJM.org.

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