Health as Human Capital

When we build a new plant or purchase new equipment, we recognize this as a capital investment that is bound to depreciate over time. Eventually we will need to repair or replace that equipment if we want to maintain or expand the value of our assets. We place great stock in the value of our capital, measuring how well off we are according to our material wealth, and even measuring our progress as a society by whether our collective wealth is growing.

But we ignore other kinds of wealth that are just as valuable, and we don’t pay attention when they depreciate, or when it’s time to re-invest. In the last issue of Reality Check, we noted that we count timber cutting as economic gain, but we don’t count the depreciation of our forest wealth. Fish stocks can decline, and soil erode, but the national balance sheets don’t track the health of this natural capital, even though its depreciation can affect future production of timber, fish, and crops, as surely as if we sold off machinery.

Similarly, if the health of Canadians declines, then our human capital is depreciating, our economy will suffer, and we need to re-invest. Yet we don’t track the health of our population as a vital component of our human wealth. We count the depreciation of our forest wealth. Fish stocks can decline, and soil erode, but the national balance sheets don’t track the health of this natural capital, even though its depreciation can affect future production of timber, fish, and crops, as surely as if we sold off machinery.

Sickness is a growth industry. Drug sales are booming, with average annual growth of 8.7 per cent from 1997 to 2001. Type 2 diabetes has grown five-fold globally since 1985 and now affects 150 million people worldwide. More than half the cases of type 2 diabetes result from obesity, which has more than doubled among Canadians since 1985.

According to a pharmaceutical industry spokesman, “The type 2 diabetes market will double to $7.2 billion in 2011, reflecting sustained, robust annual growth of 7 per cent from 2001 through 2011.” Consumption of oral anti-diabetic drugs will grow five-fold.

Overeating and obesity make the economy grow many times over. All the excess food grown, processed, warehoused, transported, advertised, and sold makes the economy grow. Fast food, much of which contributes to the obesity epidemic, now comprises 4 per cent of all food service sales. Together with candies and sugared cereals, it accounts for more than half of all food advertising, which in turn is 15 times what government spends on nutrition education, evaluation, and demonstrations. The weight loss industry contributes another $35 billion a year to the U.S. economy. Liposuction is today the leading form of cosmetic surgery in the U.S., with 400,000 operations a year, up 62 per cent in just two years.

So long as we count growth in the fast food and illness treatment industries as good news for the economy and contributions to our progress as a society, the health policy agenda is unlikely to shift. So long as we use economic growth statistics as our main measure of wellbeing, neither Romanow nor any other health inquiry is likely to give illness prevention and health promotion top priority.

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Romanow has addressed the service side of the health equation in great depth and detail. But his 390-page report deals only sparingly with disease prevention and health promotion, and the sections that do, focus almost entirely on reducing smoking, obesity, and physical inactivity. Aside from a few passing references, the report does not grapple with the deeper socio-economic determinants of health-like income, equity, education, and employment, nor with the potential to reduce health costs by dealing with the underlying social causes of disease. The press ignored these references and the issue of prevention in its coverage of the report.

In discussions conducted for the Romanow Commission by the Canadian Policy Research Networks (CPRN), citizens emphasized the need to reduce demand for medical care by valuing wellness and giving priority to prevention efforts. “Talk of wellness and prevention was so pervasive across the country that observers began to wonder whether Canada is on the cusp of a societal shift,” concluded the CPRN report.

To his credit, Romanow acknowledges that “insufficient attention” has been paid to disease prevention; that “organisations have yet to devote sufficient resources to make health promotion a priority;” and that the “gap between knowledge and practice is still too great.”

Romanow recommends that $5 million (0.03 per cent of his $15 billion proposal) go towards a new Centre for Health Innovation to study health
Being poor may be hazardous to your health

Health experts and governments have traditionally promoted public health by encouraging people to eat right, eat right, and stop smoking. Increasingly, however, experts are finding that constant financial strain and poverty pose the most widespread public health threat. The World Health Organization (WHO) says people at the bottom of the social ladder “run at least twice the risk of serious illness and premature death of those near the top.” Health Canada reports that people with the lowest incomes — nearly five million Canadians — are five times more likely to report fair or poor health than those with the highest incomes.

Why are poverty and health so closely linked? Disease prevention depends in part on food, shelter, adequate income, one’s job and working conditions, and a social safety net. Poor people are obviously at a disadvantage. People with the lowest incomes are twice as likely to wind up in the hospital, two- and-a-half times more likely to smoke, and much more likely to suffer from serious illness and premature death from heart disease and diabetes. A recent study by Dennis Raphael, associate professor of health policy at York University, found poverty as a greater predictor of heart disease than smoking, obesity, or high blood-cholesterol levels. It attributed 6,566 deaths and nearly $4 billion per year to poverty-related heart disease.

New measures of wellbeing that treat health as a key element of human capital can help draw attention to these links, and encourage policies that combat poverty and the social exclusion it fosters.

Income is one of “the most powerful influences on health in the modern world,” according to WHO, which says health policies need to address social causes of illness, including poverty. WHO lists several poverty-linked factors that strongly affect health, including access to nutritious food, housing, secure employment, and a sense of belonging.

The notion that income has a major impact on health isn’t new. In 1866, Florence Nightingale rejected a plan to open a new children’s hospital, saying only improvements in children’s conditions and environments — not new hospitals — would curb high infant death rates. Health Canada and provincial and public health associations have all acknowledged poverty as a major determinant of health. But health policy makers in Canada still tend to view poverty as an “individual issue, rather than a problem to be addressed at the public policy level,” says York’s Raphael.

Poverty is Costly

People living in poverty suffer disproportionate levels of chronic illnesses, an estimated 40 per cent of which can be prevented. In Nova Scotia alone, chronic illness, including heart disease, cancer, diabetes, and lung diseases, costs the health care system $750 million yearly in hospital, doctor, and drug costs. Additional factors like private spending and home care push direct medical costs to $2.3 billion per year.

Statistics Canada reports widely different hospital admission rates for poor people. Low-income women aged 40 to 64, for example, are 92 per cent more likely to be hospitalized than their non- poor peers. One study found that lower income groups use 43 per cent more physician services than upper income groups. Poverty, in short, costs the health care system money.

Ironically, many of these health care costs register as growth to the economy. More illness means more drugs and medical services are bought and sold. By contrast, social programs that alleviate poverty and the economic causes of illness are often condemned as handouts and rarely seen as investments that can save lives and money.

For example, 7,000,000 American low-income mothers and children receive food, nutrition information, and health services through the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). Women participating in the program have fewer premature and low birth weight babies and overall healthier children who perform better at school. Every $1 spent on the programs saves up to $3 in health care costs, mainly because of avoided hospitalization of low birth weight babies. Low birth weight infants spend an average eight to 18 days in neonatal intensive care, at a cost of $18,000-$35,000 a stay.

Some argue that the poor have a penchant for smoking and fatty foods, and that education is the answer. People living in poverty do tend to have more risk factors for poor health — smoking, drinking, poor nutrition — but studies show that even when these factors are controlled, people living in poverty are still unhealthier.

Adult education campaigns promoting healthy lifestyle changes are often ineffective in poor neighbourhoods. People need adequate income and a sense of hope before health advocates can convince them to join a gym and stop smoking. A $1.5 million, five-year health care campaign in Montreal’s St. Henri neighbourhood, where 45 per cent of families live below the poverty line, was a dismal failure, attracting only two percent participation. The researchers concluded that, until people’s living needs are met, they will be “unlikely or unable” to view cardiovascular disease prevention as a priority.

New research shows that income inequality — the gap between the rich and the poor — may be a greater indicator of a nation’s health than levels of individual wealth. A growing body of research shows that inequality has a spill-over effect that harms society as a whole. After a review of such research, the editors of the British Medical Journal concluded that, “the more evenly wealth is distributed, the better the health of society.”

In Canada, poverty is growing. Between 1984 and 1999, the median wealth of young families with children dropped 30 per cent, while in the top three income brackets, wealth rose by at least 30 per cent. In 1990, the richest 20 per cent of Canadian households had 7.1 times as much disposable income as the poorest 20 per cent. By 1998, it had 8.5 times as much.

By comparison, Sweden has one-tenth the proportion of poor, single-parent families. Sweden — which has a slim gap between the rich and poor and invests in cash transfers to poor families — consistently performs better than Canada in health categories such as infant deaths and life expectancy. Measures of wellbeing that valued health and equity would rank Sweden high.

### A CASE IN POINT:

**How North Karelia, Finland, achieved genuine progress**

**Efforts to prevent illness barely register on traditional scales of economic well-being, but they can have a big impact on a society’s genuine progress.**

In 1972, the 110,000 people of North Karelia had a problem. Their province, a triangle of Finland jutting into Russia on the eastern border, had the highest death rate from cardiovascular disease in Finland. And Finland had the highest rate in the world.

People could see that younger and younger citizens were dying of heart disease. The problem was so acute that a local government petitioned for action. The result was a comprehensive program that became a model for the entire region. Scores of individuals and organizations were involved, from the Finnish Heart Association to the World Health Organization.

The North Karelia Project, as it became known, set out to challenge deeply ingrained habits. The project organized intense information campaigns aimed directly at the leading preventable causes of heart disease: smoking, blood cholesterol, and high blood pressure. Influential people in sport, medicine, and education were brought into the campaign.

Health education meetings were held in community centres, workplaces, and schools. Smoking was targeted with legislation and “quit and win” competitions.

Villages, youth projects, and schools in North Karelia engaged in cholesterol-lowering competitions. Low-fat dairy products were made more widely available. Regular studies were done every five years to measure progress.

The first follow-up study, in 1977, showed improvements in smoking rates, cholesterol levels, and high blood pressure were outpacing the rest of the country, which came to adopt the North Karelia model. Finland embarked on a national nutrition media campaign and adopted new dietary guidelines and strict food labelling requirements. High-salt, processed foods carry a “heavily salted” warning label.

By the mid-90s, the percentage of middle-aged male smokers in North Karelia had dropped to 32 per cent from 52 per cent, although the rate for women doubled to 20 per cent. Blood cholesterol levels for men and women fell by 16 per cent. Blood pressure levels improved by 4.8 per cent for men and by 11.3 per cent for women. Between 1983 and 1996, the rate of coronary events for Kareian men aged 35-64 fell by an average of 6.5 per cent per year, and for women by 5.1 per cent per year. By 1995, the mortality rate from coronary heart disease for men aged 35-64 had dropped by 73 per cent.

An accounting system that included human capital measures, would count the Finnish health promotion measures as investments that have yielded a substantial return, rather than simply as costs. From this perspective, disease prevention is seen to be highly cost-effective.
One-fifth of the vegetables Americans eat are french fries or potato chips, and for the first time in human history, the number of overweight people worldwide equals the number of underweight people – roughly 1.1 billion each.

In Canada, the number of overweight children is growing sharply. More than one third of Canada’s children are overweight, and one in five of those children are obese. The trend is worst among poor children. One-quarter of children living in poor families are obese, compared with just 16 per cent in families above the low-income cut-off. The rate of type 2 diabetes is three to five times higher among Canada’s native people. Puerto Rico, where Lilly is building a $711 million synthetic insulin plant, suffers from one of the highest diabetes rates in the world: 450,000 of its four million citizens have the disease. (All figures in Canadian dollars.)

Economic measures that reflect human progress would show this deterioration in public health as a decline in human capital. GDP-based measures see it as a cornucopia of economic growth.

The fast food industry, which contributes to the diabetes epidemic, pumps up the GDP even faster than drug sales. Fat and sugar make up more than half of the calories consumed by Canadians and a single fast food meal frequently exceeds recommended daily guidelines for sugar, fat, cholesterol and sodium.

DISEASES THAT MAKE NEWSPAPER HEADLINES ARE GENERALLY INFECTIOUS AND EXOTIC: WEST NILE VIRUS; MUTATING SUPER-BUGS; MENINGITIS. BY CONTRAST, CANADA’S MOST COSTLY AND COMMON ILLNESSES – ESPECIALLY MENTAL HEALTH PROBLEMS – RECEIVE LITTLE ATTENTION.

Just as physical disease and death rates serve as clear indicators of a nation’s wellbeing, the mental state of Canadians is equally important to an index of wellbeing. Mental illness is the second-leading cause, after cardiovascular disorders, of days spent in Canadian general hospitals. It accounted for 4.6 million patient-days in 1999-2000. When psychiatric hospitals are factored in, mental illness becomes Canada’s leading cause of days lost from work – nine million patient-days in 1999-2000. By comparison, circulatory disorders caused 6.5 million patient days in 1995-96, the most recent dates available.

One in five Canadians experiences at least a brush with mental illness at some point. Statistics Canada reports an increase in the number of people at probable risk of depression, from 3.2 per cent of people over 12 years old in the mid-1990s, to 7.1 per cent by 2001. Children are also being diagnosed with mental disorders. Suicide rates among 10 to 14-year-olds rose from roughly three per million in the early 1970s to eight per million in 1996.

Some experts maintain that mental health problems aren’t increasing, health professionals are just getting better at identifying them. Others say doctors and patients are turning to antidepressants to fix socially caused ills ranging from workplace stress to suburban isolation.

Between 1995 and 2000, visits to doctors in Canada because of depression jumped 36 per cent, reports IMS Health, a private firm that does research for the pharmaceutical and health care industries.

Depression has risen from the fourth to the second leading reason, after blood pressure, for visits to the doctor’s office. It accounted for 7.8 million visits in 2000. Prescriptions for antidepressants rose 63 per cent between 1996 and 2000, an average increase of 13 per cent per year.

Nearly 40 million people worldwide have taken the anti-depressant drug Prozac since Eli Lilly unveiled it in 1988. In 1999 alone, more than 10 million prescriptions were written, with sales exceeding US $2.5 billion – an indication that mental disorders can be great for the economy even as they cause more torment to people and society.

Stress, depression costly in workplace

Mental illness costs Canada $33 billion a year in lost production alone, according to new estimates from the Global Business and Economic Round Table on Addiction and Mental Health, a coalition of health experts and business people chaired by former finance minister Michael Wilson. With other costs – including direct and indirect medical costs – factored in, the price tag for mental illness could reach $50 billion per year. Depression affects one in 10 workers, says the group, which notes that mental illness and stress causing workplace absence is the fastest-growing area of disability insurance claims.

Despite varying cost estimates, Health Canada concludes “it is clear that the economic burden of mental illnesses is enormous.” Current GDP and growth statistics register medical spending on mental illness as economic gain, and they do not acknowledge the huge and growing productivity drain and production shortfall due to mental illness.

In a wide-ranging literature review, the American Journal of Health Promotion found stress is the most costly of all modifiable risk factors. Health Canada says the major underlying causes (excluding pregnancy) of all hospitalization and death in Canada are stress-related.

Changing work patterns in Canada could bode ill for health. In 1965, Canadian courts for the first time ruled that burnout could constitute a work-related injury. Since then, a growing body of research has documented the relationship between people’s work situations and their health.

The Japanese have a name for deaths caused by overwork: karoshi. Japanese researchers have linked that country’s long work hours to premature deaths, high blood pressure, and cardiovascular disease. Similarly, a Finnish study published last month in the British Medical Journal said people with stressful jobs could be twice as likely to die from heart problems.

The study looked at 800 healthy workers over a 25-year period. The journal cited numerous other studies linking long work hours to premature deaths. It urged “government strategies and legislation to increase employment, reduce the average working week, and intervene to prevent health and safety hazards at work, which include overwork.”

In this country, Statistics Canada reports rising rates of stress, particularly for working mothers juggling work and family duties. It ruled that 38 per cent of these women are “severely time stressed.” It found women working longer hours more likely to smoke, gain weight, suffer depression, and exercise less than women working standard hours.

The more hours we work for pay, and the less free time we have, the more the economy grows, and the better off we are, according to conventional measures of progress. By that standard, stress is good for the economy. Better economic indicators would stop mislabelling work-related stress and the illness it causes as beneficial.

Eli Lilly, a $416 billion firm, recently announced construction of the world’s largest factory devoted to a single drug: synthetic insulin. The $672 million, 54,000 square metre plant in Prince William County, Virginia, shown here, will employ more than 700 high tech workers at an average salary of more than $70,000. Lilly will supplement its output with a second, $731 million, 27,870 square metre insulin plant under construction at Carolina, Puerto Rico.

A worldwide epidemic of diabetes, much of it preventable, lies behind the GDP-boosting explosion in the sale of diabetes drugs. Lilly’s 2001 revenues from the type 2 diabetes drug Actos were $901 million, up 61 per cent from 2000. Sales of Humalog, the recombinant DNA-derived drug Lilly will produce at its Virginia and Puerto Rico plants, rose 79 per cent in 2001, and the company’s global insulin revenues rose 16 per cent. While the industry speaks glowingly of “sustained robust economic growth” and the “type 2 diabetes market,” better measures of wellbeing would count an end of the epidemic and a resulting decline in drug demand as genuine progress.

Diabetes is sure to keep driving the GDP for years. Since 1985, the number of people suffering from the largely preventable disease has jumped from 30 million to 150 million worldwide, and the World Health Organization expects the total to reach 300 million by 2025. Health Canada estimates that more than 2.25 million Canadians have diabetes. Some 17 million people suffer from the disease in the United States, where it contributes to the deaths of 200,000 people annually.

Recognizing the health impact of economic and social policies and conditions could have far reaching implications for the way society makes decisions about development and challenge the values and principles on which institutions are built and progress is measured.


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The next royal commission on health: Counting it right

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promotion. Although no specific money is targeted for prevention investments, he does recommend a $2.5 billion transfer for primary care, mostly to make medical care available 24 hours a day, but a small portion of which might conceivably be used to prevent illness and improve the health of Canadians.

None of this diminishes a report that explicitly addresses long neglected health care issues, including home care, supports for informal caregivers, and the needs of aboriginal, rural, and remote communities. The report effectively addresses one of the three key pillars of health policy — how to treat illness.

We now need to take the next crucial step of reducing the demand for medical care. Improved economic accounting procedures can help with this task. New measures of wellbeing:

• ask what is growing, not just how much is growing;
• distinguish assets (like health and security) from liabilities (like sickness and poverty);
• value health and its key determinants (e.g. equity, education, livelihood security, environmental quality) as core measures of wellbeing;
• count sickness as a cost, not a gain, to the economy;
• value the health of Canadians as human capital that is subject to depreciation; and
• shift the focus of action from an almost exclusive preoccupation with treating illness to a greater emphasis on improving health and preventing disease.

Fortunately, considerable progress is now being made in developing better health measures. For example, the Canadian Institute for Health Information’s health indicators project includes specific indicators on the “non-medical determinants of health.”

Better ways of measuring wellbeing will enable the next royal commission to focus on two big unanswered questions about health — how to improve the health of Canadians, and how to curb spiralling health care costs — and to demonstrate the vital link between them.

The Romanow report opens with a clear acknowledgment of the three aspects of health care — services, needs, and resources — and it recognizes the need for balance among all three. Yet the report focuses almost entirely on services. The next commission can investigate how to reduce medical care needs and resulting resource allocations.

“We have been too much consumed with the supply side of the health care equation and too little concerned with the demand side,” wrote former U.S. Surgeon-General Everett Koop. “The best way to reduce costs and improve health at the same time... is to reduce the need and demand for care.”

We have done it before. A hundred years ago, the big killers were tuberculosis, dysentery, diphtheria, and other acute, infectious diseases. These formerly epidemic illnesses are entirely preventable today, not so much because of medical breakthroughs as because of social improvements like safer water, food, housing, and working conditions. Preventive immunization also played a major role.

Today, the profile of disease has changed dramatically, with less than 1 per cent of deaths attributable to chronic illnesses like heart disease, stroke, cancer, diabetes, and emphysema. But the basic lessons of the early twentieth century still hold. Just as prevention and social interventions overcame infectious diseases, prevention can reduce a significant portion of the chronic diseases that today consume so many of our resources.

Forty percent of chronic disease is preventable

Forty per cent of chronic disease incidence, and 50 per cent of premature deaths due to chronic disease are entirely preventable. At least 25 per cent of our $103 billion health care bill is attributable to a few modifiable risk factors, like smoking, obesity, poor diet, and sedentary lifestyle. Those lifestyle factors are often engendered by social exclusion, stress, and depression, which in turn, may stem from underlying social and economic conditions like poverty and illiteracy.

These deeper causes of illness can also be changed, just as reforms in the early twentieth century overcame poor housing and unsafe work conditions that caused disease, so in the 1980s, we improved the health of the elderly by introducing income supports that halved their poverty rate. The challenge now is to do so for groups most at risk in Canada today — single mothers and their children, aboriginals, the unemployed, and the working poor.

therefore, one estimate, a 5-year delay in the onset of cardiovascular disease would save Canada nearly $7 billion a year. Twenty years ago, a Task Force on Fiscal Federalism in Canada recognized that “added investment in the acute care system will yield low marginal improvements in health.” And in 1984, the Canadian Medical Association admitted that Canada had already “reached the point of diminishing returns to curative medicine; behavioural and environmental factors have become relatively more important determinants of health.” Since that time we have doubled our acute care expenditures, yet we still spend less than 3 per cent of our health budgets on prevention.

This issue of Reality Check is devoted to shifting the view from our mistaken equation of economic growth with wellbeing, to measures that explicitly value the health of Canadians as well as key determinants of health like equity, employment, and education. While adequate disease treatment is essential once people are sick, as Romanow recognizes, including population health in our core measures of progress is essential if we are to improve the health of Canadians and thereby reduce their demand for medical services.

Sources used in this issue of Reality Check are listed at www.gpiatlantic.org/realitycheck/