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Market solutions to public policy problems

2028 or Bust: Ontario's Unsustainable Hospital Funding

Introduction

Ontario's public health expenditures now total almost \$32 billion and account for 6.4 percent of the provincial economy, according to the Canadian Institute for Health Information (CIHI). They have grown by 60 percent in nominal terms over the past decade.

Figure 1 shows the recent track on total and per person spending, the latter adjusted for inflation. Aside from two periods of retrenchment in the mid-1970s and early-1990s, there has been an uninterrupted rise in spending. Even including these periods, annual spending has risen by 2.3 percent over inflation and population growth for the past quarter-century.

Though hospitals account for 37 percent of public health spending in the CIHI accounts, this is an understatement of their fiscal impact.

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Mark Mullins is the Director of Ontario Policy Studies at the Fraser Institute in Toronto and is a columnist with globeandmail.com. He has a doctorate in economics from the London School of Economics and was formerly a chief economist in the financial markets and a public policy consultant.

Main Conclusions

- Public spending on Ontario hospitals is on an unsustainable financial track, doubling after inflation and population growth by 2028 ...
- ... and requiring an almost 30 percent rise in effective personal income tax rates
- Population growth and aging are two factors, especially after 2015, but the main cost driver is the deliberate expansion of health spending beyond inflation and population increases
- Per person hospital expenditures are lowest in the Greater Toronto Area (GTA) and highest in northern Ontario (by 20 percent over the GTA)
- Provincial hospital spending is starting to concentrate on the GTA, especially in the city proper and in the western and northern suburbs
- In spite of this, the outlying "905" regions of the GTA will increasingly subsidize Toronto and the rest of the province's hospital spending
- These trends are not inevitable and can be addressed by fixing the hospital funding approach, changing system incentives, and introducing competitive hospital and health insurance markets

The fee-for-service billings of physician specialists, much of which occur in a hospital setting, are classified elsewhere. Including this cost, and a portion of the provincial drug plan spent in hospitals, and capital spending, means that hospital-based spending is very likely more than half of all public health care costs.

The estimated current Ontario deficit of \$5.6 billion owes much to this large increase in health spending.

Starting with renewed spending increases in 1997, the health budget grew by \$10 billion to 2003 and accounted for more than 90 cents of every \$1 increase in tax revenues.¹ Hospital spending grew at an average annual rate of 3 percent beyond inflation, aging, and population growth over that time period, above the quarter-century average for total public health spending.²

The reality of this fiscal pressure is evident in two current areas of government policy initiatives: the introduction of Bill 8, which attempts to impose binding accountability agreements on hospitals and other health care providers, and Premier McGuinty's call for wage restraint from physicians, nurses, and other public servants.

This *Alert* examines the financial sustainability of hospital spending growing perpetually in excess of tax revenues. A demographic projection is combined with current spending and taxation trends to demonstrate fiscal and regional impacts to 2015 and 2028. Part of the analysis uses a newly-compiled database of spending by over 150 Ontario hospitals and hospital corporations. The details of this methodology are explained in the Appendix.

Figure 1: Ontario Public Health Spending

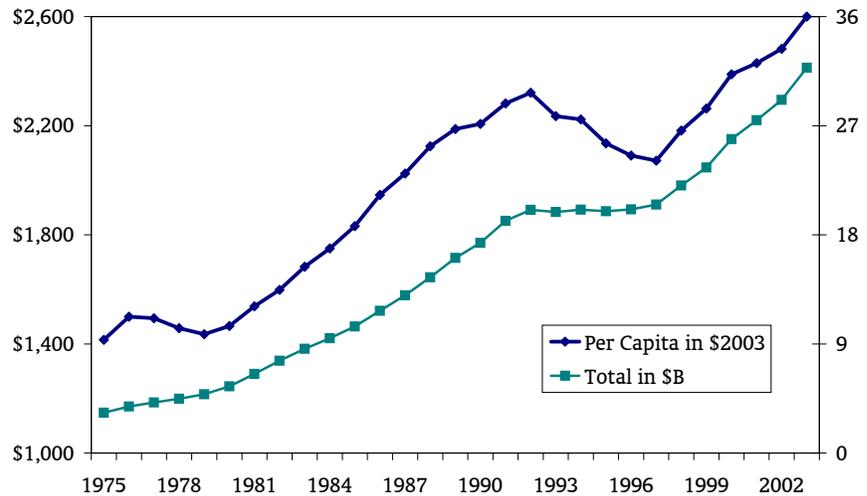
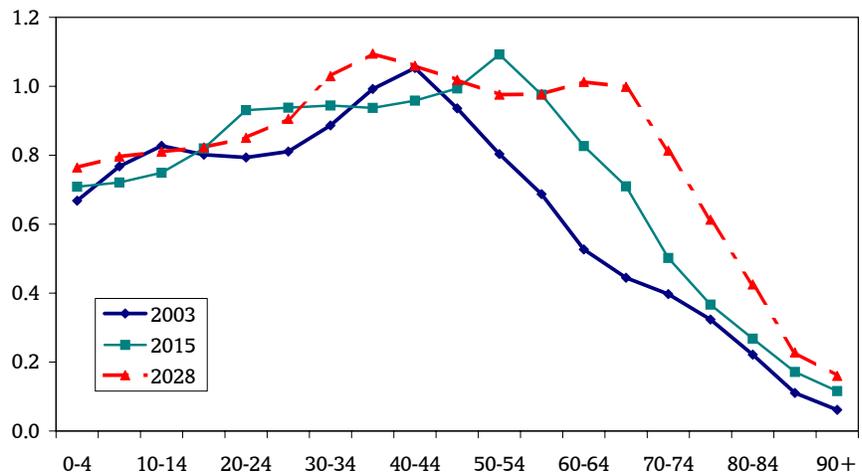


Figure 2: Population by Age (Millions)



Spending Projection to 2028

The population and hospital spending projections are shown in figures 2 to 4.

Figure 2 is based on the reference scenario population projection published by Ontario's Ministry of Finance. The figure shows the number of people of a given age cohort for three years: 2003, 2015, and 2028.

The rightward shift and bulging of the lines demonstrates the aging of the Ontario population and the

growing relative importance of the elderly.

Between now and 2028, the number of those aged 65 to 75 will more than double from 840,000 to 1.8 million, and those over 75 will double from 720,000 to 1.4 million. By comparison, the non-elderly population is expected to rise by just 15 percent.

The importance of this age shift is shown in figure 3. Hospital spending per person in constant 2003 dollars is already highly skewed towards the elderly. The combination of this skew and differential

Figure 3: Hospital Spending per Person by Age

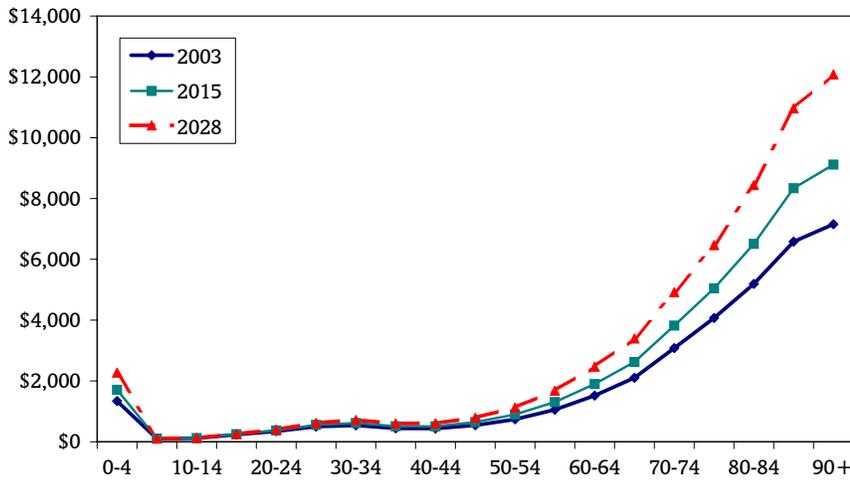
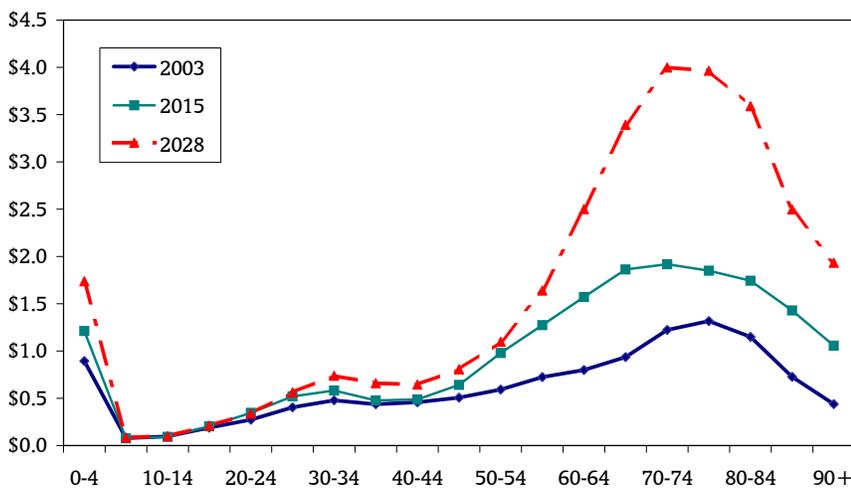


Figure 4: Hospital Spending by Age (billions of dollars)



growth rates, as discussed in the Appendix, leads to an increasingly wider gap over time.

Average hospital expenditures double in the projection from \$970 in 2003 to \$1,990 in 2028, an increase of just over \$1,000 per person after accounting for inflation. Spending on those over 85 years old rises by over \$4,600 per person after inflation.

The combination of a larger and older population with higher per capita spending is shown in figure 4. Total hospital spending in constant 2003 dollars rises most for

older people and then accelerates after 2015. The main driving factor is the higher spending growth rate for the elderly, though more elderly and higher spending levels also play a role.

Total hospital spending rises from over \$11 billion in 2003 to \$18 billion in 2015 and \$31 billion in 2028, a 2.6 times increase. Including the effects of inflation, total spending in 2028 goes to \$50 billion. This would increase the hospital share of the Ontario economy by one full percentage point from 2.4 percent in 2003 to 3.4 percent in 2028.

Regional Implications

Table 1 shows the District Health Councils (DHCs) of Ontario, along with the main cities in those areas and a higher-level aggregation by region. The regions are designated according to their location relative to the GTA. The acronyms in this table are used in various figures later in this *Alert*.

Hospital resources are not distributed evenly across the province, either in per person or total dollar terms.

For example, the GTA has 48 percent of the provincial population but only 44 percent of the hospital spending.³ The other four regions all have higher spending than population shares, resulting in higher per capita spending levels than the GTA. This is especially true for the North region, which has per capita hospital spending that is 20 percent higher than the GTA. Deviations by DHC are even more marked.

Figure 5 shows regional growth rates of population and hospital operating transfer spending from the Public Accounts over the latest available five-year period.

Growth rates vary significantly by region, with the fastest pace in the GTA outside Toronto (the “905” telephone code area) and to the west in the adjacent Kitchener-Waterloo DHC. Spending growth further west and south was the slowest, particularly in the Niagara, Windsor, and Owen Sound DHCs.

There is no reliable relationship between population and spending—in fact, three DHCs in figure 5 saw a drop in population and still saw spending rise by over 6 percent per year. The main reason is that the current hospital funding model is essentially backward-looking,

based on prior year allocations, and so bears little relation to new spending needs due to population changes.⁴

Figure 6 shows the projection of population and hospital spending growth by region to 2028.

Spending variation by region is lower, as the idiosyncratic components of the present funding model are not included. The overall provincial hospital spending growth rate (at 6 percent) is also less than the recent actual five-year trend (at 8.5 percent annually).

Again, population growth is not the main cost driver, nor is inflation at its assumed growth rate of 2 percent. Rather, it is the additional resources spent by the system per patient that accounts for just over half of the overall growth rate.

As before, the top spending growth rates remain in the outlying “905” areas of the GTA and in the Kitchener-Waterloo DHC. Ottawa becomes an additional high growth area. The West region also has a much higher relative growth rate compared to recent trends, more in line with its population weighting.

Figure 7 shows how regional per capita spending changes over time compared to average spending in the GTA. For example, spending per person in the Sudbury DHC (denoted as AC) rises by almost 6 percent compared to the GTA between 2003 and 2015.

The relative shift of resources to the GTA is quite clear, as only four DHCs increase: those for Sudbury, Ottawa, Mississauga, and peripheral cities north of Toronto. Toronto itself sees the greatest relative spending improvement after 2015. The slower spending growth in the East and West regions reduces

Figure 5: Annual Population and Hospital Spending Growth 1998 to 2002

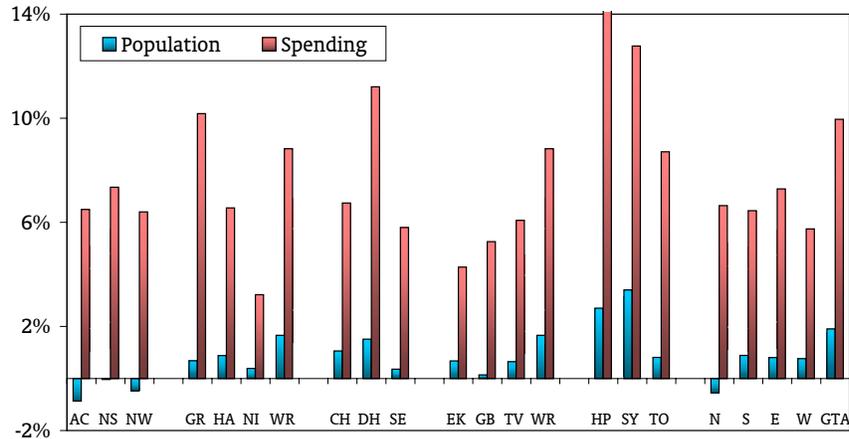


Table 1: District Health Councils (DHCs) of Ontario

District Health Council		Main Cities	Region	
Algoma-Cochrane-Manitoulin and Sudbury	AC	Sudbury/Sault Saint Marie	North	N
Northern Shores	NS	North Bay	North	N
Northwestern Ontario	NW	Thunder Bay	North	N
Grand River	GR	Brantford	South	S
Hamilton	HA	Hamilton	South	S
Niagara	NI	St. Catharines/Niagara Falls	South	S
Waterloo Region-Wellington-Dufferin	WR	Kitchener-Waterloo/Guelph/Cambridge	South*	S
Champlain	CH	Ottawa	East	E
Durham-Haliburton-Kawartha and Pine Ridge	DH	Oshawa/Peterborough	East**	E
Southeastern Ontario	SE	Kingston	East	E
Essex-Kent and Lambton	EK	Windsor	West	W
Grey Bruce Huron Perth	GB	Owen Sound/Stratford	West	W
Thames Valley	TV	London	West	W
Waterloo Region-Wellington-Dufferin	WR	Kitchener-Waterloo/Guelph/Cambridge	West*	W
Halton-Peel	HP	Mississauga/Oakville/Burlington	GTA	
Simcoe York	SY	Richmond Hill/Newmarket/Barrie	GTA	
Toronto	TO	Toronto	GTA	

* Half of District Health Council to South and West

** Excluding Durham (to GTA)

Figure 6: Annual Population and Hospital Spending Growth 2003 to 2028

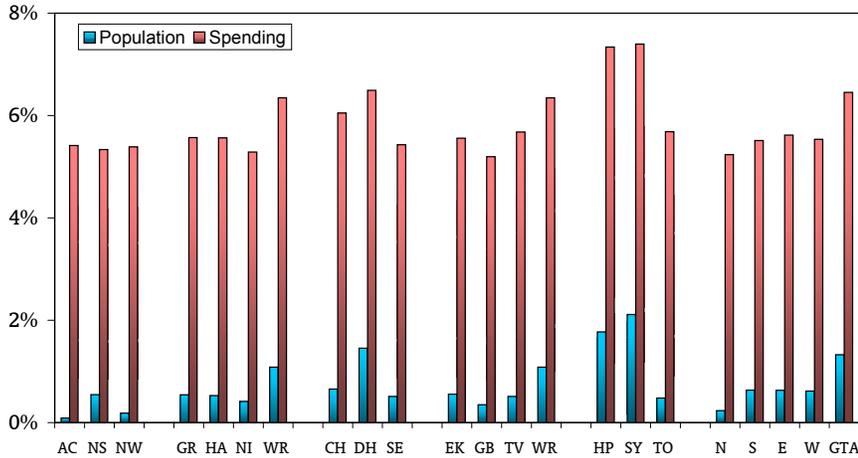


Figure 7: Per Capita Hospital Spending Relative to GTA Change from 2003

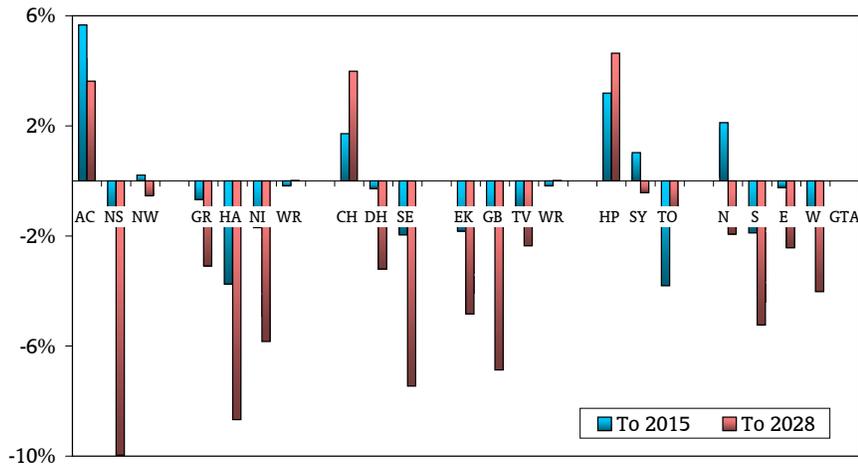
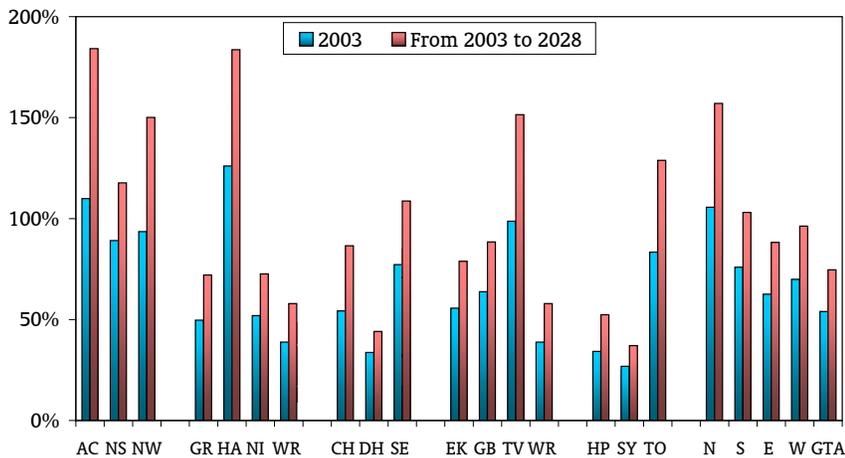


Figure 8: Hospital Spending as Ratio to Personal Income Tax Revenue



their relative level of per capita spending to below the GTA by 2028.

Spending Summary

The two preceding sections indicate that inflation-adjusted hospital spending will more than double over the next 25 years, with most of the rise determined not by demographic change, but rather by policy-determined increases in per person allocations.

There will also be an increasing emphasis on the GTA and Ottawa, the two largest urban areas of Ontario. This is unlikely to be consistent with the current hospital spending distribution model, which is based on dispersing funding in line with historical allocations.

Fiscal Implications

The question of fiscal sustainability hinges on financing capacity: Can the additional hospital spending be accommodated with future government revenues? And does the budgetary share of spending rise to unsustainable levels?

To answer these questions, this *Alert* projected personal income tax (PIT) revenues and then compared the stream of coming spending to revenues.⁵ PIT was selected because it is currently more than adequate to finance hospital spending—and personal income is the likely revenue base for health premiums if the government chooses to introduce a new tax.

Figure 8 shows that spending growth outpaces PIT revenues in every single region. The Sudbury, Thunder Bay, Hamilton, London, and Toronto DHCs are those where spending rises most compared to revenues.

For the province as a whole, the ratio of hospital spending to taxes goes from 60 percent in 2003 to 76 percent in 2028. This is even more striking than is apparent, because the projection includes an implicit increase in revenues as a rising standard of living forces a greater proportion of incomes into higher tax brackets.

By 2028, health spending rises more than PIT revenues (the ratio is over 100 percent) for seven DHCs (including Toronto) that account for more than half of total hospital spending. Only the “905” areas maintain relatively low ratios—but this is only due to their superior tax-raising potential stemming from higher average incomes.

Figure 9 translates the rise in revenues required to finance the added hospital spending into an effective tax rate, defined as PIT as a percent of personal income. The tax rates are calculated such that the ratio of spending to revenues remains constant at 2003 levels in every region. In other words, the 2028 PIT rates fully cover the rising cost of hospital spending.

The effective PIT rate for the province rises from 5.1 percent to 7.2 percent, a 29 percent tax hike (which excludes the impact of the implicit tax increase from a rising standard of living).

The GTA sees an effective tax hike of one-third, with the Toronto and Mississauga DHCs reaching the highest provincial tax rates at 8.6 percent each. The Sudbury, Ottawa, and Mississauga DHCs each register a 45 percent rise in PIT rates. The smallest tax increase comes in the North Bay DHC, with a one-quarter increase to a 5.5 percent tax rate.

There is enormous cross-subsidization that takes place from

Figure 9: Effective Personal Income Tax Rate

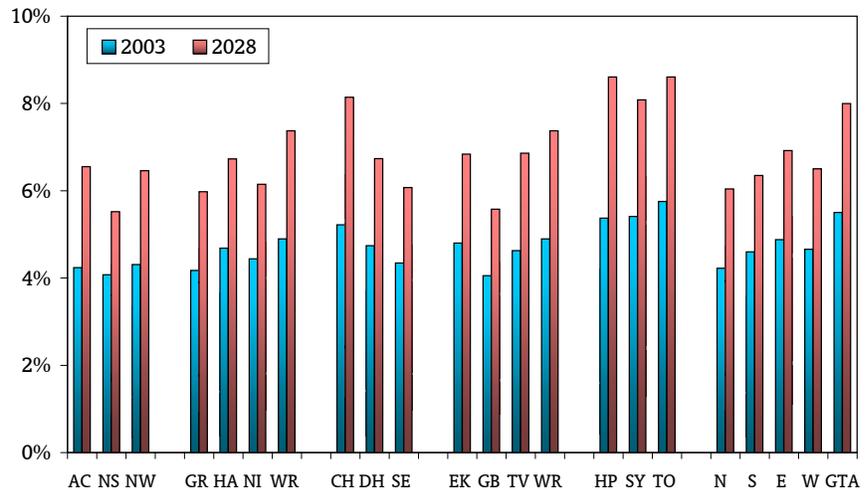
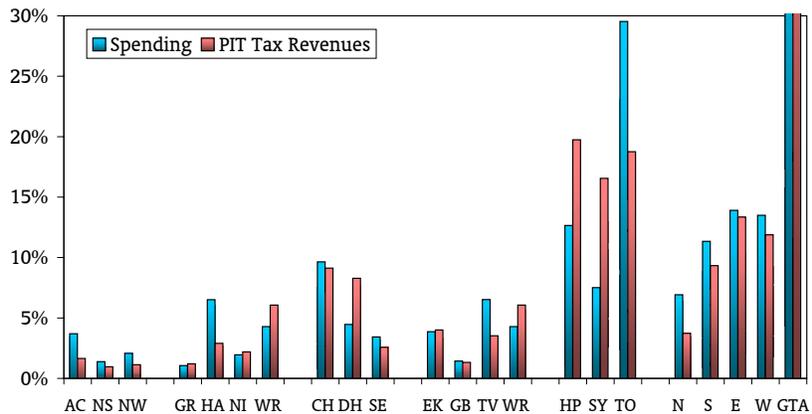


Figure 10: Proportion of Hospital Spending and Tax Growth 2003 to 2028



Note: GTA is 62% of spending & 54% of PIT revenues

one region to another, where those regions with high tax revenues and relatively lower hospital spending transfer funds elsewhere.

Figure 10 shows the extent of these transfers. The primary flows go from the “905” areas, especially those west and north of Toronto, to that city and Hamilton. Some portion of the within-GTA transfer would be offset by “905” taxpayers using hospitals in Toronto and Hamilton. The GTA as a whole also subsidizes all other regions of the province.

Fiscal Summary

This section shows that the trend of hospital spending growth is not fiscally sustainable at current tax rates. Effective PIT rates would have to rise by almost 30 percent to fully fund the increase.

As well, hospital spending increases will outstrip PIT revenue increases for regions accounting for more than half of total provincial spending.

The degree of cross-subsidization by the GTA also raises a question

about the wisdom of highly taxing the most productive regions of the province, in order to fund current health consumption expenditures elsewhere.

Proposed Reforms

There are three broad approaches that can deal with the unsustainable growth and regional inequities in Ontario hospital spending:

- Fix the hospital funding approach,
- Change system incentives, and
- Introduce competitive hospital and health insurance markets.

The first reform deals with the funding approach.

Funds are currently allocated to each hospital as a global grant, mostly based on prior year allocations. The process is politicized, as the total system allocation essentially hinges on trilateral negotiations between the Ministry of Finance, the Ministry of Health and Long-Term Care, and the members of the Ontario Hospital Association. Regional inequities arise from this approach, which is excessively centralized and not directly linked to patient needs or preferences.

Moving the funding model to a service basis, where money flows follow patient volumes and the type of treatment, would begin to introduce market demand preferences to the system. International evidence suggests that equity, resource use efficiency, and patient outcomes would improve.⁶

A second set of reforms would introduce incentives for appropriate use of funds.

Hospital services priced at true cost, explicit charges for specialist use of facilities, and competitive tendering for provider services

would provide pricing signals for supply-side service provision. The introduction of insurance concepts of co-payment, deductibles, cost sharing and user fees would introduce patient responsibility for service and further decentralize decision-making.⁷

The third major reform would be to introduce competitive markets in hospital service provision and

health insurance. International evidence from Sweden, France, Australia, the United Kingdom, Japan, the United States, and elsewhere suggests that competitive forces can reduce costs and enhance patient outcomes.⁸

Some of these reforms would require modifications to the Canada Health Act and the way that its provisions are enforced.

Appendix: Projecting Hospital Spending and PIT Revenues to 2028

Data sources:

Spending by hospital: Public Accounts of Ontario

Spending by age: CIHI

Spending by year: CIHI and Ministry of Finance

Population: Statistics Canada and Ministry of Finance

Inflation: Statistics Canada

Income by census division: Census of Canada

Income and taxes by locality: Canada Revenue Agency

Methodology:

Hospital spending was aggregated from the site level to DHC and region using a mapping available from the DHCs and Statistics Canada. Population by age was aggregated from the census division (CD) level to DHC and region. Income and taxes were aggregated from locality and CD levels to DHC and region.

Total hospital spending by age was calculated as per capita spending for each five-year age group times the population of that age group. Per capita growth rates varied by age group and were calculated from five-year historical age group growth rates. These relative rates were normalized to one for the province. It was assumed that per capita growth in spending by age was the same across DHCs.

Hospital spending increased by the normalized age growth rates, population growth, inflation of 2 percent (the Bank of Canada target mid-point), and the trend per capita age-adjusted increase of 3 percent.

Income and taxes were projected using a productivity assumption of 1.5 percent and a PIT income elasticity of 1.1 times.

Provincial hospital spending, income and taxes were scaled to public accounts numbers for 2003.

It should be noted that there are significant differences between various sources for the total level of hospital operating activity in Ontario. Here are the five main sources for the fiscal year 2002-03:

- \$7.7 billion of hospital care spending from FMS,
- \$9.4 billion of operating spending from the provincial budget,
- \$9.8 billion of transfer payments for operations from the public accounts,
- \$10.9 billion of spending estimated by CIHI, and
- \$12.2 billion of health ministry revenues from www.changeofoundation.com, affiliated with the OHA.

These numbers exclude capital spending and fee-for-service payments to specialist physicians who practice in hospitals. Thus, all of the fiscal conclusions in this Alert are significantly understated.

Footnotes

- 1 According to Statistics Canada's Financial Management System (FMS).
- 2 Consumer price inflation grew by 2.1 percent annually over this period, population growth by 1.2 percent, and the aging effect contributed less than 0.2 percent per year.
- 3 According to the Public Accounts of Ontario for fiscal year 2001-02.
- 4 See Hutchison *et al.*, *Equity in Health Care Funding: Comparison of Expenditures in Ontario to Allocations Based on Population Need*, CHEPA Working Paper Series, 03-03.
- 5 See the Appendix for the methodological details.
- 6 See Chapter Two of the "Kirby Report," *The Health of Canadians—The Federal Role*, The Standing Committee on Social Affairs, Science and Technology, 37th Parliament of Canada at <http://www.parl.gc.ca/37/2/parlbus/commbus/senate/Com-e/SOCI-E/rep-e/repoct02vol6-e.htm>.
- 7 See Esmail, Nadeem and Michael Walker (2002). *How Good is Canadian Health Care?* Fraser Forum (August): 1-52. They note that several countries with these payment schemes produce superior access to health treatments and superior health outcomes at lower cost than Canada. The existence of lengthening waiting lists for elective surgery while hospital funding grows also suggests that structural change is required to improve access to health care. See Esmail, Nadeem and Michael Walker (2003). *Waiting Your Turn: Hospital Waiting Lists in Canada* (13th edition). Vancouver: Fraser Institute.
- 8 See Kessler, Daniel and Mark McClellan (1999). *Is Hospital Competition Socially Wasteful?* NBER Working Paper 7266, Cambridge, MA., Esmail and Walker (2002) op.cit., and Brian Lee Crowley *et al.* (2002). *Definitely Not the Romanow Report*, AIMS, Halifax, NS.