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# WORKING PAPER

SOCIAL POLICY

## Fatal Flaws:

Assessing Quebec's Failed Health  
Deductible Proposal

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### **In this issue...**

Quebec's government recently withdrew its proposal to impose a form of user fees for health care. The decision to withdraw was likely correct, and Quebec and other provinces may learn, from the proposal's flaws, how future reforms could be more successful.

## THE STUDY IN BRIEF

### THE AUTHORS OF THIS ISSUE

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Public healthcare spending growth in Quebec has long outpaced the growth in gross domestic product. If the trend is left unaltered, healthcare spending could account for two-thirds of program spending within 20 years. In this context, the Government of Quebec proposed reforms in its 2010/11 provincial budget in an effort to bring in revenue in the form of a health deductible -- a \$25 charge per medical visit. The objectives of the deductible were both to raise revenue and to inform citizens of the costs of their use of healthcare services.

In this Working Paper we evaluate the revenue generating potential vis-à-vis the distributional effects of the proposed health deductible. Our findings suggest that the revenue potential from the proposed \$25 deductible was small, representing less than 1 percent of the \$27 billion public healthcare budget in Quebec. Charging patients for care also results in a reduction in the use of healthcare services. Including savings to the government from this reduced utilization would have raised the net revenue of the proposal to approximately 1.5 percent of the public healthcare budget.

Notwithstanding the design of the deductible, which exempts the very poor (with household incomes below \$20K), the proposal was less progressive for families earning equal to or more than \$20K annually. Given the use of the tax system to administer the deductible, a smoother and more progressive form of income-based charges could have been considered to both minimize the burden on lower-income individuals, and ensure that the tax burden for low-income earners does not increase punitively with incremental healthcare use.

One stated objective of Quebec's proposal was to help make patients more aware of the costs of medical services. We suggest that the proposal could not have achieved this objective as designed and could have been improved by providing a more complete "T-H" form outlining the total costs of healthcare services used. Ideally this approach would have provided both patients and providers, who have significant influence over the course of treatment, with better information not only on the cost of treatment, but on the benefits of various treatment options.

Finally, we suggest that cost-sharing in the use of healthcare services by patients should be limited to encouraging the use of high-value services and discouraging the use of low-value ones through price signals to both patient and providers.

Finance ministers across Canadian provinces have expressed concern over the rising costs of publicly financed healthcare. Concerns about how we effectively finance growing healthcare needs are well founded: in all provinces, with the exception of Newfoundland and Labrador, healthcare expenditures grew faster than GDP between 1982 and 2008 (Stabile and Greenblatt 2010). The fiscal constraints are further exacerbated by stretched public budgets, demographics, and the recent financial crisis and ensuing recovery. Specifically, the share of public budgets devoted to healthcare has increased significantly over the past 20 years. This has been coupled with declines in taxes as a share of GDP (Stabile and Greenblatt 2010).

These concerns have, in turn, motivated an active and appropriate debate about how to most effectively spend public healthcare dollars. In response, Canadian provinces, as well as countries across the OECD, have and continue to pursue healthcare system reforms aimed at improving the quality and accessibility of their systems in the context of spending public dollars efficiently. Despite these important efforts, growth in healthcare costs in almost all these countries continues to outpace growth in GDP (Stabile and Greenblatt 2010). Therefore, it is appropriate that alongside these important discussions about how to make our system work more effectively, a discussion of fiscal capacity also take place - that is, whether and how to increase the amount of funding available for healthcare in order to support the investments that are required to meet the needs of the population.

In this context, the Government of Quebec proposed reforms in its 2010/11 provincial budget intended to bring in more revenue in the form of a health deductible. The health deductible - a \$25

fee charged per medical visit - sought to rectify, in part, the inextricably linked concerns of returning to balanced budgets while also addressing the imbalance between revenues and healthcare expenditure growth. Consequently, the deductible was to serve two purposes: i) as a source of funding; and, ii) as a means of orienting the utilization of medical services in the direction considered the most appropriate (Ministère des Finances 2010).

The controversy emanating from Government of Quebec's budget concerned, then, the consideration of a fee charged per medical visit. The proposed health deductible provoked, as evidenced in recent media reports, the long-standing debate around 'user-fees,' access, and coverage.<sup>1,2</sup> While Quebec is not unique in highlighting its healthcare fiscal constraints, its decision to propose a 'health deductible' was unparalleled in Canada.

This paper considers the need for the health deductible against the backdrop of healthcare spending trends in Quebec. We then evaluate the objectives of the proposal as discussed in the 2010/11 budget and an alternative option - a \$65 per medical visit deductible that was originally proposed by a Task Force in 2008, the Castonguay Report, from which Quebec's health deductible policy response was derived. The effectiveness of the proposed and alternative reforms are evaluated in terms of their revenue generating capacity as well as the distributional effects - by income group and family structure - on 'access' to 'quality' health services.<sup>3</sup> A final consideration is given to the effectiveness of the health deductible in achieving its second objective, to 'orient' patient demand for and utilization of medical services.

<sup>1</sup> The media framed Quebec's proposal as an issue of 'user-fees' as opposed to one of 'health deductible,' for example *The Globe and Mail* report titled "Québec stirs health-care debate with proposed user fee" (Séguin 2010).

<sup>2</sup> The Castonguay Report distinguishes between a user-fee that is paid at point of service and the health deductible, which unlike a user-fee is calibrated against family income and filed along with annual income taxes. However, the health deductible was proposed is not unlike a user-fee in that a flat rate is charged on a per visit basis until the cap is reached (i.e., the health deductible is not a pre-determined one time, annual payment).

<sup>3</sup> Here, we relate 'accessibility' to quality health services that are provided with no undue financial and/or wait time barriers; with 'quality' health services representing those services that are needed, cost-effective and provided to groups that have the capacity to improve.

Our findings suggest that the revenue potential from the proposed \$25 deductible was small, representing less than one percent of the \$27 billion public healthcare budget in Quebec. The revenue generated from the alternative, a \$65 deductible, represented only two percent of the \$27 billion public healthcare budget in Quebec. In addition to revenue from the deductible, the province could also forgo expenditure on medical visits, in the event that people reduce the number of visits to the doctor as a result of the deductible. Under some simple assumptions about these costs we estimate these potential savings to be in the order of \$210 million. The small revenue estimates are due to the nature of healthcare utilization and the design of the deductible.

Healthcare utilization in Canada tends to be concentrated among a relatively small number of very sick - generally-lower income individuals (Forget et al. 2002; McLeod et al. 2003). Our analysis of this health deductible suggests that the exemptions, coupled with maximums on household contributions, would have led to little or no revenue generated from the lowest-income Quebecers. While this is clearly desirable given their limited ability to pay, it also accounts for the low revenue estimates generated by the proposal. Hence, the need to mitigate the cost of the deductible for those who cannot afford it significantly reduces the utilization base on which to generate income from the deductible. It is therefore likely that the proposed deductible would not have altered access to medical services for the lowest-income Quebecers, those with family incomes of less than \$20K annually. Access for those with income levels in the range of \$20K to \$40K, on the other hand, may be of greater concern because of the potential consequences of moderate declines in non-frivolous utilization to

health-related outcomes. Overall, it is likely that the proposed deductible of \$25 per visit, with associated proposed exemptions and maximum contributions, would have had moderate to few implications on accessibility, but also would have generated little revenue.

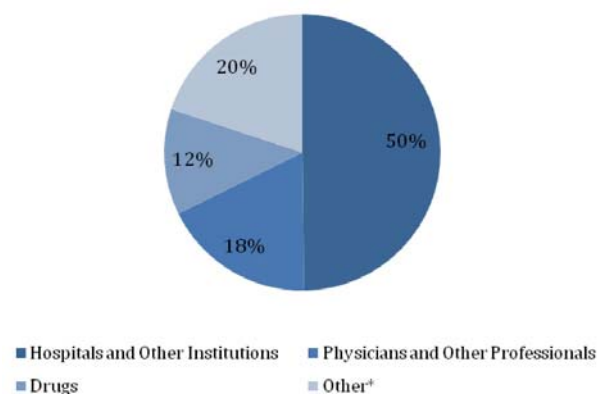
To enhance the benefits of the proposal, the Quebec government could have committed to providing better information on the types of individual healthcare use each year - in the form of a lengthier, detailed "T-H" statement for tax and educational purposes - together with the associated costs on the provincial system. And to overcome the potential for unintended behavioural responses to a broad-based fee, the administrative body responsible for this proposal could take advantage of existing opportunities to better inform healthcare users and practitioners about the comparable benefits and costs of alternative health services.

### Healthcare Expenditure

Quebec's 2009 public sector healthcare expenditure totalled \$27.2 billion and primarily consisted of transfers to hospitals and other healthcare institutions, payments for medical services, and drugs; the remainder was allocated towards other services that included public health, capital, administrative costs (see Figure 1). From 1995 to 2009, the annual growth rate in Quebec's public health expenditures was 5.2 percent, with average total expenditure growth in the same period at 6.1 percent for the nation (Appendix I).

While hospitals in Quebec may have had the largest share of funding - 50 percent in 2009 - from 1995 to 2009, the average growth in hospital expenditures ranked third at 4.2 percent, falling behind average growth in drug and physician expenditures (see Figure 1 and Appendix I).

Figure 1 Total Projected Healthcare Spending in Quebec, 2009. \*Includes capital expenditures, public health expenditures (health inspections, health promotion activities and community mental health programs), and administrative costs.



Source: Canadian Institute for Health Information, National Health Expenditure Database (NHEX; 2010)

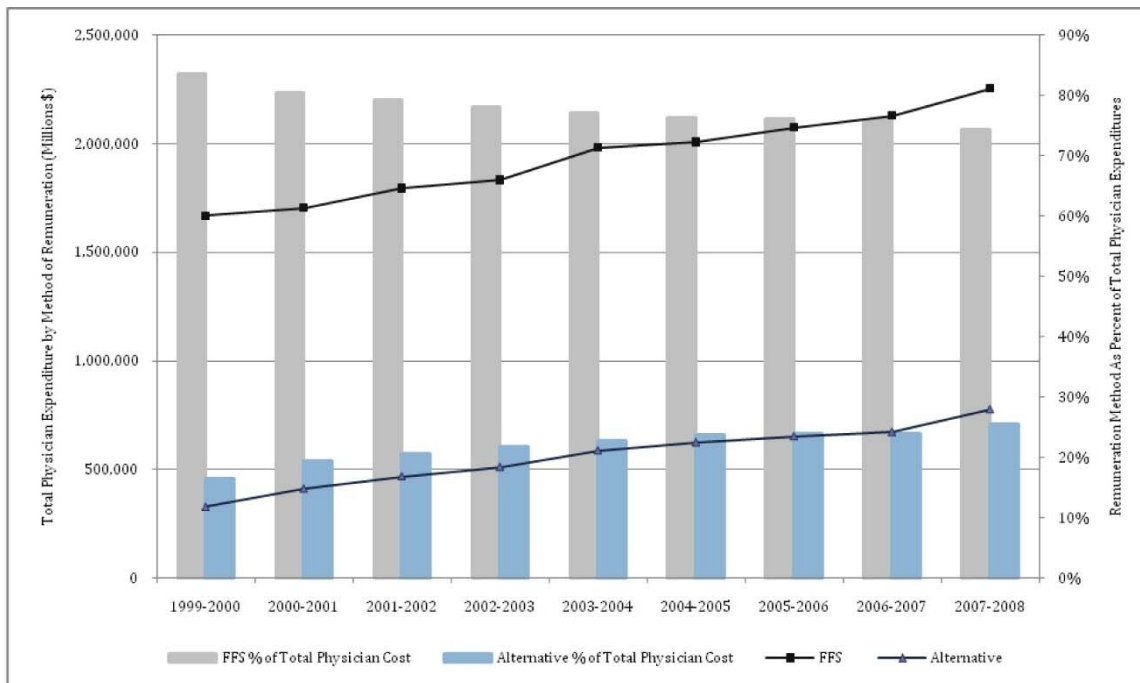
Payments under the drug plan represented 12 percent of total public healthcare expenditures in 2009 (Figure 1). In the period between 1995 and 2009 - a period marked by several aggressive drug plan policies - we found that the average growth in drug expenditures was 9.7 percent, above that of Canada at 8.5 percent (Appendix I). Lastly, healthcare expenditures pertaining to coverage of physician and other professional expenses represented 18 percent of total public healthcare expenditures in 2009. The average growth rate for Quebec's medical services, the sector to which the proposed deductible would have applied, from 1995 to 2009, was approximately 4.5 percent, below that of Canada at 5.7 percent.

### Physician Services and Cost Curbing Strategies

The Government of Quebec has attempted cost curbing policies in various sectors to help mitigate rising healthcare expenditures. In 2002, for example, healthcare reforms aimed to restrain rising physician and professional expenditures with the implementation of Family Medicine Groups (FMGs) - a front-line services organizational model for the provision of primary care with adjustments to doctors' remuneration system to a mixed system of general allowances (Clair 2001). Specifically, the 2001 Clair Commission proposed a shift from physician compensation by fee-for-service - whereby a physician is compensated based on an established rate for each individual service rendered to a patient - to a capitation payment system that is based on a predefined rate paid to physicians on a per patient basis.

However, the capitation remuneration model was staunchly opposed by the *Fédération des médecins omnipraticiens du Québec* (FMOQ) (Pomey et al. 2009). Consequently, most doctors have remained in private practice: in 2006/07, of the 60 percent of Quebec's general physicians who practiced principally on the front-line, 62 percent worked mainly in private practice. About 18 percent of general practitioners worked principally in FMGs whereas 19 percent worked in Centres locaux de services communautaires (FMOQ 2008). The agreement established in 2002 left a substantial proportion of remuneration in the form of fee-for-service, approximately 70 percent in 2007-2008 (Figure 2). It remains largely unclear whether the FMGs, through a reduction in fee-for-service payments, have improved the allocation of scarce healthcare resources. Notwithstanding, Quebec's 2010/11 budget proposed an alternative approach on a similar node of healthcare management: a health deductible policy to address patient demand for and utilization of physician services as opposed to the supply of physician services through payment schemes.

Figure 2 Fee-for-service (FFS) and alternative (e.g. capitation, salary, blended) payments to physicians in Quebec.



Source: Canadian Institute for Health Information, National Physician Database (2010)

### A Health Deductible: Orienting Utilization

The basic proposal presented in Quebec’s 2010/11 budget suggested a \$25 health deductible per visit for medical services paid for on a fee-for-service basis in a healthcare institution. Only one deductible would be charged to a patient age 18 and over for each visit to a physician, even if the physician were to perform more than one medical service. However, two deductibles would be charged for a visit to a given healthcare institution if the patient were to consult two physicians.

The deductible would be capped at one percent of family income above the exemption threshold for the worker’s deduction and the contribution to the Quebec public prescription drug insurance plan (see Appendix II).<sup>4</sup> Lastly, the health deductible would be paid by the patient when the income tax return is filed – i.e., each household would receive a statement at the end of the year from the Régie de l’assurance maladie du Québec indicating all the healthcare services received during the year, and the total number of medical

visits subject to the \$25 deductible. The proposal did not explicitly state whether the patient would see the cost of each healthcare service incurred in a year; while this may be a nuanced consideration, it may be an important element of making individuals aware of the cost of healthcare services used. The proposal was a variant of a proposal outlined in the Castonguay Report (Castonguay et al. 2008) that builds on a proposal by Aba, Goodman, and Mintz (2002) that makes the case for a healthcare co-payment administered through the tax system.<sup>5</sup>

We used information from the Quebec portion of the 2007/08 Canadian Community Health Survey (CCHS) to estimate household contributions to the deductible and total revenues received by the government under Quebec’s 2010/11 budget proposal. The CCHS contains information on demographics, household income, health utilization – specifically the number of consultations with medical doctors – employment status, and family composition for the Quebec population (Table 1).<sup>6</sup>

<sup>4</sup>In Quebec, an individual may deduct an amount equal to six percent of his/her work income.

<sup>5</sup>An important difference between the Quebec proposal and the Aba, Goodman, and Mintz proposal is that the latter proposed payment as a share of total costs with appropriate reductions for low-income families and not a per unit fixed charge as proposed by Quebec.

<sup>6</sup>The CCHS includes a health region-level survey with a total sample of 130,000 and a provincial-level survey with a total sample of 30,000. The sample size of the Quebec portion of this health survey, excluding individuals under the age of 18, was 21,678.

Table 1 Average Medical Doctor Visits in Quebec, by Age and Income Group, 2007/2008

Age	Total Household Income					Total
	< \$20,000	\$20,000- \$39,999	\$40,000- \$59,999	\$60,000- \$79,999	≥ \$80,000	
18-24 Years	3.1	2.4	2.0	2.5	1.8	2.2
25-44 Years	2.7	2.5	2.7	2.6	2.9	2.7
45-64 Years	3.8	3.1	2.9	2.5	2.4	2.8
65+ Years	3.9	3.6	3.6	4.1	5.5	3.8
Total	3.4	3.0	2.8	2.6	2.6	2.8

Source: 2007/08 Canadian Community Health Survey; authors' calculation

Using the health deductible parameters outlined in the budget, we calculated the province-wide annual revenue potentially collected from the health deductible by (1) not accounting for a household demand response to the change in price from \$0 today to \$25 per medical visit and from \$0 to \$65 per medical visit; and, (2) accounting for a household demand response to the price change of \$25 or \$65 per medical visits, paid annually through income taxes. We also estimated the savings to the government in the second case from not paying for foregone healthcare utilization.

### Health Deductible, Without a Demand Response

We began by estimating the revenue generated by the proposed deductible, assuming that imposing a charge on the use of healthcare services would not alter the utilization of these services. The average annual household deductible - \$25 or \$65 - paid by households in Quebec, capped at 1 percent or 2 percent of household income, respectively, after drug plan exemptions and worker reductions (based on 2007/08 weighted physician visitation data) differs by income and household size (Table 2). Under both fee structures, the maximum limits for household payments are reached for most families earning from \$20K to \$40K annually. The total revenue from a health deductible set at \$25 per visit is approximately \$255 million and that from a deductible of \$65 per visit is \$629 million (Table 3).

Table 2 Average annual household deductible in Quebec (in dollars, after exemptions, without changes in demand due to the deductible), 2007/2008

	Total Household Income				
	< \$20,000	\$20,000- \$39,999	\$40,000- \$59,999	\$60,000- \$79,999	≥ \$80,000
\$25 health deductible capped at 1% of family income					
1 adult, no child	0	54	62	56	64
1 adult, 1 child	0	38*	60	54	125
1 adult, 2 or more children	0	22*	57	39	54
2 adults, no child	0	44*	66	68	70
2 adults, 1 child	0	18*	67	66	64
2 adults, 2 or more children	0	2*	38	57	44
Total	0	42	64	64	65
\$65 health deductible capped at 2% of family income					
1 adult, no child	0	129	140	141	166
1 adult, 1 child	0	82*	146	138	315
1 adult, 2 or more children	0	46*	142	102	141
2 adults, no child	0	97*	163	174	178
2 adults, 1 child	0	38*	160	165	162
2 adults, 2 or more children	0	4*	96	143	122
Total	0	96	158	162	164

Source: Authors' Calculation

Note the maximum amount of the \$25 or \$65 deductible is only reached in the case that the number of medical visits multiplied by the cost of the deductible is equal to or greater than 1% or 2% of family income after exemption, respectively. Households earning less than \$20,000 annually are exempt from paying a deductible.

\* indicates where the maximum is reached by a household or income group.

<sup>7</sup> The exemptions applied to household income were derived from the Quebec 2010/11 budget and are listed in Appendix II by household arrangement.

Table 3 Government revenues from health deductible (without changes in demand due to the deductible), by income level 2007/2008

Income	Revenue \$25 Deductible (Millions \$)	Revenue \$65 Deductible (Millions \$)
No Income or <\$20,000	0	0
\$20,000-\$39,999	48	108
\$40,000-\$59,000	65	158
\$60,000-\$79,999	51	129
≥80000	92	233
<b>Total</b>	<b>255</b>	<b>629</b>

Source: Authors' Calculation

### Government Expenditures and Health Deductible, With a Demand Response

Central to appraising the quantitative role of the proposed health deductible is the magnitude of the change in patient demand for medical services given a change in price, or in this case, the introduction of a price for medical visits. Indeed this "reorientation of healthcare utilization" was part of the justification used in the budget and the Castonguay report, as noted above. Previous studies have extensively documented how the demand for healthcare by patients changes when the price of care changes. The most cited of these studies, the RAND Health Experiment (Manning et al., 1987), designed a large randomized experiment to determine how cost sharing, the portion of the bill the patient pays, affects the demand for medical services. The study found that a 1 percent change in price would result in approximately a 0.2 percent decrease in quantity of health services used.

Importantly, the Quebec reform proposed that individuals would not pay at the time of use, unlike the patients in the Manning et al. experiment, but rather at tax time each year. In theory, one might expect that patient responsiveness to price would be different when the cost of a good is paid at the end of the year rather than up front as individuals might be less likely to consider the costs of their actions when payment is several months away. However, Canadian evidence using the federal tax credits for healthcare costs suggests that the time of payment has little effect on the estimated response of consumer behaviour relative to a charge at the time of use (Smart and Stabile, 2005). This evidence suggests that individuals are able to anticipate the future costs of their healthcare decisions today and adjust their behaviour accordingly despite the fact that payments do not occur until tax time.<sup>8</sup>

Based on these results, we believe it is appropriate to use the estimates from the RAND health insurance experiment to estimate the decrease in consumer demand for health services from Quebec's health deductible proposal, recognizing that our results are sensitive to the choice of elasticity and may overestimate the true behavioural change. Therefore, we apply this change in consumer demand measure to assess (1) the amount by which public expenditure on medical services are reduced as a result of reduced patient utilization behaviour given a \$25 and a \$65 fee, and (2) the changes in revenue generated in response to changes in utilization behaviour given a \$25 and a \$65 fee.

We use an average of the cost of an ordinary medical visit to a general practitioner in Quebec from the provincial fee schedule of \$37 to obtain a rough estimate of the savings to the government from reduced healthcare expenditure. Based on utilization data obtained from the CCHS, and the elasticity assumptions discussed above, the decline in healthcare use generated from the addition of a deductible into the health system would have resulted in a savings of \$210 million.<sup>9</sup>

<sup>8</sup>Elasticity estimates in Smart and Stabile (2005) range from -.2 to -.9 but are based on healthcare spending that are generally more elastic than doctors services (items not generally considered medically necessary and therefore not covered by provincial healthcare plans in most provinces). We therefore use the low end of the elasticity range, and recognize that our results will be sensitive to the elasticity chosen and that a smaller elasticity would result in a smaller behavioural change. We are not aware of other research explicitly examining the elasticity of demand for healthcare services when prices are not charged at the time of use.

<sup>9</sup>Our estimate of the government savings due to forgone utilization of health services is a very rough estimate based on the elasticity assumed. Because the percentage price change is so large (starting from a price of zero) our estimate of the decline in utilization is at the limit of what we can reasonably predict.



This represents the reduced public expenditures on medical visits, solely as a result of forgone utilization and not the revenue from the actual deductible.

Next we consider the revenue generated from patients paying a \$25 or \$65 deductible, accounting for these changes in utilization. When patient behaviour responds to the deductible of \$25, a median household earning between \$60K and \$80K would pay on average \$43 per year in health deductibles (Table 4) - about \$20 per year less than the continued consumption example, thanks to reduced utilization. With changing consumer behaviour, most households with incomes of \$20K - \$40K continue to hit their maximum contribution limits.

The total revenues from health deductibles in this scenario are approximately \$181 million from a policy stipulating \$25 per medical visit, and approximately \$454 million with a \$65 per medical visit policy (Table 5). Accounting for both the above revenues and a saving of \$210 million, the reform represents 8.0 percent and 13.6 percent of forecasted 2009 physician costs at a \$25 and \$65 deductible, respectively (Table 5).

Table 4 Average annual household deductible in Quebec (in dollars, after exemptions with price elasticity), 2007/2008

	Total Household Income				
	< \$20,000	\$20,000- \$39,999	\$40,000- \$59,999	\$60,000- \$79,999	≥ \$80,000
<i>\$25 health deductible capped at 1% of family income</i>					
1 adult, no child	0	40	42	39	86
1 adult, 1 child	0	32	42	36	88
1 adult, 2 or more children	0	21*	40	26	36
2 adults, no child	0	37	47	47	47
2 adults, 1 child	0	17*	49	45	43
2 adults, 2 or more children	0	2*	26	39	30
Total	0	34	46	44	44
<i>\$65 health deductible capped at 2% of family income</i>					
1 adult, no child	0	98	109	99	112
1 adult, 1 child	0	72*	108	94	221
1 adult, 2 or more children	0	43*	100	68	94
2 adults, no child	0	83*	118	119	122
2 adults, 1 child	0	36*	121	115	112
2 adults, 2 or more children	0	4*	67	99	76
Total	0	79	115	113	113

Note that the maximum amount of the \$25 or \$65 deductible is only reached in the case that the number of medical visits multiplied by the cost of the deductible is equal to or greater than 1% or 2% of family income after exemption, respectively. Households earning less than \$20,000 annually are exempt from paying a deductible.

\*' indicates where the maximum is reached by a household or income group.

Source: Authors' Calculation

Table 5 Government revenues from health deductible (with changes in demand due to the deductible), by income level 2007/2008

Household Income	Revenue \$25 Deductible (Millions \$)	Revenue (\$) per capita	Revenue \$65 Deductible (Millions \$)	Revenue (\$) per capita
No Income or <\$20,000	0	0	0	0
\$20,000-\$39,999	38	32	89	75
\$40,000-\$59,000	46	43	115	108
\$60,000-\$79,999	35	41	90	106
≥80000	62	41	160	106
Total	181	30	454	75

Source: Authors' Calculation

## Assessing and Improving Quebec's Proposed Health Deductible

Quebec's healthcare costs are rising at rates that exceed the growth in the economy. As the 2010/11 budget highlights, if this trend is left unaltered, healthcare spending in the province could account for two-thirds of program spending within 20 years. The challenge of funding healthcare is not unique to Quebec; in nearly all provinces, rising healthcare costs coupled with reduced general tax rates have contributed to healthcare constituting a larger share of government budgets.

However, unlike past reforms targeting physician remuneration schemes, Quebec's recent policy response outlined in the 2010/11 budget - to explore a \$25 health deductible for a 'medically necessary' service - is distinct from the revenue and expenditure proposals put forth by other provinces. It is instructive, then, to consider the merits and weaknesses of a \$25 per medical visit fee, which is designed to "encourage citizens to take responsibility for their use of health-care services and for their own health" and to "orient users of the system in the direction considered the most appropriate by public health-care authorities" (Ministère des Finances 2010, p. 26).

We estimate that, when accounting for patient responsiveness to the new price, the revenue generated from the deductible would be supplemented with a reduction in public expenditures of approximately \$210 million due to reduced utilization. As such, the net revenues from the \$25 and \$65 deductible would have represented approximately 1.5 percent and 2.5 percent, respectively, of the total 2009 health budget. We consider this to be a relative low yield for the proposal.

In their proposal for a healthcare charge administered through the tax system, Aba, Goodman and Mintz (2002) argue that implementing some form of user charge for the use of healthcare services would improve both the efficiency and fairness of system. They argue that

efficiency would improve if providers and patients were more informed about the connection between the benefits received and the costs of the system. Fairness would improve if those who engage in unhealthy behaviour that results in higher healthcare costs contribute more to the financing of the system. In addition, the authors, along with many others, argue that in the presence of full or 'free' health insurance, patients will consume more healthcare services than they would otherwise. This is often referred to as the moral hazard problem in healthcare (Pauly 1968; Rosett and Huang 1973; Feldstein 1973; Phelps and Newhouse 1976).

Empirically, Manning et al. (1987) have shown that the per capita expenses on a plan with no out-of-pocket costs are 45 percent higher than a plan primarily paid for out-of-pocket. While the lack of insurance for preventative care is thought to lead to higher rates of hospitalization or to deter individuals from seeking care at a time in their illness when treatment is less costly, the empirical evidence suggests that in general this is not the case. Manning et al. (1987) showed that decreased coverage of outpatient services - procedures or tests performed without an overnight stay - holding constant the coverage of hospital services, did not only reduce expenditure but also decreased hospital admissions for adults. Importantly, Manning et al. and others have found that reductions in utilization are harmful for populations of lower socioeconomic status. It is often out of concern for this population that user-charges generally contemplate excluding low-income populations.

This concern is substantiated by empirical findings that have assessed the impact of Quebec's 1996 reform to its drug insurance plan, which instituted a 25 percent cost-sharing - a portion paid out of patient's pocket - for previously insured beneficiaries who received free medication: elderly persons and welfare recipients. Tamblyn et al. (2001) found that an increase in cost-sharing for essential prescription drugs among elderly and welfare recipients not only reduced the daily use of essential drugs by 9.1 and

14.4 percent, respectively, but also produced a higher rate of serious adverse events and emergency department visits. For the elderly, adverse events and emergency department visits increased by 1.9 and 1.1 percent, respectively. For welfare recipients a substantially greater net increase, 5.3 and 4.2 percent, respectively, was observed in the rates of adverse events and emergency department visits.

What is mainly agreed upon by both opponents and proponents of health deductibles or user-fees is that instances exist when the use of medical services responds unequivocally to changes in the amount paid out of pocket. This point is central to the analysis of Quebec's proposal, as well as that of a second alternative - the \$65 deductible - presented in the Castonguay Report (2008), motivating the need to look at examples with and without consumers responding to having to pay for care out-of-pocket. In fact, the general agreement on consumer responsiveness to changing prices makes the results with a consumer response more relevant to any policy discussion.

The data used in this study suggest that use of doctor's services is slightly higher among low-income Quebecers, and that the amount of the deductible rises slightly with income due to the combination of the 1 percent income cap and other parameters of the proposal (e.g., worker's deductions and age restrictions) that make the threshold for this population much lower. Therefore, our results suggest that the lowest-income households are exempt from paying any health deductible. The segment of the population most affected by the deductible - in terms of total per capita costs - would be those Quebecers with family earnings in the \$40K+ range. The differences across higher-income groups are not large - only a few dollars per capita - because the deductible is not progressive across the mid- to higher-part of the income distribution.

The proposed deductible focused on interactions with medical doctors outside of the hospital, and does not propose to charge patients for hospital

stays. As such, the proposal would not fully have applied to the healthcare utilization of the sickest Quebecers who use a large share of hospital services. This is almost certainly a good thing, as there is likely little benefit from attempting to moderate these groups' use of the healthcare system and potentially a long-run cost if forgone healthcare use today results in poorer health tomorrow.

Therefore, in terms of improved fairness, as defined by Aba, Goodman and Mintz above, families earning more than \$20K annually would be paying a greater share of their own healthcare costs. It is worth noting, however, that while it is likely the case that some individuals engage in unhealthy behaviours that lead to higher healthcare costs, a large share of these individuals are also of lower socioeconomic status and may not have the appropriate options and information necessary to make better choices. An individual's health is also subject to a great deal of uncertainty, regardless of that individual's behaviour. Some people end up in poor health through no fault of their own and a fair system should also help to insure against this unpredictable element of need. While the proposal did consider this need for those earning less than \$20K per year, it may have failed to do so for those families earning more than \$20K per year if access to necessary care is not exempted from the deductible.

Turning to the second objective of the proposal: to make the public attune to the link between utilization and costs. Even in the absence of a charge based on use, providing patients and providers with information on the cost of the healthcare system may prove helpful in generating a willingness to pay on the part of citizens for a valued benefit. The current proposal, while moving in this direction, would not have provided individuals with a great deal of information on the total cost of their utilization, but rather simply have applied a deductible based on a capped portion of that utilization, without reporting the overall costs to the system across a variety of healthcare settings. Also, while patients would

have seen this information at tax time, providers would not see the information at the time of the consultation. Therefore, the proposal would have needed further development to improve the efficiency of user responsiveness.

Three potential improvements to the Quebec proposal would, in our view, have been beneficial.

First, if a stated goal of the proposal was to generate information for households, it could generate a complete "T-H" statement at yearend to better inform users about the cost of their care over the past year, as suggested by Abo, Goodman and Mintz (2002). A step further in improving such a deductible would be to provide both patients and providers, who have significant influence over the course of treatment, with better information not only on the cost of treatment, but on the benefits of various treatment options. For example, the additional cost of a follow-up test could be available to both patient and provider (and also provided at tax time as a second reminder) and the relative benefit of the follow-up tests might also be better disseminated and discussed. Clearly collecting such information would be costly, and understanding the benefits of various treatments would require a significant investment in healthcare technology assessment on the part of the government. However, if the long-term goal was to better inform both the public and practitioners on what level and type of healthcare use is appropriate, we would suggest that this information be made readily available.

Second, given the significant concerns and evidence that user charges can lead to a reduction in practical utilization, a more effective use of prices to alter behaviour would be "value-based cost sharing." In their report on healthcare financing in the EU, (Thomson et al 2009), argue that cost-sharing should be limited to encouraging the use of high-value services and discouraging the use of low-value ones through price signals to both patient and providers. This type of charge would go hand in hand with the information provided on costs and benefits, placing the burden of information on the provider, not the user, of the service. This is, once again, clearly more complex than an across the board charge, but also more focused on the goal of reducing unnecessary medical care.

Finally, given the use of the tax system to administer the deductible, a smoother and more progressive form of income-based charges could be considered to both minimize the burden on lower-income individuals, and ensure that the tax burden for low-income earners does not increase punitively with incremental healthcare use. While modeling such a set of rates is beyond the scope of this Working Paper, it would seem appropriate to exploit the richness afforded by the use of the tax system to improve both the fairness and efficiency of the deductible.

## Conclusion

What can we conclude about both the effectiveness of the proposal in terms of improving the balance of access, quality and fiscal sustainability, as well as the overall efficiency and fairness of the healthcare system? We estimate that the current proposal would have generated little revenue for the Quebec government, on the order of less than 1 percent and at most 1.5 percent of the total public healthcare budget, and it therefore only modestly addresses the need for more revenue to sustain public healthcare services. In part, this is because the proposal included caps and exemptions for lower-income Quebecers, which we deem an essential part of an equitable system. The net revenue estimates presented here would need to be adjusted downwards, however, to account for any administrative costs associated with the proposal. This modest revenue gain must be balanced against the potential health costs of any user charge from reduced utilization.

The inability of the health deduction to raise significant revenues suggests that its overall success would have had to rest on progress toward the second objective: educating the public on the costs of health services. While the proposal made some progress towards better documenting the use and costs of the system, it could have been improved significantly if it had produced better information on the complete use of the healthcare system and its associated costs. One step further would have been to provide better information on the benefits versus costs of various services to better inform patients and practitioners on best practices, thereby focusing on understanding what healthcare services provide value instead of attempting to reduce the use of all services regardless of their benefit.

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## Appendix I

Table 6 Quebec's public sector health expenditures, by use of funds (1995-2009f). Note: 'f' is forecast; CAGR is compound average growth rate. \*Includes capital expenditures, public health expenditures (health inspections, health promotion activities and community mental health programs), and administrative costs.

Quebec (Millions \$)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008 f	2009 f	CAGR
Hospital & Other Inst.	7357	6976	7489	8060	8059	8582	9060	9415	9983	10560	11080	11746	12398	12998	13547	4.2%
Physicians & Professionals	2500	2495	2557	2628	2732	2841	3000	3195	3346	3557	3621	3752	3990	4422	4869	4.5%
Drugs	837	765	903	1031	1225	1492	1729	1933	2185	2368	2498	2713	2937	3159	3359	9.7%
Other	2014	2018	2089	2410	2446	2790	3203	3416	3529	3772	4142	4457	4640	5184	5421	6.8%
<b>Total</b>	<b>12709</b>	<b>12255</b>	<b>13038</b>	<b>14128</b>	<b>14462</b>	<b>15706</b>	<b>16992</b>	<b>17958</b>	<b>19044</b>	<b>20258</b>	<b>21341</b>	<b>22668</b>	<b>23964</b>	<b>25764</b>	<b>27195</b>	<b>5.2%</b>

Source: Canadian Institute for Health Information, National Health Expenditure Database (NHEx; 2010)

Table 7 All provinces and territories public sector health expenditure, by use of funds (1995-2009f). Note: 'f' is forecast; CAGR is compound average growth rate. \*Includes capital expenditures, public health expenditures (health inspections, health promotion activities and community mental health programs), and administrative costs.

Canada (Millions \$)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008 f	2009 f	CAGR
Hospital & Other Inst.	28170	28175	28956	30601	31935	34623	36841	39385	42148	45157	47619	50644	53212	56522	59347	5.1%
Physicians & Professionals	11604	11677	12244	12701	13379	14226	15181	16084	17222	18245	19408	20905	22532	24612	26755	5.7%
Drugs	3365	3329	3598	4008	4552	5295	6064	6834	7606	8314	8975	9687	10221	10967	11408	8.5%
Other	9580	9643	10426	11898	13331	15122	16920	17874	19992	20858	23167	24580	27234	29728	31088	8.2%
<b>Total</b>	<b>52719</b>	<b>52823</b>	<b>55224</b>	<b>59208</b>	<b>63197</b>	<b>69267</b>	<b>75007</b>	<b>80177</b>	<b>86969</b>	<b>92574</b>	<b>99168</b>	<b>105816</b>	<b>113199</b>	<b>121829</b>	<b>128597</b>	<b>6.1%</b>

Source: Canadian Institute for Health Information, National Health Expenditure Database (NHEx; 2010)

## Appendix II

Quebec public prescription drug insurance plan income thresholds (\$; 2010)	*Deduction for workers (\$)
1 adult, no child	1070
1 adult, 1 child	2140
1 adult, 2 or more children	1070
2 adults, no child	2140
2 adults, 1 child	1070
2 adults, 2 or more children	2140

\*In Quebec, an individual may deduct an amount equal to six percent of his/her work income. The maximum is \$1070 for 2010, the above figures are adopted from the 2010/2011 Quebec budget as they are one form of exemption applied to income prior to calculation of the 1 and 2 percent cap on health deductibles.







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