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The Effects of De-listing Publicly Funded Health Care Services

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Abstract

This paper presents a policy framework under which governments can examine whether or not to continue to insure services under public health care plans. We outline four areas of research that are required to make informed delisting decisions. We then provide evidence regarding two of these areas. In particular, we exploit the de-listing of insured services across Canadian provinces over the 1990s to estimate both the demand response across services, and whether this demand response varies by sub-groups such as low-income and elderly individuals.

Our findings suggest that while the de-listing of services did affect utilization, the affect was not uniform across services, nor across populations. For example, while the demand for physiotherapy and eye exams decreased, the demand for speech therapy services, and chiropractic services increased in some cases. Nor did people adjust along all margins. While the number of people using any physiotherapy services decreased, the number of visits among those who did use physiotherapy services increased. Further, for some services the demand response was larger for low-income or vulnerable aged populations, while in other cases these populations appear to respond identically to the rest of the population.

Keywords: health care utilization, insurance coverage, de-listings

I. Introduction:

Health insurance providers, whether they are governments or private insurance companies, are continually in a position of trying to determine what to include in their basket of funded health care services. In the Canadian system, provincial governments, which are the primary insurers, have been forced to grapple with whether to universally fund new, expensive technologies, and if so, whether to continue to fund all existing services as well. A recent example of this occurred in the 2004 Ontario Budget, where, in an implicit tradeoff for funding new immunizations for children, services that were previously partially covered by the Ontario Health Insurance Program were scheduled to be de-listed in the upcoming year. These services included routine eye exams, partial payment of chiropractic visits, and those physiotherapy services that remained publicly funded (Sorbara, 2004).

Any time an insurance provider decides to stop funding services it faces a host of criticism. Providers of those services will naturally be critical of the decision if they feel that the demand for their services will decline as a result of de-listings. In publicly funded systems, critics of privately financed health care systems will claim that any de-listing is the start of a “decline” in publicly funded health care. Further, analysts may claim that the de-listing of a particular service may lead to longer run costs as individuals forgo preventative health care (in the case of eye exams or physiotherapy, for example) and end up in more expensive acute care later on. While many of these arguments may have merit, the evidence to support or reject these claims is often not available.

The de-listing of services is a recognition that insurance programs, public or private, cannot realistically expect to provide all health services, regardless of their cost or effectiveness, to all people. Even in predominately publicly funded systems, the tax burden required to provide any and all services that may have some positive health benefit would be too high for even the richest jurisdictions to sustain and remain competitive. As with all budget decisions, the decision to newly fund, or, importantly, to continue to fund any health service has an opportunity cost. That opportunity cost is the items that will not be funded as a result of these choices, and will include other health care services as well as other government priorities such as funding for education, or social support programs, for example.

Further, as the technology of health care delivery continues to evolve, some services once deemed effective and necessary may no longer be cost-effective to provide. Any insurance program, public or private, must continually evaluate which services it will fund and which services it will not fund. Efficient insurance programs will fund those services where the returns to funding are highest. Effectively managed insurance programs will also not be stagnant, but evolve over time, reconsidering the effectiveness of past decisions, and weighing them against newer alternatives.

Recognizing that public programs cannot fund all health care services indefinitely, insurers are faced with a tradeoff: do they fund as many services as possible, but then ration the availability of those services so that they are difficult to access, or fund a core basket of services which are fully funded, fund them at levels which, by established clinical standards, are acceptable, and then allow other services to be partially or even fully funded by other means.

It is worth noting the current Canadian health care financing arrangement here.

Through a combination of historical accident and policy choices, provincial governments are mandated to fund only a partial list of “medically necessary” services universally – hospital and doctors services. Other services that by any medical definition would be considered “medical necessity” such as insulin for diabetics or ventolin for asthmatics, are not mandated to be publicly insured under the Canada Health Act. Provinces have chosen to insure these services in varying levels, and to select populations, but a large number of Canadians are expected to purchase, and do purchase these services privately. Therefore, while by law the public insurance programs are required to fund only a select group of services, and provide those services at “acceptable levels,” political pressure has forced the extension of the basket of covered services well beyond the legislated Medicare basket, without the corresponding removal of services that are no longer deemed medically necessary (Flood et al, 2004).

If insurance providers are to consider de-listing services, which we argue they must regardless of whether they are private or public, these services should be assessed under four (non-exclusive) criteria. First, health care services must be both medically beneficial and cost effective. That is, they must both improve health or the treatment of disease, and provide a benefit per unit of cost that exceeds the next best alternative. This is perhaps the first step in determining whether a service is “medically necessary”. The definition of which services are deemed medically necessary is likely to be continually changing, both over time, and between patient circumstances. Understanding more fully how medical

science and cost-effectiveness evaluation contribute to our understanding of medically necessary is part of a greater research agenda that is beyond the scope of this paper.

Secondly, we would like to know if and how de-listing, or indeed not listing a service will alter the demand for the service. Understanding the elasticity of demand for differing services is an important aspect of the policy making process. If a service is particularly inelastic, then de-listing the service will not affect the use of the service, but will transfer the cost providing that service from the insurance pool (the taxpayer in a public system) to the user. In some instances this may be desirable, and in others not. If a service is particularly elastic, then there will be considerable demand response from de-listing the service. Policy makers then need to interpret whether this demand response is desirable. This third criteria, the desirability of the demand response, will likely be a function of whether an elastic response to de-listing will improve or worsen the overall health of the individuals whose behavior has been altered. In the case where there is a demand response and no long-term change in health outcomes, the case for having the users pay for the service is a solid one. However, even if there is a change in health outcomes as a result of the change in utilization, this does not necessarily mean that the de-listing is a bad decision. The change in health outcomes must then be weighed against the benefit from the new use of those funds.

A fourth policy question that governments in particular may wish to ask pertains to the equity consequences of de-listing insured services. Are there differences in the response to de-listings across different “types” of people (by income group, for example). Do these differences then translate into differences in health outcomes by different types of people? Presumably if effects of delisting services are disproportionately due to

changes in utilization among lower-income individuals, and there are some negative effects of not utilizing the service, policy makers may wish to consider the appropriateness of such moves.

The purpose of this paper is to provide some evidence regarding the second and fourth criteria. We use the provincially run Canadian public insurance model to examine these hypotheses. Partial or full de-listing of health care services has occurred regularly across Canadian provinces over the past 15 years. Many provinces either partially de-listed services (for example Ontario reduced coverage for routine eye exams from 1 every year to 1 every other year in 1998), fully de-listed services (Alberta de-listed speech therapy for the general population in 1995) or de-listed services for some people and not others. This work exploits variation in de-listings across provincial health care plans to provide empirical evidence on the behavioral response to provincial de-listings of health care services between 1994 and 2001. The evidence here provides a first step in understanding the longer-term consequences of de-listing health care services. We examine detailed information on all of the provincial de-listings in a handful of services areas and it empirically examines the response to these de-listings, both across the entire population, and among important subgroups of the population—low income families, children, and the elderly, between 1994 and 2001.

Our findings suggest that while the de-listing of services did affect utilization, the affect was not uniform across services, nor across populations. For example, while the utilization for physiotherapy and eye exams decreased after being de-listed, the demand for speech therapy services increased. Nor did people adjust along all margins. While the number of people using any physiotherapy services decreased, the number of visits

among those who did use physiotherapy services increased. Overall, our results suggest that policy makers should be aware that the demand response differs significantly by service and by individual characteristics.

The rest of this paper proceeds as follows: section II describes a set of services that have been partially or fully de-listed across provinces over the past ten years. Section III outlines the empirical methods we use in the paper, section IV describes the data used in the analysis. Section V presents our results, and section VI concludes.

II. De-listing of Services

We examine potential changes in provincial insurance coverage (which we refer to as de-listings if the change was towards less coverage) for the use of four types of health professionals: physiotherapists, speech therapists, optometrists, and chiropractors. We select these four services for two reasons: first, these are all services for which there were changes in provincial insurance coverage across several provinces over the 1990s. Second, the data we use contain measures of visits to all four of these types of health professionals.

We characterize any decrease in insurance coverage for these services as a de-listing. That is, if a province lowered the re-imbusement level for the services, resulting in an out-of-pocket price increase for consumers, but still partially funded a service, this is considered a delisting. If a province reduced the frequency with which it reimbursed a service, thereby resulting in an out-of-pocket price increase, on average, then we consider

this a de-listing. If a province completely removed a service from its insurance program we consider this a de-listing. Our de-listing measure, therefore, effectively captures any increase in the out-of-pocket costs for the use of these health services to individuals.

Appendix Table A highlights the changes in legislation by province over the 1990s. The actual changes in legislation are often complex and detailed, and we only highlight the major changes in service reimbursement here. Importantly, several provinces reduced their insurance offerings for these services, and at different times, providing variation to identify the effects of de-listings.

III. Empirical methods:

We examine the effects of de-listing various health care services across provinces and over time. We use a multivariate framework to examine the causal effects of the de-listing, separate from any time trend or province specific differences in the use of health care services.

We estimate models of the following form:

$$any_util_{ip} = \alpha + \beta delist_{ip} + \delta X_{ip} + \tau_t + p_p + \varepsilon_{ip} \quad (1)$$

$$util_{ip} = \alpha + \beta delist_{ip} + \delta X_{ip} + \tau_t + p_p + \varepsilon_{ip} \quad | util_{ip} > 0 \quad (2)$$

Util refers to utilization of each of the categories of services we examine: optometrist, chiropractor, physiotherapy, and speech therapy. X is a vector of observable characteristics about the individual, including family income, age, sex, and marital status. In some specifications we also include insurance status in X . τ are fixed year effects to capture any differences over time in the use of these services that are common across Canada. The p are fixed provincial effects which capture any fixed differences in the utilization of various services across provinces. Our remaining variation, therefore, comes from changes within a province over time in the reimbursement of health care services.

Our primary coefficient of interest is β , the coefficient on our de-listing variable. *Delist* is an indicator variable for whether the individual was in a province and year cell where the service had been de-listed. As noted earlier, services are not always completely de-listed by a province. In many cases a service will be partially de-listed, such that they will only be partially reimbursed or reimbursed less often¹. Ideally we would be able to measure the exact price for the service faced by the individual. We would then treat de-listings as exogenous changes in the measured price of the service. We are unable to measure prices for these goods in each time/province cell, and so we are forced to use the dichotomous measure of de-listing described here. Our measure still captures an exogenous change in the price of the service but does not allow us to observe the actual price of the service offered. One clear limitation of this analysis is that we cannot

¹ An example of services being reimbursed less often occurred in Ontario in 1998 when routine eye exams went from being reimbursed once every year to once every other year for individuals 19 to 64.

distinguish between different sized price changes. All we can say for certain is that in each case the change in price was an increase in price to the individual.

We estimate two equations for each type of service following Duan et al (1983). The first equation, equation (1) examines whether individuals were more or less likely to use any of the various health services following the de-listing, partially or fully. *Any_util* is therefore a dummy variable equal to one if the individual used any of service in a particular year. The second equation, (2), measures the number of times an individual used the various services in a given year, conditional on using any services at all. Once again, we estimate these equations separately for each of the services we examine. Our variation in price, the de-listing variable, varies at the province/year level, and we therefore cluster correct our standard errors at the province/year level.

IV. Data:

The first source of data we use is the National Population Health Survey (NPHS) public use file. The NPHS collects information on the utilization of many health services as well as other information related to health of the Canadian population. There are three cycles of data from the years 1994/95, 1996/97 and 1998/99. Further to the NPHS, we use the first cycle of the Canadian Community Health Survey 1.1 (CCHS), which was conducted in 2000/01. The CCHS, a much larger survey, also contains information pertaining to the health of the Canadian population with variables that are comparable to the variables of interest in the NPHS. It was created as a cross-sectional continuation of the NPHS from 2000 onwards and therefore many of the questions are identical. In each

of these four survey years, questions regarding the number of visits the survey respondent made to the physiotherapist, speech therapist, optometrist, or chiropractor were asked. From this, we are able to construct a dichotomous variable equal to one if the individual used any of each service in a particular year, and the number of times an individual visited each survey year. The surveys also include a number of demographic variables such as province, age, sex, income, education, and marital status. Although these variables exist in every survey, the NPHS often offers a more detailed categorization of these variables than the CCHS. For example, in the NPHS we know if a household has an income of between \$15,000-\$19,999 or \$20,000-\$29,999 whereas in the CCHS we know only if a household has an income is between \$15,000 and \$29,999. Therefore, in the case of income, education, age, and marital status, each of the variables from the NPHS was redefined into the broader categories offered in the CCHS. Using these redefined variables we are able to create corresponding dummy variables that are consistent across all survey years. In addition to this, each survey contains information on the general health of the individual and latter two cycles of the NPHS contain information on whether or not the individual has supplemental private health insurance. Unfortunately the first cycles of the NPHS and the CCHS do not contain such information. We include year fixed effects that, among other things, control for any differences utilization that may be attributable to differences between the surveys.

The means and standard deviations are given in Table 1. The resulting dataset is 245,037 observations. The table shows that 7.4% of individuals in the sample went to the physiotherapist and that among those that went, the average number of visits was 9.9. A much higher percentage of the sample went to the optometrist at 37.7% and for those

individuals that went, they went at an average of 1.3 times. For speech therapy, only 1.7% of the population paid a visit and of those that went, visits averaged 3.2 times. Visits to the Chiropractor are similar to that of the physiotherapist; 11.8% of the sample visited the chiropractor at an average of 8.1 times.

V. Results:

We now turn to presenting multivariate estimates of the demand for each type of service using estimates of equations (1) through (3) described above. Our results are presented in Table 2. The first panel of Table 2 shows the results for the use of any services (each column represents a different type of service including physiotherapy, eye exams, chiropractic services, and speech therapy). Across all types of services there is a significant relationship between age and service use. The probability of visiting a physiotherapist and chiropractor increases with age. Optometrist services first decrease and then increase with age. For many services there is also a strong relationship between family income and the probability of using services. The probability of using physiotherapy and chiropractic services increases with income. The probability of using optometry services first decreases then increases with income. There does not appear to be a significant relationship between income and the probability of using speech therapy services. The relationship between income and the use of services conditional on positive use is much less significant than in our estimates of the probability of any use, and for many services there do not appear to be significant differences by income.

Our primary coefficient of interest is the effect of de-listing on both the probability of using services and the number of services used. As noted earlier, our

measure of de-listing captures any increase in the price of services that occurred over the sample period. These price changes can take different forms and we cannot use our estimated coefficients to distinguish between these forms. For this reason we focus primarily on the magnitudes here. De-listing reduces the probability that an individual visits a physiotherapist, or visits the optometrist. We do not find an effect on the probability of using any chiropractic services. We find a positive effect on the use of speech therapy.

Among users of these services, we find that de-listing has a positive effect on the amount of physiotherapist services used, a positive effect on the number of speech therapists visits, and a negative effect on chiropractic services. The effects are neither uniform, nor entirely consistent with demand theory. How do we explain these contrary and theoretically wrong-signed results? One possible hypothesis that is partially consistent with these results is that for certain services, there is a lack of supply and that an effective price of zero results in shortages. Once positive prices are imposed, fewer people use these services, but individuals who are most needy (and can afford the services) increase their use as shortages ease.

A second plausible explanation is to consider the effects of de-listings in the light of Kahneman and Tversky's (1979) work which shows that individuals may behave quite differently in their attitudes towards risks when they face gains than when they face losses. In this case, people may behave differently towards having health care services de-insured than they may behave when the services are insured. We are unable to test our results here against similar increases in coverage and so we only present this explanation as a possible hypothesis.

V. iii. Specific Subgroups.

An important consideration in understanding the potential effects of service de-listings is how these de-listings may affect sub-populations. It may be the case that de-listings have a larger effect on low-income individuals, or the elderly, or the very young. We now turn to investigate these hypotheses by considering interactions between each of these characteristics and our main de-listing results.

Table 3 presents our results including income interactions for individuals with family incomes of less than \$30,000². The first panel presents the probability of any use as in the previous table. We continue to find a negative effect of de-listing on physiotherapist use, but this effect does not vary by income. The same is true for optometry. For the other two services we examine we find neither a significant main effect, nor a significant income interaction when we include both terms in our model.

The second panel of Table 3 examines use conditional on positive use. We continue to find a positive effect of physiotherapy de-listing on the number of visits to the physiotherapists, but here we also find a negative and significant interaction effect for low-income individuals. That is, while individuals with family incomes over \$30,000 use more physiotherapist service, conditional on positive use, following de-listings, lower-income individuals use fewer. For our other services we do not find any significant discrepancies in use by income. Overall, with the exception of physiotherapists, we find little evidence of differences in use by income. While we note that these results are not

² We also run models using \$40,00 as the choice of income cut-off. This does not qualitatively affect our results.

entirely consistent with the findings from the RAND experiment (Newhouse, 1993) we are considering a quite different basket of services here and it may not be surprising to find that the elasticities do not vary considerably by income.

Our results examining difference by age are presenting in Tables 4 (youth) and 5 (elderly). Our results for children (defined here as under 20 years old) are quite mixed. We continue to find a negative and significant effect of de-listings on the probability of visiting a physiotherapist and on the probability of seeing an optometrist. We find no difference between the probability of use for children versus the rest of the population for either service. However, we note that for optometry we are only identifying this interaction off a few changes that affected children. In many provinces changes excluded children under age 18. For chiropractor services we actually find a positive effect of de-listing on the probability that a child sees a chiropractor. We find similar patterns for the amount of use conditional on use (the second panel of Table 4).

Our results for the elderly are less mixed (Table 5). We find a greater negative effect on the probability of using physiotherapist services for the elderly than for the general population, but otherwise we find little difference between the response for the elderly and the response for the general population. Once again, this may, in part, reflect the fact that we have less variation for the elderly as some provinces choose not to de-list services for the elderly when they de-list them for the general population. The caveats about potential variation aside, these results may speak to the policy question of whether the elderly should, in general, be exempt from de-listings. We note that the elderly are by far the highest consumers of health care services (CIHI, 2001) and are the least likely to return to the labor force following an episode of poor health, given that many have retired

from work (Currie and Madrian, 1999). For these reasons it makes little sense to exclude this population as a whole from any de-listing policy. While society may wish to provide for those who cannot afford services, a broader income cutoff that applies to poor elderly as it does to poor working age individuals would likely be more effective at reaching the target population without sacrificing the public cost savings that most de-listings are meant to achieve.

V. iv. Specification Issues

Many of the items de-listed are those for which many Canadians have supplemental private health insurance. These plans are often obtained through the employment relationship and provide full or partial coverage for drugs, dental services, therapy, and other services that are not fully covered under the provincial health insurance plans. If individuals hold plans which act as primary or secondary payer for these services then we would not expect the demand response from delisting to be as extensive. It may also be the case that people purchase this type of insurance to offset the expected costs of de-listed services³. In order to gauge the magnitude of the effects of private insurance on our estimates we use a subset of our data in the NPHS (1996 and 1998) in which the survey asks individuals whether they have supplemental insurance for these types of services. We include an indicator for whether the individual has supplemental insurance and re-estimate our models of the effects of delisting on service use. Since we only examine a two-year window, we are only able to investigate those

³ Note that there may also be a corresponding increase in insurance premiums although our data do not let us investigate the quantity or price of insurance. We only have information on whether or not an individual holds supplemental insurance.

services where there were de-listings over this shorter period: physiotherapy, optometry, and chiropractics. The results are presented in Table 6. To be sure that it is the inclusion of the insurance variable and not a change in sample size that is generating any difference in the coefficients, Table 6 also includes estimates of our earlier models, excluding the insurance variable, but using only the smaller, two-year sample. Having supplemental insurance increases the probability that individuals use physiotherapy and optometry service, but not chiropractor services. This is consistent with previous research on the effects of drug insurance on prescription drug utilization in Canada (Stabile, 1999) that shows that as supplemental insurance lowers the cost of the service there are increases in utilization. However, we continue to find a negative and significant effect of de-listings on the probability of using physiotherapists and chiropractic services even controlling for insurance. Note, however, that there are some differences in the direct effects of de-listings between this smaller sample and the larger sample. The main difference is that here, with reduced variation, we find a negative effect of delisting on the probability of using any chiropractor's services, whereas we previously did not. The reverse is true for use of chiropractor's services conditional on positive use. Given both the reduced sample and limited variation, we are more confident in the full sample estimates.

V.v. Interpreting the Magnitude of the Results:

As noted above, the de-listing variable captures a variety of changes that affect the price of services for individuals. It is therefore difficult to construct an elasticity estimate or calculate the marginal effect of a particular de-listing. However, it is worth

noting the magnitude of the estimated coefficients in order to highlight that there were indeed changes in economic behavior, and that our estimates are more than just statistically significant from zero. We estimate that the various de-listings represent a half percentage point, or 7 percent decrease in the probability of visiting a physiotherapist, and a 3.5 percentage point, or 10 percent decrease in the probability of visiting an optometrist.

VI. Conclusions.

This paper presents a policy framework under which governments can examine whether or not to continue to insure services under public health care plans. We outline four areas of research that are required to make informed delisting decisions. We then provide evidence regarding two of these areas. In particular, we exploit the de-listing of insured services across Canadian province over the 1990s to estimate both the demand response across services, and whether this demand response varies by sub-groups such as low-income and elderly individuals.

Our findings suggest that while the de-listing of services did affect utilization, the affect was not uniform across services, nor across populations. For example, while the demand for physiotherapy and eye exams decreased, the demand for speech therapy services, and chiropractic services increased in some cases. Nor did people adjust along all margins. While the number of people using any physiotherapy services decreased, the number of visits among those who did use physiotherapy services increased. Further, for some services the demand response was larger for low-income or vulnerable aged populations, while in other cases these populations appear to respond similarly to the rest

of the population. Overall, our results suggest that policy makers should be aware that the demand response differs significantly by service and by individual characteristics. This information should be considered as services are considered for (continued) public funding. Further research is required to determine whether changes in demand across services and across the population results in long term benefits or costs in health outcomes.

VII. References

Alberta Health Care Insurance Act, Edmonton, Alberta: Queen's Printer, various years.

British Columbia Hospital Insurance Act, Victoria, B.C.: Queen's Printer, various years.

Canadian Institute for Health Information, *National Health Expenditure Database*, Ottawa, ON: CIHI, 2001.

Currie, J. and B.C. Madrian, 1999, "Health, Health Insurance and the Labor Market" in O. Ashenfelter and D. Card (eds.), *Handbook of Labor Economics* v. 3c, New York: Elsevier, 3309-3416.

Duan, N., Manning, W., Morris, C., and J. Newhouse, 1983, "A Comparison of Alternative Models for the Demand for Medical Care," *Journal of Business and Economic Statistics*, Vol.1, No.2, April, pp.115-126.

Flood, Colleen, Mark Stabile and Carolyn Tuohy. "How Does Private Finance Affect Public Health Care Systems? Marshalling the Evidence from OECD Nations," 2004, *Journal of Health Politics, Policy, and Law*, 29(3), pp.359-396.

Kahneman, D., and Tversky, A. "Prospect theory: An analysis of decisions under risk." *Econometrica*, 1979, 47, pp. 313-327.

Keeler, E., Morrow, D., Newhouse, J., 1977, The Demand for Supplementary Health Insurance, or Do Deductibles Matter, *Journal of Political Economy*, 85, 789-801.

Manitoba Health Services Insurance Act, Winnipeg, Manitoba: Queen's Printer, various years.

New Brunswick Hospital Services Act, Fredericton, NB: Queen's Printer, various years.

Newfoundland Medical Care Insurance Regulations, St. John's, Newfoundland: Queen's printer, various years.

Newhouse, J. *Free For All?* Cambridge, MA: Harvard University Press, 1993.

Nova Scotia Health Services and Insurance Act, Halifax, NS: Queen's printer, various years.

Ontario Health Insurance Act, Toronto, ON: Queen's printer, various years.

Prince Edward Island Health Services Payment Act, Charlottetown, PEI: Queen's printer, various years.

Quebec Health Insurance Act, Quebec, PQ: Publications Quebec, various years.

Saskatchewan Medical Care Insurance Act, Regina, SK: Queen's printer, various years.

Sorbara, the Honorable Gregory, *The 2004 Ontario Budget*, Toronto: Government of Ontario, 2004. Available at <http://www.fin.gov.on.ca>.

Stabile, M. "Private Insurance Subsidies and Public Health Care Markets: Evidence From Canada," *Canadian Journal of Economics*, 34(4) 2001, pp. 921-942.

Table 1: Means

Variable	Obs	Mean	Std. Dev.	Min	Max
Any Physio Visit	244815	0.074	0.261	0	1
Number of Physio Visits	244815	0.730	3.651	0	31
Number of Physio Visits conditional on going	18243	9.868	9.481	1	31
Any Optometry Visit	244680	0.377	0.485	0	1
Number of Optometry Visits	244680	0.500	0.910	0	12
Number of Optometry Visits conditional on going	92992	1.326	1.047	1	12
Any Speech Therapy Visit	244885	0.017	0.128	0	1
Number of Speech Therapy Visits	244885	0.054	0.621	0	12
Number of Speech Therapy Visits conditional on going	4120	3.229	3.585	1	12
Any Chiropractic Visit	244790	0.118	0.322	0	1
Number of Chiropractic Visits	244790	0.960	3.771	0	31
Number of Chiropractic Visits conditional on going	28941	8.144	7.874	1	31
year	245037	1998.092	2.139	1994	2000
sex	245037	0.465	0.499	0	1
Marital Status	244713	0.509	0.500	0	1
Self-perceived health	244969				
EXCELLENT		0.25		0	1
VERY GOOD		0.036		0	1
GOOD		0.027		0	1
FAIR		0.09		0	1
POOR		0.03		0	1
Highest level - respond. 4 levels - (D)	232634				
< THAN SECONDARY		0.33		0	1
SECONDARY GRAD.		0.17		0	1
OTHER POST-SEC.		0.14		0	1
POST-SEC. GRAD.		0.36		0	1
Total hhld inc. from all sources (D, G)					
NO INCOME	211963	0.01		0	1
LESS THAN 15,000		0.12		0	1
\$15,000-\$29,999		0.21		0	1
\$30,000-\$49,999		0.25		0	1
\$50,000-\$79,999		0.24		0	1
\$80,000 OR MORE		0.016		0	1

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Table 2: The Effects of Delistings on Utilization

Panel A - Use or not	-1 Visited Physiotherapist	-2 Visited Optometrist	-3 Visited Speech Therapist	-4 Visited Chiropractor
year==1996	-0.006 [0.003]**	0.009 [0.005]**	-0.004 [0.002]**	-0.001 [0.004]
year==1998	0.002 [0.003]	0.028 [0.006]***	0 [0.002]	0 [0.004]
year==2000	0.009 [0.002]***	0.041 [0.005]***	0.003 [0.001]*	0.01 [0.004]**
age 15-19	0.018 [0.003]***	-0.024 [0.008]***	-0.012 [0.002]***	0.021 [0.004]***
20-24	0.008 [0.004]**	-0.136 [0.013]***	-0.014 [0.002]***	0.025 [0.006]***
25-29	0.016 [0.005]***	-0.168 [0.013]***	-0.013 [0.002]***	0.046 [0.007]***
30-34	0.022 [0.005]***	-0.182 [0.013]***	-0.012 [0.002]***	0.063 [0.008]***
35-39	0.032 [0.004]***	-0.174 [0.016]***	-0.011 [0.002]***	0.068 [0.007]***
40-44	0.029 [0.005]***	-0.123 [0.019]***	-0.01 [0.003]***	0.064 [0.007]***
45-49	0.031 [0.005]***	-0.052 [0.021]**	-0.013 [0.002]***	0.063 [0.005]***
50-54	0.033 [0.004]***	-0.06 [0.019]***	-0.011 [0.003]***	0.065 [0.006]***
55-59	0.032 [0.005]***	-0.041 [0.021]*	-0.01 [0.003]***	0.056 [0.006]***
60-64	0.03 [0.004]***	-0.019 [0.019]	-0.01 [0.003]***	0.05 [0.006]***
65-69	0.022 [0.004]***	0.035 [0.018]*	-0.007 [0.003]**	0.038 [0.006]***
70-74	0.021 [0.005]***	0.092 [0.019]***	-0.004 [0.002]*	0.028 [0.003]***
75-79	0.017 [0.004]***	0.137 [0.019]***	-0.002 [0.003]	0.013 [0.006]**
80+	0.013 [0.007]*	0.15 [0.021]***	0.008 [0.005]	-0.001 [0.006]
PEI	0.012 [0.003]***	0.037 [0.005]***	-0.003 [0.003]	0.004 [0.003]
NS	0.026 [0.003]***	0.027 [0.007]***	0.001 [0.002]	0.006 [0.002]**
NB	0.011 [0.003]***	0.039 [0.006]***	0.005 [0.002]**	0.015 [0.003]***
QUE	0.012 [0.003]***	0.02 [0.010]**	0.007 [0.002]***	0.061 [0.001]***
ONT	0.016 [0.003]***	0.071 [0.005]***	0.001 [0.003]	0.09 [0.002]***
MAN	0.028 [0.003]***	0.025 [0.006]***	-0.001 [0.002]	0.162 [0.004]***
SASK	0.011 [0.003]***	0.066 [0.005]***	-0.003 [0.002]	0.117 [0.006]***
ALB	0.038 [0.003]***	0.04 [0.006]***	0 [0.002]	0.139 [0.006]***
BC	0.06 [0.004]***	0.003 [0.009]	0 [0.002]	0.129 [0.005]***
Male	-0.016 [0.002]***	-0.078 [0.002]***	0.003 [0.001]***	-0.012 [0.002]***
Married	-0.009 [0.002]***	-0.001 [0.002]	-0.001 [0.001]*	0.009 [0.004]**
Self Assessed Health: Very Good	0.011 [0.001]***	0.013 [0.004]***	0.002 [0.001]***	0.018 [0.002]***
Good	0.032 [0.002]***	0.023 [0.004]***	0.008 [0.001]***	0.023 [0.003]***
Fair	0.073 [0.002]***	0.055 [0.004]***	0.02 [0.002]***	0.032 [0.005]***
Poor	0.123 [0.007]***	0.082 [0.006]***	0.035 [0.003]***	0.029 [0.008]***
High School	0.01 [0.002]***	0.017 [0.004]***	0.004 [0.001]***	0.005 [0.002]**
Some Post Secondary	0.023 [0.002]***	0.059 [0.004]***	0.006 [0.001]***	0.012 [0.003]***
Post Secondary Degree	0.029 [0.002]***	0.07 [0.003]***	0.007 [0.001]***	0.011 [0.003]***
No income	-0.014 [0.007]**	0.034 [0.014]**	-0.002 [0.003]	0.003 [0.012]
Income <\$15K	-0.011 [0.002]***	-0.011 [0.005]**	-0.002 [0.001]*	-0.019 [0.003]***
Income 30K-49K	0.008 [0.002]***	0.029 [0.002]***	0.001 [0.001]	0.011 [0.003]***
Income 50K-79K	0.016 [0.003]***	0.054 [0.003]***	0.001 [0.001]	0.02 [0.004]***
Income >80K	0.026 [0.003]***	0.081 [0.008]***	0 [0.001]	0.02 [0.005]***

Delist Physio	-0.005			
	[0.002]*			
Delist Optometry		-0.034		
		[0.008]***		
Delist Chiro				0.002
				[0.004]
Delist Speech therapy			0.003	
			[0.002]**	
Observations	201541	201452	201582	201521
R-squared	0.02	0.05	0.01	0.03

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

	-1	-2	-4	-5
Panel B - use conditional on positive use	Physiotherapy Consultations	Optometric Consultations	Consultations with Speech Therapist	Chiropractic Consultations
year==1996	-0.015	-0.005	0.371	0.125
	[0.276]	[0.020]	[0.242]	[0.124]
year==1998	-0.168	0.014	0.826	0.428
	[0.385]	[0.023]	[0.305]**	[0.215]*
year==2000	-0.562	-0.049	0.106	0.282
	[0.278]*	[0.019]**	[0.220]	[0.138]**
age 15-19	2.097	0.07	-0.887	0.44
	[0.355]***	[0.015]***	[0.402]**	[0.284]
20-24	4.066	0.002	-0.498	0.847
	[0.582]***	[0.024]	[0.459]	[0.443]*
25-29	3.22	0.038	-1.71	1.471
	[0.570]***	[0.024]	[0.283]***	[0.339]***
30-34	4.086	0.055	-1.02	1.421
	[0.609]***	[0.024]**	[0.338]***	[0.334]***
35-39	4.065	0.037	-1.307	1.483
	[0.561]***	[0.028]	[0.313]***	[0.297]***
40-44	3.991	0.026	-1.586	1.485
	[0.600]***	[0.024]	[0.305]***	[0.319]***
45-49	3.445	-0.011	-1.12	1.019
	[0.625]***	[0.024]	[0.321]***	[0.278]***
50-54	3.786	0.026	-1.829	1.164
	[0.575]***	[0.028]	[0.345]***	[0.408]***
55-59	3.477	0.079	-1.978	0.819
	[0.533]***	[0.029]***	[0.301]***	[0.280]***
60-64	2.419	0.073	-2.173	0.742
	[0.558]***	[0.026]***	[0.329]***	[0.342]**
65-69	2.044	0.164	-2.023	0.273
	[0.545]***	[0.025]***	[0.366]***	[0.411]
70-74	1.801	0.29	-2.407	0.13
	[0.495]***	[0.036]***	[0.291]***	[0.353]
75-79	1.589	0.356	-1.99	-0.283
	[0.536]***	[0.033]***	[0.324]***	[0.363]
80+	0.756	0.429	-2.516	-0.775
	[0.656]	[0.044]***	[0.226]***	[0.612]
PEI	-0.875	0.076	0.826	-2.123
	[0.646]	[0.036]**	[0.336]**	[1.166]*
NS	0.701	0.153	0.549	-1.981
	[0.442]	[0.026]***	[0.277]*	[1.151]*
NB	2.474	0.036	0.224	-2.417
	[0.491]***	[0.029]	[0.333]	[1.194]**
QUE	0.611	0.044	0.549	-1.967
	[0.457]	[0.026]*	[0.279]*	[1.125]*
ONT	2.188	0.073	1.26	0.949
	[0.433]***	[0.023]***	[0.376]***	[1.123]
MAN	-1.93	0.091	0.669	-2.524
	[0.451]***	[0.025]***	[0.264]**	[1.128]**
SASK	-1.198	0.097	0.89	-2.405
	[0.491]**	[0.024]***	[0.271]***	[1.138]**
ALB	-0.681	0.114	0.673	-1.712
	[0.443]	[0.024]***	[0.260]**	[1.125]
BC	-0.532	0.143	0.469	-2.415
	[0.485]	[0.027]***	[0.272]*	[1.132]**
Male	-0.302	-0.016	-0.033	-1.28
	[0.228]	[0.006]***	[0.107]	[0.102]***
Married	-0.134	-0.038	-0.106	-0.67
	[0.164]	[0.011]***	[0.129]	[0.107]***
Self Assessed Health: Very Good	0.867	0.008	-0.07	0.644
	[0.181]***	[0.010]	[0.118]	[0.092]***
Good	2.316	0.062	0.514	1.539
	[0.192]***	[0.009]***	[0.148]***	[0.107]***
Fair	3.577	0.175	0.94	2.752
	[0.141]***	[0.018]***	[0.142]***	[0.150]***
Poor	3.813	0.289	1.306	4.609
	[0.302]***	[0.031]***	[0.219]***	[0.501]***
High School	-0.047	0.028	0.247	0.616
	[0.290]	[0.012]**	[0.170]	[0.159]***
Some Post Secondary	0.215	0.051	0.28	0.79

	[0.269]	[0.011]***	[0.283]	[0.164]***
Post Secondary Degree	-0.582	0.062	-0.118	0.824
	[0.254]**	[0.010]***	[0.156]	[0.155]***
No income	-0.31	0.05	1.238	-1.263
	[0.986]	[0.065]	[0.860]	[0.553]**
Income <\$15K	-0.197	-0.002	0.169	-0.428
	[0.294]	[0.018]	[0.149]	[0.170]**
Income 30K-49K	0.087	-0.004	-0.049	-0.051
	[0.315]	[0.010]	[0.282]	[0.151]
Income 50K-79K	-0.508	0.001	-0.472	0.099
	[0.236]**	[0.011]	[0.241]*	[0.127]
Income >80K	-0.771	0.018	-0.558	0.326
	[0.385]*	[0.012]	[0.245]**	[0.168]*
Delist Physio	0.659			
	[0.180]***			
Delist Optometry		0.011		
		[0.014]		
Delist Chiro				-0.252
				[0.120]**
Delist Speech therapy			0.536	
			[0.245]**	
Observations	15696	76751	3205	24544
R-squared	0.06	0.02	0.07	0.07

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Table 3: Effects of Delistings by Income (<\$30,000)

Panel A - Use or not	-1 Visited Physiotherapist	-2 Visited Optometrist	-3 Visited Speech Therapist	-4 Visited Chiropractor
No income	-0.015 [0.007]**	0.034 [0.014]**	-0.002 [0.003]	0.002 [0.012]
Income <\$15K	-0.011 [0.003]***	-0.011 [0.005]**	-0.002 [0.001]*	-0.019 [0.003]***
Income 30K-49K	0.003 [0.006]	0.032 [0.005]***	0 [0.001]	0.007 [0.004]*
Income 50K-79K	0.011 [0.006]*	0.057 [0.005]***	0 [0.001]	0.016 [0.004]***
Income >80K	0.021 [0.007]***	0.085 [0.008]***	-0.001 [0.002]	0.016 [0.005]***
Delist Physio*Inc>30K	0.007 [0.006]			
Delist Physio	-0.009 [0.005]*			
Delist Opt*Inc>30K		-0.007 [0.007]		
Delist Optometry		-0.029 [0.010]***		
Delist Chrio*Inc>30K				0.006 [0.005]
Delist Chiro				-0.002 [0.004]
Delist Speech*Inc>30K			0.001 [0.002]	
Delist Speech Therapy			0.003 [0.002]	
Observations	201541	201452	201582	201521
R-squared	0.02	0.05	0.01	0.03

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Panel B - use conditional on positive use	-1 Physiotherapy Consultations	-2 Optometric Consultations	-3 Consultations with Speech Therapist	-4 Chiropractic Consultations
No income	-0.242 [0.984]	0.049 [0.065]	1.204 [0.875]	-1.27 [0.556]**
Income <\$15K	-0.184 [0.291]	-0.003 [0.018]	0.181 [0.142]	-0.432 [0.172]**
Income 30K-49K	0.571 [0.334]*	-0.025 [0.012]**	-0.501 [0.684]	-0.164 [0.264]
Income 50K-79K	-0.022 [0.272]	-0.02 [0.013]	-0.924 [0.576]	-0.014 [0.236]
Income >80K	-0.287 [0.349]	-0.004 [0.012]	-0.993 [0.647]	0.211 [0.226]
Delist Physio*Inc>30K	-0.701 [0.355]*			
Delist Physio	1.128 [0.222]***			
Delist Opt*Inc>30K		0.046 [0.017]**		
Delist Optometry		-0.019 [0.017]		
Delist Chrio*Inc>30K				0.186 [0.256]
Delist Chiro				-0.386 [0.242]
Delist Speech*Inc>30K			0.645 [0.635]	
Delist Speech Therapy			0.169 [0.444]	
Observations	15696	76751	3205	24544
R-squared	0.06	0.02	0.07	0.07

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Table 4: Effects of Delistings by Age -- Youth <20

Panel A - Use or not	-1 Visited Physiotherapist	-2 Visited Optometrist	-3 Visited Speech Therapist	-4 Visited Chiropractor
age 15-19	0.018 [0.003]***	-0.024 [0.008]***	-0.012 [0.002]***	0.021 [0.004]***
20-24	0.016 [0.009]*	-0.147 [0.021]***	-0.016 [0.002]***	0.032 [0.006]***
25-29	0.024 [0.010]**	-0.179 [0.020]***	-0.015 [0.002]***	0.053 [0.008]***
30-34	0.03 [0.010]***	-0.193 [0.021]***	-0.014 [0.002]***	0.071 [0.008]***
35-39	0.04 [0.010]***	-0.185 [0.023]***	-0.013 [0.002]***	0.076 [0.007]***
40-44	0.037 [0.010]***	-0.134 [0.027]***	-0.012 [0.002]***	0.072 [0.008]***
45-49	0.039 [0.010]***	-0.062 [0.028]**	-0.014 [0.002]***	0.07 [0.006]***
50-54	0.041 [0.009]***	-0.071 [0.027]**	-0.013 [0.002]***	0.073 [0.006]***
55-59	0.04 [0.010]***	-0.051 [0.029]*	-0.012 [0.003]***	0.064 [0.007]***
60-64	0.039 [0.010]***	-0.03 [0.026]	-0.012 [0.002]***	0.057 [0.006]***
65-69	0.031 [0.008]***	0.026 [0.023]	-0.009 [0.002]***	0.046 [0.007]***
70-74	0.029 [0.010]***	0.083 [0.025]***	-0.006 [0.002]***	0.035 [0.006]***
75-79	0.025 [0.009]***	0.128 [0.025]***	-0.004 [0.003]	0.021 [0.008]**
80+	0.022 [0.012]*	0.14 [0.027]***	0.006 [0.005]	0.006 [0.007]
Delist Phy*age<20	0.011 [0.008]			
Delist Physio	-0.006 [0.003]**			
Delist Opt*age<20		-0.032 [0.024]		
Delist Eye		-0.03 [0.010]***		
Delist Chiro*Age<20				0.011 [0.006]*
Delist Chiro				0.001 [0.004]
Delist Speech*Age<20			-0.003 [0.002]	
Delist Speech			0.004 [0.002]**	
Observations	201541	201452	201582	201521
R-squared	0.02	0.05	0.01	0.03

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

	-1	-2	-3	-4
Panel B - use conditional on positive use age 15-19	2.085	0.07	-0.886	0.44
	[0.364]***	[0.015]***	[0.408]**	[0.282]
20-24	2.981	-0.009	-0.508	0.952
	[0.549]***	[0.027]	[0.446]	[0.472]*
25-29	2.137	0.026	-1.72	1.576
	[0.596]***	[0.032]	[0.285]***	[0.321]***
30-34	3.006	0.044	-1.03	1.526
	[0.551]***	[0.027]	[0.314]***	[0.336]***
35-39	2.981	0.025	-1.317	1.588
	[0.622]***	[0.034]	[0.237]***	[0.316]***
40-44	2.907	0.014	-1.595	1.589
	[0.560]***	[0.028]	[0.305]***	[0.306]***
45-49	2.362	-0.023	-1.13	1.123
	[0.612]***	[0.030]	[0.267]***	[0.308]***
50-54	2.702	0.014	-1.839	1.269
	[0.568]***	[0.033]	[0.373]***	[0.420]***
55-59	2.395	0.068	-1.988	0.924
	[0.630]***	[0.034]*	[0.263]***	[0.301]***
60-64	1.338	0.061	-2.183	0.847
	[0.666]*	[0.027]**	[0.381]***	[0.321]**
65-69	0.965	0.153	-2.032	0.377
	[0.703]	[0.032]***	[0.360]***	[0.434]
70-74	0.723	0.279	-2.416	0.234
	[0.581]	[0.040]***	[0.258]***	[0.378]
75-79	0.508	0.345	-2	-0.178
	[0.692]	[0.036]***	[0.298]***	[0.321]
80+	-0.321	0.418	-2.526	-0.671
	[0.776]	[0.053]***	[0.200]***	[0.609]
Delist Phy*age<20	-1.461			
	[0.546]**			
Delist Physio	0.746			
	[0.177]***			
Delist Opt*age<20		-0.036		
		[0.031]		
Delist Eye		0.016		
		[0.013]		
Delist Chiro*Age<20				0.158
				[0.292]
Delist Chiro				-0.262
				[0.123]**
Delist Speech*Age<20			-0.015	
			[0.309]	
Delist Speech			0.538	
			[0.259]**	
Observations	15696	76751	3205	24544
R-squared	0.06	0.02	0.07	0.07

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Table 5: Effects of Delisting by Age - Eldery > 65

Panel A - Use or not	-1 Visited Physiotherapist	-2 Visited Optometrist	-3 Visited Speech Therapist	-4 Visited Chiropractor
age 15-19	0.018 [0.003]***	-0.024 [0.008]***	-0.012 [0.002]***	0.021 [0.004]***
20-24	0.009 [0.004]**	-0.136 [0.013]***	-0.014 [0.002]***	0.025 [0.006]***
25-29	0.017 [0.005]***	-0.167 [0.012]***	-0.013 [0.002]***	0.046 [0.007]***
30-34	0.022 [0.005]***	-0.182 [0.013]***	-0.012 [0.002]***	0.063 [0.008]***
35-39	0.032 [0.004]***	-0.173 [0.015]***	-0.011 [0.002]***	0.068 [0.007]***
40-44	0.029 [0.005]***	-0.122 [0.018]***	-0.01 [0.003]***	0.064 [0.007]***
45-49	0.031 [0.005]***	-0.051 [0.021]**	-0.013 [0.002]***	0.063 [0.005]***
50-54	0.033 [0.004]***	-0.059 [0.019]***	-0.011 [0.003]***	0.065 [0.006]***
55-59	0.032 [0.005]***	-0.04 [0.021]*	-0.01 [0.003]***	0.056 [0.006]***
60-64	0.031 [0.004]***	-0.018 [0.019]	-0.01 [0.003]***	0.05 [0.006]***
65-69	0.031 [0.004]***	0.032 [0.017]*	-0.005 [0.004]	0.041 [0.008]***
70-74	0.029 [0.004]***	0.089 [0.020]***	-0.002 [0.004]	0.03 [0.005]***
75-79	0.026 [0.004]***	0.133 [0.022]***	0.001 [0.004]	0.015 [0.007]**
80+	0.022 [0.006]***	0.145 [0.023]***	0.011 [0.005]**	0.001 [0.007]
Delist Phy*age>65	-0.011 [0.004]***			
Delist Physio	-0.003 [0.002]			
Delist Opt*age>65		0.012 [0.027]		
Delist Eye		-0.037 [0.009]***		
Delist Chiro*Age>65				-0.003 [0.006]
Delist Chiro				0.003 [0.004]
Delist Speech*Age>65			-0.004 [0.005]	
Delist Speech			0.004 [0.002]**	
Observations	201541	201452	201582	201521
R-squared	0.02	0.05	0.01	0.03

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

	-1	-2	-3	-4
Panel B - use conditional on positive use age 15-19	Physiotherapy Consultations	Optometric Consultations	sultations with Speech Ther:	Chiropractic Consultations
	2.1	0.07	-0.89	0.441
	[0.356]***	[0.015]***	[0.403]**	[0.283]
20-24	4.077	0	-0.498	0.85
	[0.578]***	[0.023]	[0.458]	[0.443]*
25-29	3.231	0.035	-1.709	1.476
	[0.576]***	[0.023]	[0.284]***	[0.339]***
30-34	4.099	0.052	-1.02	1.426
	[0.614]***	[0.024]**	[0.338]***	[0.334]***
35-39	4.076	0.034	-1.307	1.489
	[0.566]***	[0.027]	[0.313]***	[0.298]***
40-44	4.001	0.023	-1.586	1.49
	[0.604]***	[0.024]	[0.306]***	[0.319]***
45-49	3.455	-0.014	-1.12	1.024
	[0.629]***	[0.024]	[0.321]***	[0.277]***
50-54	3.795	0.023	-1.829	1.168
	[0.581]***	[0.027]	[0.345]***	[0.409]***
55-59	3.486	0.076	-1.979	0.821
	[0.540]***	[0.028]***	[0.301]***	[0.281]***
60-64	2.428	0.07	-2.172	0.747
	[0.567]***	[0.025]***	[0.329]***	[0.341]**
65-69	2.282	0.177	-1.955	0.458
	[0.709]***	[0.030]***	[0.308]***	[0.463]
70-74	2.034	0.302	-2.337	0.312
	[0.641]***	[0.046]***	[0.278]***	[0.370]
75-79	1.833	0.369	-1.922	-0.097
	[0.668]***	[0.042]***	[0.275]***	[0.441]
80+	0.988	0.442	-2.442	-0.592
	[0.773]	[0.049]***	[0.244]***	[0.625]
Delist Phy*age>65	-0.339			
	[0.452]			
Delist Physio	0.718			
	[0.223]***			
Delist Opt*age>65		-0.039		
		[0.032]		
Delist Eye		0.021		
		[0.015]		
Delist Chiro*Age>65				-0.304
				[0.316]
Delist Chiro				-0.21
				[0.107]*
Delist Speech*Age>65			-0.108	
			[0.266]	
Delist Speech			0.568	
			[0.253]**	
Observations	15696	76751	3205	24544
R-squared	0.06	0.02	0.07	0.07

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Table 6: Effects of Delistings Including Supplemental Insurance

Panel A - Use or not	-1	-2	-3	-4	-5	-6
	Physio w/ insur	Visited Physiotherapist	Optometry w/ insur	Visited Optometrist	chiro w/ insur 0	Visited Chiropractor
Supplemental Insurance	0.01 [0.002]***				[0.005]	
Delist Physio	-0.009 [0.003]***	-0.009 [0.003]***				
Delist Chiropractor					-0.131 [0.007]***	-0.131 [0.007]***
Delist Speech Therapy						
Delist Optometry			-0.016 [0.009]*	-0.02 [0.009]**		
insurance - eye glasses/contact			0.056 [0.006]***			
Observations	59402	59402	59357	59357	59385	59385
R-squared	0.02	0.02	0.06	0.06	0.03	0.03

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Panel B - use conditional on positive use	-1	-2	-3	-4	-5	-6
	Physio w/ insur	Physiotherapy Consultations	Optometry w/ insur	Optometric Consultations	chiro w/ insur	Chiropractic Consultations
Supplemental Insurance	0.507 [0.272]*				0.028 [0.196]	
Delist Physio	1.37 [0.368]***	1.34 [0.372]***				
Delist Chiropractor					4.635 [1.238]***	4.641 [1.237]***
Delist Speech Therapy						
Delist Optometry			0.05 [0.015]***	0.051 [0.014]***		
insurance - eye glasses/contact			-0.017 [0.010]*			
Observations	4110	4110	21906	21906	7403	7403
R-squared	0.05	0.05	0.03	0.03	0.08	0.08

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Regressions also include all controls from table 2.

Source: 1994-1998 National Population Health Survey and 2000 Canadian Community Health Survey

Appendix Table A

	Physiotherapy		Optometry		Dental		Speech Therapy		Chiropractic care	
	Coverage in 1994	Changes to coverage	Coverage in 1994	Changes to coverage	Coverage in 1994	Changes to coverage	Coverage in 1994	Changes to coverage	Coverage in 1994	Changes to coverage
British Columbia	Limit of 12 visits per year for those < 65 and 15 for those 65+	No change*	Limit of 1 visit every 24 months for those 16-64 and no limit for those <16 and 64+	No change*	Not covered in private practice	No change	Not covered in private practice	No change	Limit of 12 visits per year for those < 65 and 15 for those 65+	No change*
Alberta	Limit of \$250 in each year	1995: not covered (only for those evaluated as high need based on a standardized assessment form)	Limit of 1 full oculo-visual exam, 1 partial vision exam and 1 single diagnostic procedure every 2 years for those >18 and < 65 and every year for those <19 and 65+	1995: No coverage for those >18 and <65 and same coverage for <19 and 65+	Not covered in private practice	No change	Covered in private practice	1995: not covered	Limit of \$300 in each year	1995: Limit changes to \$200
Saskatchewan	Not covered in private practice	No change	Not covered except for those <18 limited to one visit per year	No change	Not covered in private practice	No change	Not covered in private practice	No change	Covered in private practice	No change
Manitoba	Not covered in private practice	No change	Limit of 1 visit every 2 years	1996: No coverage for those >18 and <65 and same coverage for <19 and 65+	Not covered in private practice	No change	Not covered in private practice	No change	Limit of 15 visits per year based on the per visit cost of \$11.56 (\$12.72 in northern Man)	1996: Limit changes to 12 visits per year with a provincial spending cap on total use
Ontario	Covered in private practice	1998: Limit of 150 visits per year	An oculo-visual assessment is covered in private practice	1998: Limit of 1 oculo-visual assessment and 1 follow up oculo-visual minor assessment every 2 years for those >19 and <65 and every year for those <20 and 65+	Not covered in private practice	No change	Covered in private practice	No change	Limit of \$220 in each year	1999: Limit changes to \$150
Quebec	Not covered in private practice	No change	Not covered except for those <18 and 65+ limited to one visit per year	1996: coverage changes for those <18 and 65+, who are now limited to one visit every 2 years	Not covered in private practice except for those less than 10	No change	Not covered in private practice	No change	Not covered in private practice	No change
New Brunswick	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice	No change
Nova Scotia	Not covered in private practice	No change	Coverage in private practice	1997: No coverage for those >18 and <65 and same coverage for <19 and 65+	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice	No change
Prince Edward Island	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice	No change
Newfoundland	Not covered in private practice	No change	Not covered in private practice	No change	Not covered in private practice (with some coverage for those under 12)	No change	Not covered in private practice	No change	Not covered in private practice	No change

* In 2001, British Columbia limited patients to a combined total of 10 visits per year for chiropractic, massage, naturopathic, physical therapy or non-surgical podiatric visits

** In 2001, routine optometry visits every 2 years were eliminated for everyone 16-64 years of age

De-listing information is gathered from the legislative records for each province.