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Research

Changes in employer-sponsored private health insurance among retirees in Ontario: a cross-sectional study

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Abstract

Background: Employer-sponsored health insurance, particularly for retirees with limited incomes, plays a major funding role in Canadian health care, including prescription drugs and dental services. We aimed to investigate the changes in retiree health insurance availability over time.

Methods: We performed a secondary analysis of data from the 2005 and 2013–2014 cycles of the Canadian Community Health Survey using multivariate logistic regression to study changes in retiree coverage availability over time in Ontario. We estimated the adjusted odds ratios of having employer coverage for likely retirees (people over age 65 yr who reported not working and those over age 75 yr), adjusting for a number of potential confounders. Sensitivity analysis was also performed for coverage of different treatments separately.

Results: The response rate was 76% for the 2005 cycle and 66% for 2013–2014 for the entire survey. The characteristics of respondents in the 2 survey cycles were similar, except respondents in 2013–2014 were wealthier. In our adjusted model, respondents in 2013–2014 had lower odds of reporting retiree coverage than respondents in 2005 (adjusted odds ratio 0.87; 95% confidence interval 0.77–0.99). This represents an absolute reduction in the probability of receiving retiree coverage of up to 3.4%.

Interpretation: Our analysis suggests that the rate of retiree health insurance has declined for Canadians with similar characteristics over the past decade. As we know insurance coverage has a strong association with use of treatments such as prescription drugs and dental care, this decline may result in decreased access to treatment and is an issue that warrants further investigation.

In contrast to the coverage offered in other countries with universal health care systems, universal coverage is provided only for physician and hospital services in Canada.[1] Pharmaceuticals and services such as dental care and vision care are paid through a mix of public and private insurance and out-of-pocket payments.[1] Approximately 60% of Canadians hold private insurance for prescription drugs, which is mostly provided by employers to their employees and, in some cases, their retirees.[2] Other health services are not insured publicly except for certain populations, and the availability of private insurance for these services is unclear.[3,4]

The availability of employer-sponsored private health insurance is an important determinant of access to these other types of health care. Older people in particular have been found in various studies to be sensitive to reductions in costs offered through private health insurance.[5–7] For example, Allin and colleagues found a further reduction of a few dollars through private insurance on copayments of up to $6.11 under Ontario's public drug program appeared to incentivize seniors to use certain types of medications.[5] The higher out-of-pocket costs faced by those without such insurance can present a significant barrier to accessing treatment, potentially resulting in poorer health outcomes.[3,6,8–12] Retirees, who may receive employer coverage as part of a retirement package, may be particularly vulnerable to loss of coverage and increased out-of-pocket costs as they may have limited income flexibility.[5,13] Thus, it is important to observe any prevailing trends in the coverage of Canadian retirees.

From 1988 to 2015, private health insurance expenditures increased from $193 to $1059 per capita in Canada.[14] This increase in costs is being passed onto employers who provide coverage. What remains unclear is how Canadian employers are responding to these changes. Analyses from the United States have found that in response to increasing premiums,

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steps were taken to limit both the availability and scope of employer coverage.[14,15] For example, between 1996 and 2000, the proportion of retirees aged 65 to 69 years who had retiree coverage decreased from 46% to 39%.[15] Surveys of employers in Ontario assessing coverage for current and retired employees confirm that employers are becoming less generous.[16] Although other data also suggest that Canadian employer coverage is becoming less generous,[17] we have limited information on the changes in coverage and the number of people affected, if any. Therefore, we used data from 2 large surveys to investigate the change between 2005 and 2014 in the availability of employer coverage for retirees.

Methods

Study context

Public drug coverage schemes for seniors vary widely across provinces. Some provinces (e.g., Ontario, Alberta and the Maritime provinces) have adopted an age-based approach where individuals over the age of 65 years are automatically offered special coverage; other provinces (e.g., British Columbia, Saskatchewan and Manitoba) have adopted an income-based approach.[18,19] All of these coverage schemes have annual deductibles — that is, out-of-pocket payments for prescription costs before the start of coverage — and copayments/coinsurance after coverage starts.[18,19] Any of these out-of-pocket costs may be reduced by the availability of private insurance, which is most commonly obtained through employers and may include family members as beneficiaries.[18] Only about 10% of all private insurance policies are taken out independently.[20] Allin and colleagues estimated that among Ontario residents over the age of 65 years without an independent private insurance policy, 27% received private insurance for prescriptions from their current or previous employer in 2005.[5] Other treatments, such as dental care and vision care, are not covered for seniors in any province except for people with very low incomes.[3,4] These are funded almost exclusively through private insurance and out-of-pocket payments.[3,4]

Survey data and study design

This study used data from the Canadian Community Health Survey (CCHS), an ongoing cross-sectional survey conducted by Statistics Canada. The survey sample is derived from a multistage stratified cluster sampling design and is intended to be representative of approximately 97% of the population aged 12 years and older, with steps taken to account for non-response to produce accurate national and regional estimates. Additional information on the sampling and interviewing methods is published elsewhere.[21–23] Validation steps include comparison of data year to year and by geographical region, as well as external validation by provincial and federal partners to ensure data accuracy.[21] Before 2005, the survey was conducted every 2 years over a 1-year period. Since then, the survey has been conducted annually and the results have been released as 2-year cycles to cover the same number of respondents as cycles released before this change.

Study samples

We used data from the 2005 and 2013–2014 survey cycles. Our study sample was restricted to respondents who resided in Ontario at the time of interview, as it was the only province in which the optional module on health insurance was asked in more than 1 cycle. To capture retirees, we included respondents if they were 75 years of age or older, or if they were aged 65 to 75 years and responded that they had not worked at a job or business at any time in the past 12 months. We excluded people who had immigrated to Canada fewer than 10 years ago to limit the number of people who arrived in Canada after retirement as their inclusion would have inflated the number of people who may potentially have retiree coverage from a Canadian employer. We also excluded those who did not provide valid responses to the questions on employer coverage, job status or immigration status.

Variables for analysis

Our key variable of interest was whether the person reported having retiree health insurance. This was constructed from self-reported coverage in 4 areas: prescription medications, dental care, eyeglasses and private/semiprivate hospital rooms. We flagged people as having retiree coverage if they reported employer-sponsored insurance for any of these areas. Our explanatory variable was a binary variable denoting survey cycle (2005 or 2013–2014). Our analysis included a range of potential confounders for the relationship between year and employer coverage among retirees, including age, sex, marital status, urban/rural residence, household income, highest education level within the household, self-reported health status and number of reported chronic illnesses (including self-reported asthma, arthritis, hypertension, chronic obstructive pulmonary disease, diabetes, heart disease, previous stroke, bowel disease and mood disorder). The sociodemographic factors were chosen as they are known to influence the likelihood of having employer-sponsored coverage. We chose to control for household income and education within the household as coverage may be available through a spouse. We chose to control for marital status for the same reason. Please refer to Appendix 1 (available at www.cmajopen.ca/content/7/1/E15/suppl/DC1) for the survey questions.

Statistical analysis

We modelled the association between survey cycle and reporting having retiree health insurance using a logistic regression model.[24] On the basis of the results, we also calculated predicted probabilities given individual characteristics and population estimates from 2014.[25] Population estimates and their variances for all statistical analyses were calculated by applying probability and bootstrap weights provided by Statistics Canada.[21] The probability weights from the individual survey cycles were adjusted using the pooled approach to produce a single data set to be analyzed.[26] It was feasible to combine survey cycles using this approach because the questions from which the variables for analysis were derived, survey coverage, and mode of collection had not changed.[26]

Sensitivity analysis

We also performed 2 sensitivity analyses on our logistic regression model. First, we analyzed using reported household incomes instead of income quintiles. We also analyzed the association between survey cycle and each insurance type individually (i.e., insurance for prescription medications, eyeglasses, private/semiprivate hospital rooms and dental care).

Ethics approval

This study is covered under the publicly available data clause (item 7.10.3) of the University of British Columbia's Policy no. 89: Research Involving Human Participants, which exempts research involving the use of publicly available data protected by law from requiring study-specific ethics approval.[27]

Results

The response rates were 76% for the 2005 cycle and 66% for 2013–2014 for the entire survey.[22,23] Our final cohort included 6234 respondents from 2005 and 6509 from 2013–2014, with 51.3% of the final weighted sample in 2005 and 48.7% in 2013–2014 (see Figure 1 for derivation). As shown in Table 1, respondents in 2013–2014 had slightly higher education levels and better self-reported health status. However, the number of reported chronic diseases was similar in the 2 cohorts. Notably, respondents in 2013–2014 were comparatively wealthier than the earlier cohort: the percentage of respondents in the lowest quintile of household incomes dropped from 35.2% in 2005 to 25.2% in 2013–2014. The cohorts from the 2 survey cycles were similar in other respects (Table 1). About one-third of respondents reported having retiree health insurance in both cycles: 32.6% and 33.1% in the 2005 cycle and 2013–2014 cycles, respectively.

In our prespecified multivariate model, the adjusted odds ratio estimate of receiving retiree health insurance in 2013–14 was 0.87 (95% confidence interval [CI] 0.77–0.99) compared with 2005 (Table 2). This represents a 13% decrease in the odds of a retiree receiving coverage. While we found that several other variables were statistically associated with having coverage (Table 2), the decrease in the odds ratio estimates

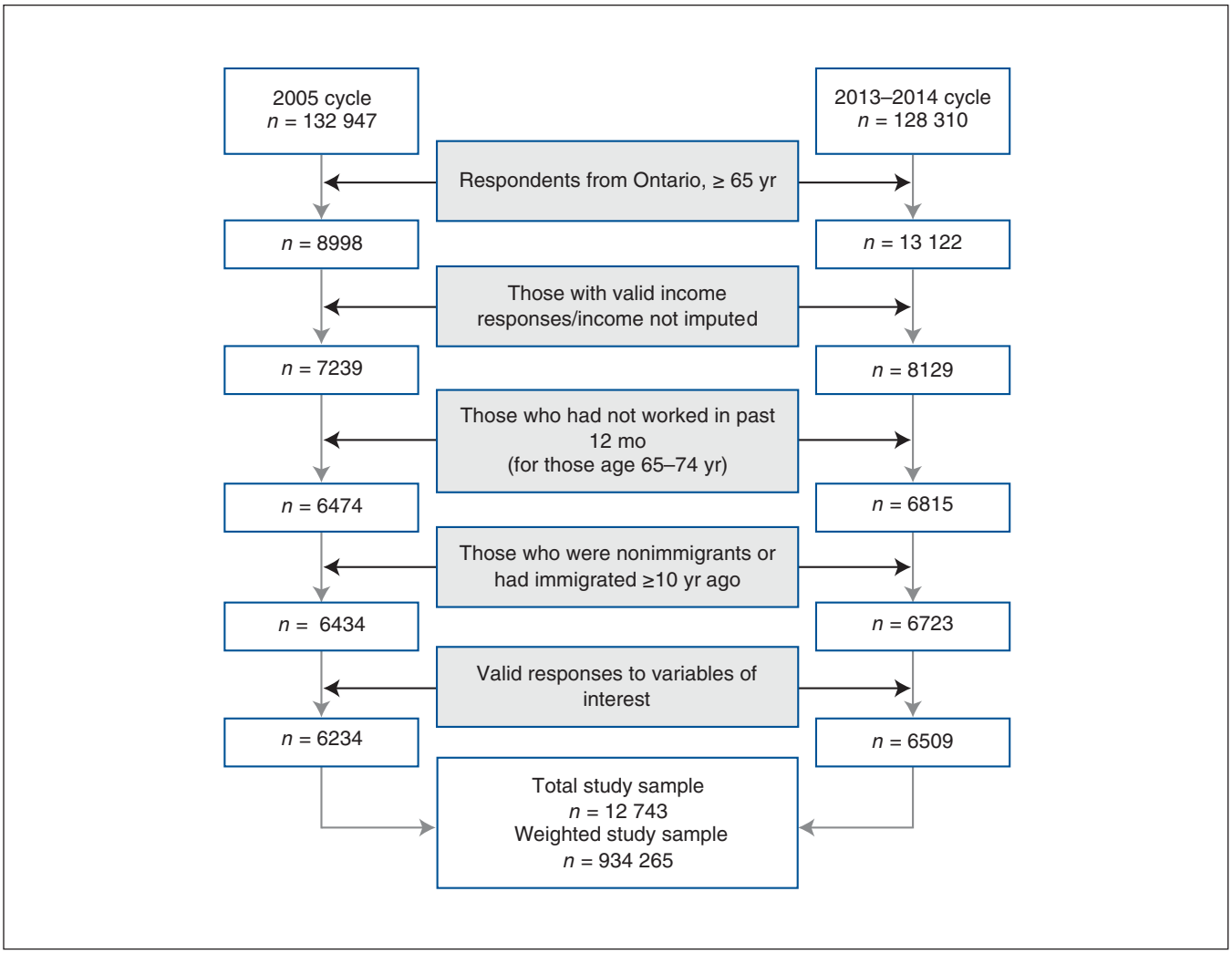

Figure 1: Derivation of study sample from cycle 3.1 (2005 cycle) and the 2013–2014 cycle of the Canadian Community Health Survey, including exclusions because of missing/invalid responses.

Table 1: Characteristics of study sample, investigating the relationship between availability of retiree health insurance and survey year using data from the combined cycle 3.1 (2005) and the 2013–2014 cycle of the Canadian Community Health Survey

	Total study sample		Study sample by survey year			
			2005 (cycle 3.1)		2013–2014 cycle	
Characteristic	Weighted frequency	Percentage ± SE	Weighted frequency	Percentage ± SE	Weighted frequency	Percentage ± SE
Total study sample	934 265	100	479 192	51.3 ± 0.7	455 072	48.7 ± 0.7
Insurance availability						
No employer health insurance	627 455	67.2 ± 0.7	323 043	67.9 ± 0.6	304 412	66.9 ± 0.7
Has employer health insurance	306 810	32.8 ± 0.7	156 150	32.6 ± 0.5	150 660	33.1 ± 0.5
Has prescription coverage	257 584	27.6 ± 0.6	129 195	27.0 ± 0.4	128 388	28.2 ± 0.5
Has dental coverage	236 215	25.3 ± 0.6	119 371	24.9 ± 0.4	116 844	25.7 ± 0.5
Has eyeglasses coverage	233 992	23.0 ± 0.6	117 961	24.6 ± 0.4	116 031	25.5 ± 0.5
Has hospital room coverage	247 031	26.4 ± 0.6	133 887	27.9 ± 0.5	113 143	24.9 ± 0.4
Age, yr						
65–69	258 626	27.7 ± 0.7	128 429	26.8 ± 0.5	130 187	28.6 ± 0.6
70–74	231 253	24.8 ± 0.6	122 302	25.5 ± 0.4	108 951	23.9 ± 0.5
75–79	218 646	23.4 ± 0.6	114 066	23.8 ± 0.4	104 579	23.0 ± 0.5
≥ 80	225 740	24.2 ± 0.6	114 386	23.9 ± 0.5	111 354	24.5 ± 0.5
Sex						
Male	420 238	45.0 ± 0.7	207 369	43.3 ± 0.6	212 869	46.8 ± 0.7
Female	514 026	55.0 ± 0.7	271 823	56.7 ± 0.6	242 203	53.2 ± 0.7
Urban/rural dwelling						
Rural	153 579	16.4 ± 0.4	68 660	14.3 ± 0.3	84 919	18.7 ± 0.3
Urban	780 686	83.6 ± 0.4	410 533	85.7 ± 0.7	370 153	81.3 ± 0.7
Total household income — provincial quintile						
Quintile 1	283 233	30.3 ± 0.7	168 447	35.2 ± 0.5	114 786	25.2 ± 0.6
Quintile 2	250 340	26.8 ± 0.6	131 512	27.4 ± 0.5	118 828	26.1 ± 0.5
Quintile 3	186 714	20.0 ± 0.6	86 534	18.1 ± 0.4	100 180	22.0 ± 0.4
Quintile 4	138 111	14.8 ± 0.5	60 824	12.7 ± 0.4	77 287	17.0 ± 0.4
Quintile 5	75 866	8.1 ± 0.4	31 875	6.7 ± 0.3	43 991	9.7 ± 0.3
Highest level of education within household						
Did not complete secondary	204 336	21.9 ± 0.5	118 025	24.6 ± 0.4	86 312	19.0 ± 0.4
Secondary graduate	160 176	17.1 ± 0.6	74 614	15.6 ± 0.3	85 562	18.8 ± 0.6
At least some postsecondary	569 752	61.0 ± 0.7	286 553	59.8 ± 0.7	283 199	62.2 ± 0.7
No. of chronic illnesses						
None	169 573	18.2 ± 0.6	88 705	18.5 ± 0.4	80 868	17.8 ± 0.4
1 or 2	547 896	58.6 ± 0.7	285 002	59.5 ± 0.6	262 895	57.8 ± 0.7
3 or 4	192 687	20.6 ± 0.6	94 151	19.6 ± 0.4	98 536	21.7 ± 0.5
≥ 5	24 108	2.6 ± 0.2	11 335	2.4 ± 0.1	12 774	2.8 ± 0.2
Marital status						
Single/never married	41 097	4.4 ± 0.3	20 871	4.4 ± 0.2	20 226	4.4 ± 0.2
Common-law	21 913	2.3 ± 0.3	6364	1.3 ± 0.1	15 550	3.4 ± 0.2
Married	558 578	59.8 ± 0.7	290 260	60.6 ± 0.7	268 317	59.0 ± 0.7
Widowed/separated/divorced	312 677	33.5 ± 0.7	161 697	33.7 ± 0.5	150 980	33.2 ± 0.5
Self-reported health status						
Excellent	120 993	13.0 ± 0.5	55 032	11.5 ± 0.3	65 961	14.5 ± 0.4
Very good	278 512	29.8 ± 0.6	139 569	29.1 ± 0.5	139 942	30.5 ± 0.5
Good	305 299	32.7 ± 0.7	158 345	33.0 ± 0.5	146 954	32.3 ± 0.6
Fair	162 263	17.4 ± 0.5	89 677	18.7 ± 0.4	72 586	16.0 ± 0.4
Poor	67199	7.2 ± 0.4	36 570	7.6 ± 0.3	30 629	6.7 ± 0.3

Note: SE = standard error

Table 2: Results from logistic regression: the association between survey year (reference 2005 cycle) and availability of retiree health insurance (yes/no)

Variable	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Survey year		
2005 cycle (cycle 3.1)	1	1
2013–2014 cycle	1.02 (0.91–1.15)	0.87 (0.77–0.99)
Age, yr		
65–69	1	1
70–74	0.87 (0.74–1.02)	0.87 (0.74–1.02)
75–79	0.76 (0.65–0.89)	0.80 (0.67–0.94)
≥ 80	0.72 (0.60–0.85)	0.84 (0.70–1.00)
Sex		
Female	1	1
Male	1.23 (1.09–1.38)	1.01 (0.89–1.15)
Urban/rural dwelling		
Rural	1	1
Urban	1.04 (0.91–1.19)	1.36 (1.18–1.56)
Total household income — provincial quintile		
Quintile 1	1	1
Quintile 2	2.88 (2.41–3.44)	2.70 (2.26–3.25)
Quintile 3	4.36 (3.65–5.20)	4.01 (3.31–4.86)
Quintile 4	5.73 (4.65–7.07)	5.20 (4.18–6.48)
Quintile 5	4.99 (3.91–6.37)	4.46 (3.45–5.76)
Highest level of education within household		
Did not complete secondary	1	1
Secondary graduate	1.69 (1.42–2.02)	1.31 (1.08–1.58)
At least some postsecondary	1.98 (1.72–2.29)	1.13 (0.96–1.32)
Number of chronic illness(es)		
None	1	1
1 or 2	0.92 (0.79–1.07)	1.01 (0.86–1.19)
3 or 4	0.86 (0.72–1.03)	1.18 (0.96–1.45)
≥ 5	0.49 (0.34–0.69)	0.73 (0.49–1.10)
Marital status		
Single/never married	1	1
Common-law	1.82 (1.09–3.03)	1.42 (0.83–2.43)
Married	1.79 (1.38–2.32)	1.58 (1.19–2.10)
Widowed/separated/divorced	0.89 (0.68–1.16)	1.04 (0.78–1.39)
Self-reported health status		
Excellent	1	1
Very good	0.88 (0.74–1.05)	0.93 (0.77–1.12)
Good	0.77 (0.64–0.93)	0.89 (0.74–1.08)
Fair	0.61 (0.50–0.74)	0.81 (0.65–1.01)
Poor	0.48 (0.37–0.62)	0.71 (0.54–0.93)

Note: CI = confidence interval.

after adjusting for confounding is almost solely attributable to household income. People earning in the second quintile had 2.71 times the odds of receiving coverage compared with people in the first quintile (i.e., those who were poorer) in the adjusted analysis. Those earning in the fourth quintile had the highest odds of having retiree coverage. In other words, despite an increase in the relative income of retirees between the survey waves, there was not a corresponding increase in the availability of retiree coverage.

Using estimates from the multivariate logistic regression, we found that the absolute decrease in predicted probability of receiving retiree health insurance from 2005 to 2013–2014 ranged from 0.6% to 3.4% depending on personal characteristics (Table 3). From 2014 population estimates from Statistics Canada of people over the age of 65 years and given that approximately 16% of respondents over 65 years of age were excluded from our sample as they were still working, we estimate that approximately 11 000 to 62 000 Ontario residents were not receiving retiree health insurance.[25] In both study years, the segment of the population with the lowest predicted probability of receiving retiree coverage was older people, with lower levels of education and income in the household. In contrast, the population with the highest predicted probability of receiving coverage was people with higher levels of education, with a household income in the fourth quintile.

Sensitivity analysis

We chose to use income quintiles to better compare the odds of having retiree coverage over time between groups on the basis of relative incomes. However, we performed a sensitivity analysis using reported household incomes, categorized in $20 000 increments up to $80 000 and more. The adjusted odds ratio using this revised income variable was very similar to the results presented above (adjusted odds

Table 3: Predicted probability of receiving retiree health insurance in 2005 and 2013–2014, derived from estimates of logistic regression

	%			
Characteristics	2005	2013–2014	Absolute change	Relative change
Age 65–69 yr, married, urban dwelling, 1 or 2 chronic illnesses, second income quintile, at least some postsecondary education, very good health				
Male	52.61	49.26	–3.35	–6.37
Female	52.35	49	–3.35	–6.40
Age 65–69 yr, married, urban dwelling, 1 or 2 chronic illnesses, fourth income quintile, some postsecondary education, very good health				
Male	59.02	55.74	–3.28	–5.55
Female	58.77	55.48	–3.28	–5.59
Age 65–69 yr, married, urban dwelling, 1or 2 chronic illnesses, second income quintile, some postsecondary education, very good health				
Male	42.84	39.6	–3.25	–7.58
Female	42.59	39.35	–3.24	–7.61
Age 65–69 yr, married, urban dwelling, 1 or 2 chronic illnesses, first income quintile, some postsecondary education, very good health				
Male	21.68	19.49	–2.19	–10.10
Female	21.5	19.33	–2.18	–10.12
Age 70–74 yr, widowed, urban dwelling, 1 or 2 chronic illnesses, first income quintile, secondary school graduate, very good health				
Male	14.39	12.81	–1.57	–10.94
Female	14.26	12.7	–1.56	–10.96
Age 75–79 yr, widowed, rural dwelling, 1 or 2 chronic illnesses, first income quintile, secondary school graduate, very good health				
Male	11.03	9.78	–1.25	–11.32
Female	10.92	9.68	–1.24	–11.33
Age ≥ 80 yr, never married, rural dwelling, ≥ 5 chronic illnesses, first income quintile, did not complete secondary school, poor health				
Male	5.02	4.42	–0.60	–12.00
Female	4.97	4.38	–0.60	–12.00

ratio 0.86, 95% CI 0.74–0.98). We also analyzed each insurance type individually to ensure that 1 type did not bias our original estimate using our aggregated variable. These analyses yielded odds ratio point estimates similar to our original estimate, but with wider confidence intervals (data not shown).

Interpretation

Employer-sponsored health insurance remains an important mechanism through which many Canadians, including retirees, access important forms of health care. We found that the adjusted rates of employer coverage for retirees declined over time. These findings suggest that, much like in the United States,[15,28] the odds of a retired employee receiving coverage have decreased for comparable populations over the past decade in Ontario. From population estimates, up to 62 000 Ontario residents over the age of 65 years were potentially affected by this trend. The public health implications of this finding may be important, as Canadians often rely on private insurance provided by employers to afford health treatments that are not publicly covered.[3,5,6]

The results of this study explain some of the observations in prior research. Out-of-pocket health-related expenses from 1998 to 2009 increased substantially, with premiums for private health insurance (including employer coverage) being prominent expenses.[29] Additionally, a growing proportion of Canadian households are spending more than 10% of their income on health expenses.[29] Our results also corroborate previous industry surveys conducted in the province, which found that many employers had plans to reduce the coverage they provide.[16] As private insurance helps offset the out-of-pocket costs for treatments,[3,5,6] the decrease in coverage availability observed in our study may be linked to evidence of increased expenditures by Canadian households to obtain items such as dental services and prescription drugs.[29] Taken together, current evidence suggests that private insurance plans, most of which are employer sponsored, are becoming more expensive for Canadians and provide less extensive coverage, with coverage availability also being negatively affected. Additionally, if the changes observed in our study are occurring in other provinces, they may affect access to medicines to an even greater degree than in Ontario, as Ontario seniors receive generous public subsidies for prescription drugs under the Ontario Drug Benefits program.[30]

As previously discussed, much of our finding is attributable to changes in the household income structure of retirees. Indeed, in examining the makeup of our cohort in the 2 time periods, respondents in 2013–2014 reported income that put them in a higher quintile (relative to the entire province) than those in 2005. It has been found previously that private insurance availability (through an employer or otherwise) is associated with one's income.[5,8,9,31] Thus, with more people reporting higher household incomes, it may appear that retiree coverage availability was maintained between 2005 and 2013–2014. However, as the adjusted analysis showed, the odds of having retiree health insurance in fact decreased over this period, after taking into account income and other confounders.

Limitations

Our study has some limitations. First, the data are derived from 2 cross-sectional surveys and may be subject to recall bias. However, it seems unlikely that knowledge about employer coverage would have been different among the 2 cohorts. Second, we were not able to assess historical employment status and it is possible that respondents did not have retiree coverage because they were not employed previously. Owing to the survey structure, we also had to assume that people over the age of 75 years were not employed at the time of the survey. Lastly, we were only able to examine the association between receiving coverage and time by using 2 survey cycles. The results may oversimplify how retiree coverage has changed over time, especially given prior research that observed extensive use of cost-controlling mechanisms among private insurance plans generally (e.g., increased premiums, cost-sharing and deductibles).[17] However, given that discontinuing coverage is the most severe form of cost control, we feel these results provide a potentially important body of preliminary evidence that warrants further investigation. Future studies should investigate the proportion of retirees experiencing increased policy premiums or increased cost-sharing for treatments.[17]

Conclusion

The decrease in retiree health insurance availability is a potential public health issue, as cost-related nonadherence to medically necessary treatments may subsequently increase adverse health outcomes and health resource utilization. While older Canadians currently have among the lowest rates of problems with drug affordability in Canada,[32] this might change if coverage availability declines. Further, as costs continue to rise, the decline in the availability of benefits may accelerate. This potential burden on the public system may provide impetus for policy-makers to further study other important employer health insurance trends in Canada such that appropriate policy action may be taken to maintain access to essential treatments in this population.

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