Prescription drug insurance and unmet need for health care: a cross-sectional analysis

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ABSTRACT

Background: Despite Canada’s universal health insurance coverage, many Canadians still report an unmet need for health care. I investigated whether not having prescription drug insurance increases the likelihood of reporting an unmet need for health care. I hypothesized that people without prescription drug insurance would be more likely than those with insurance to report an unmet health care need.

Methods: I included 31,630 people in Ontario 64 years of age or younger who had participated in the Canadian Community Health Survey Cycle 3.1. Multivariate logistic regression models were used to obtain an adjusted odds ratio (OR) for the association between having prescription drug insurance and reporting an unmet need for health care in the past 12 months, adjusting for age, sex, socio-economic status, health status and having a regular medical doctor. The reasons for reporting an unmet need for care were stratified into reasons related or not related to prescription drug insurance. Three separate multivariate logistic regressions were performed to obtain an adjusted OR for the association between prescription drug insurance and unmet need based on the reasons for reporting unmet need.

Results: Not having prescription drug insurance that covers all or part of prescription medication costs increased the likelihood of reporting an unmet need for health care services (adjusted OR 1.27, 95% confidence interval [CI] 1.16–1.39). Not having such insurance significantly increased the likelihood of reporting an unmet need for health care for reasons that were related to prescription drug insurance (adjusted OR 2.21, 95% CI 1.80–2.71). This relation was not significant when the analysis was restricted to people who reported unmet need for health care for reasons that did not relate to prescription drug insurance (adjusted OR 1.12, 95% CI 1.00–1.23).

Conclusions: These results suggest an association between a lack of prescription drug coverage and reporting an unmet need for health care. This association warrants further investigation.

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The cornerstone of the Canadian health care system is its universal public health care insurance administered by the provinces and territories. National standards of access to necessary medical and hospital care are promoted by the federal–provincial cost-sharing mechanisms established in the Canada Health Act — legislation that was designed to ensure that all Canadians have an equal opportunity to access the health care they need. However, not all Canadian health care services are publicly covered. Prescription drugs used outside of hospital represent the largest component (in terms of expenditure) of health care that falls outside the Canada Health Act. Although the provinces have introduced independent prescription drug plans, a considerable number of Canadians receive little or no public insurance coverage for costs associated with prescription drugs. To fill this gap in insurance, many private insurance carriers provide pharmaceutical coverage, which is provided mainly through employment-related packages. About 65% of working-age Canadians have some form of private drug insurance, 10%–20% have incomplete coverage, particularly for drugs with exceptionally high costs, and 10%–20% of Canadians have no drug coverage of any kind.

The large number of uninsured Canadians is particularly problematic given that the use of prescription drugs in Canada is increasing. The number of prescriptions dispensed to Canadians in retail pharmacies increased by 65% between 1994 and 2004, and estimates indicate that 60% of visits to general practitioners in 2004 resulted in a prescription. Because of the increased use of prescription medicines, I hypothesized that inadequate prescription drug coverage may be a determinant of unmet health care needs. Unmet need may arise because some people choose not to seek care if they anticipate that the physician will write a prescription for which they have no coverage. Unmet need may also stem from the inability to fill a prescription because of inadequate insurance. Although many hypotheses explaining Canadians’ reported unmet need for care have been examined, the relation between unmet need for care and prescription drug insurance has not.

I sought to examine the relation between prescription drug insurance and unmet need for health care among working-age Ontarians. I hypothesized that people without prescription drug insurance would be more likely than those with insurance to report an unmet need for health care. I hypothesized that their reasons for reporting an unmet need would be related to prescription drug insurance (e.g., cost) but not reasons unrelated to prescription drug insurance (e.g., length of wait times).

Methods

The Canadian Community Health Survey (CCHS) is an ongoing cross-sectional survey that collects information related to health status, health care utilization and health determinants across Canada. It is conducted by Statistics Canada and consists of a large sample of individuals 12 years of age and older living in private residences. The sample for this analysis was obtained from Cycle 3.1 of the survey, which was administered between Jan. 1 and Dec. 31, 2005. Ethics approval for this project was not required because it was covered by the publicly available data clause (Item 1.3.1) of the University of British Columbia’s policy no. 89: Research and other studies involving human subjects.

I included Ontario residents because only respondents from this province (n = 41 766) were asked questions about prescription drug insurance. I restricted the sample to people 64 years of age or younger (n = 32 768) because most provinces offer different drug coverage to people aged 65 and older. I also excluded individuals who did not provide valid responses to the questions related to our variables of interest; thus, the final sample for this study consisted of 31 630 people.

I built the outcome variable (reporting an unmet need for health care) from the CCHS question “During the past 12 months, was there ever a time when you felt you needed health care but you didn’t receive it?” If the answer was yes, the respondent was asked, “Thinking of the most recent time, why didn’t you get care?” The respondents were provided with a list of 16 reasons (Table 1) and were asked to indicate all that applied. I stratified this list into reasons that were potentially related to prescription drug insurance (“cost” and “decided not to seek care”) and reasons that were potentially not related. Reporting cost as a reason for unmet need could have been directly related to the absence of prescription drug insurance, because the cost of the prescription might have been a barrier to care. Or, respondents may have decided not to seek care because he or she anticipated that a visit to a physician would result in a prescription. All other reasons (Table 1) were classified as being unrelated to prescription drug insurance. Using this stratification, I created 2 separate dependent variables: 1) reporting an unmet need for care for reasons likely related to prescription drug insurance; and 2) reporting an unmet need for care for reasons likely not related to prescription drug insurance.

The independent variable of interest was whether respondents had prescription drug insurance. I determined this variable based on responses to the CCHS
question that asked, “Do you have insurance that covers all or part of your prescription medications?” Respondents were considered to have prescription drug insurance if they answered yes to this question. Covariates of interest included age and sex. I adjusted for socio-economic status using household income and the highest level of education achieved by the respondent. I controlled for health status using a variable that indicated whether the respondent had a chronic medical condition and self-reported health status. I also included a covariate that indicated whether an individual reported having a regular medical doctor.

I ran 3 separate multivariate logistic regressions to determine whether there was an association between prescription drug insurance and 1) reporting an unmet need for health care for any reason; 2) reporting an unmet need for reasons related to prescription drug insurance; and 3) reporting an unmet need for reasons not related to prescription drug insurance. All regressions included the covariates described above. Odds ratios (ORs) were calculated to measure the association between prescription drug insurance and reporting an unmet need for care. I also calculated unadjusted ORs for each of the 3 dependent variables. Finally, I performed a sensitivity analysis to determine whether stratification based on reasons related and not related to prescription drug insurance influenced the results. To assess how changing this stratification might affect the results, I repeated the regression analysis, using cost as the only insurance-related reason for reporting an unmet need for care. All analyses were weighted to account for the multistage cluster sampling used in the CCHS. Analyses were performed using SAS version 9.1 (SAS Institute Inc., Cary, NC).

**Results**

Of the 31 630 people included in this study, those without prescription drug insurance were slightly younger (39.1% vs. 30.8% under the age of 30), more likely to have a household income less than $50 000 (49.9% vs. 21.8%), less likely to have a regular medical doctor, and less likely to have a chronic medical condition than those with insurance (Table 2). The most common reason for reporting an unmet need for health care was that the waiting time was too long (31.2%) (Table 1). The least common reason was language problems (0.3%).

Table 3 presents the adjusted ORs for the relation between prescription drug insurance and reporting an unmet need for health care for any reason, for a reason related to insurance, or for a reason not related to insurance. The unadjusted ORs suggest that not having prescription drug insurance increased the likelihood of reporting an unmet need for health care for any reason.
Table 2: Distribution of variables in the study sample by prescription drug insurance status

| Variable                        | Some or complete prescription drug insurance, % of respondents |
|---------------------------------|---------------------------------------------------------------|
|                                 | Yes  | No  | n    | n    |
| Sex                             |      |     | 24124| 7506 |
| Male                            | 49.8 | 49.8|      |      |
| Female                          | 50.2 | 50.2|      |      |
| Age, yr                         |      |     |      |      |
| 12–19                           | 14.4 | 13.9|      |      |
| 20–29                           | 16.4 | 25.2|      |      |
| 30–39                           | 19.8 | 19.2|      |      |
| 40–49                           | 24.7 | 20.8|      |      |
| 50–59                           | 18.1 | 14.2|      |      |
| 60–64                           | 6.6  | 6.7 |      |      |
| Highest education achieved      |      |     |      |      |
| Less than secondary             | 18.9 | 22.8|      |      |
| Graduated secondary             | 15.8 | 18.7|      |      |
| Some post-secondary             | 8.7  | 8.6 |      |      |
| Graduated post-secondary        | 56.6 | 49.9|      |      |
| Regular medical doctor          |      |     |      |      |
| Yes                             | 91.6 | 86.1|      |      |
| No                              | 8.4  | 13.9|      |      |
| Household income, $             |      |     |      |      |
| < 15 000                        | 3.1  | 7.3 |      |      |
| 15 000– 29 999                  | 5.3  | 16.8|      |      |
| 30 000– 49 999                  | 13.4 | 25.8|      |      |
| 50 000– 79 999                  | 27.6 | 24.7|      |      |
| ≥ 80 000                        | 50.7 | 25.4|      |      |
| Chronic medical condition       |      |     |      |      |
| Yes                             | 68.2 | 61.3|      |      |
| No                              | 31.8 | 38.7|      |      |
| Self-rated health               |      |     |      |      |
| Poor                            | 2.2  | 2.2 |      |      |
| Fair                            | 6.4  | 6.6 |      |      |
| Good                            | 26.8 | 28.4|      |      |
| Very good                       | 40.8 | 39.7|      |      |
| Excellent                       | 23.8 | 23.2|      |      |

(unadjusted OR 1.28, 95% confidence interval [CI] 1.19–1.38). After adjustment for all covariates, people without insurance were still significantly more likely than those with insurance to report an unmet need (adjusted OR 1.27, 95% CI 1.16–1.39). Being female, not having a regular medical doctor, reporting a chronic medical condition, and having poor, fair, good or very good health (v. excellent health) significantly increased the likelihood of reporting an unmet need for health care.

After the reasons for reporting an unmet need for health care were stratified into those related or not related to prescription drug insurance, I found that not having prescription drug insurance significantly increased the likelihood of reporting an unmet need for insurance-related reasons (unadjusted OR 2.50, 95% CI 2.08–3.00). After adjustment for age, sex, socio-economic status, health status and access to a regular medical doctor, people without insurance were still significantly more likely than those with insurance to report an unmet need for health care (adjusted OR 2.21, 95% CI 1.80–2.71). However, the adjusted OR suggested that not having prescription drug insurance was not significantly associated with reasons not related to insurance (adjusted OR 1.12, 95% CI 1.00–1.23; unadjusted OR 1.13, 95% CI 1.05–1.23). Having a chronic medical condition and self-reporting poor, fair or good health (v. excellent health) significantly increased the likelihood of reporting an unmet need for health care for insurance-related reasons. The results from the sensitivity analysis suggested that, when cost was the only insurance-related reason considered, people who did not have prescription drug insurance were more likely than those with insurance to report an unmet need for care (unadjusted OR 4.19, 95% CI 3.28–5.35; adjusted OR 3.47, 95% CI 2.65–4.53).

Discussion

Our results suggest that, in Ontario, individuals younger than 65 years who do not have prescription drug insurance are 1.27 times more likely than those with insurance to report an unmet need for health care. This relation was consistent after adjustment for age, sex, socio-economic status, health status and access to a regular medical doctor. In this study, people without prescription drug insurance were more than twice as likely as those with insurance to report an unmet need for health care for reasons related to prescription drug insurance. However, the association between prescription drug insurance and reporting an unmet need for care was not significant when only reasons unrelated to insurance were included. These results support the hypothesis that a lack of prescription drug insurance may be related to some reports of unmet need for care in Canada.

This study used high-quality data drawn from a representative sample of people in Ontario. However, the CCHS has some important limitations. The CCHS is a cross-sectional study of self-reported data; thus, only associations between prescription drug insurance and self-reported unmet need for health care can be studied. Future research should use a longitudinal study design.
to examine changes in insurance status. The self-reported nature of the data is also problematic. In the CCHS data, there appears to be some inaccuracy in the responses among people 65 years and older to questions about prescription drug insurance. Previous research suggests that half of the people in this group who are eligible for provincial drug coverage report not having insurance to cover the cost of their prescription medications.\textsuperscript{22} Although the present study included only people younger than 65 years, these data might also include some insured individuals who were unaware of their coverage. I also lacked information about deductibles and co-insurance for those with prescription drug coverage. Individuals who have coverage may still face significant out-of-pocket costs and may avoid care for similar reasons as those who do not have coverage. However, these limitations would be expected to attenuate the effect of not having insurance on reporting an unmet need for care. This suggests that these results may be a conservative estimate of the association between insurance status and unmet need for care.

Another potential limitation is that the data were stratified based on the reason for reporting an unmet need for health care. However, the sensitivity analysis,
which examined cost as the sole insurance-related reason, suggested that the relation remains after changing this stratification. Finally, although significant levels of private payments for prescription drugs exist across Canada, making it likely that these results are generalizable, public prescription drug insurance varies among the provinces. A nationally representative sample would allow for comparisons of these different plans and could provide important and timely guidance to policy-makers designing new insurance plans to facilitate improved access to health care.

The results of the present study suggest that there is an association between a lack of prescription drug coverage and reporting an unmet need for health care in Canada. Specifically, having prescription drug insurance decreased the likelihood of reporting an unmet health care need in the previous 12 months, which suggests that a lack of adequate prescription drug insurance may prevent some Canadians from accessing health care. Although the relation between prescription drug insurance and access to medicine receives considerable attention, much less attention is paid to the role that prescription drug insurance might play in access to other health care services. These results suggest that prescription drug insurance may affect more than just access to prescription medicines. This deserves further investigation and consideration, especially as pharmaceutical expenditures and use continue to grow in Canada.

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