

Lack of Insurance and Financial Barriers in Patients with Chronic Disease

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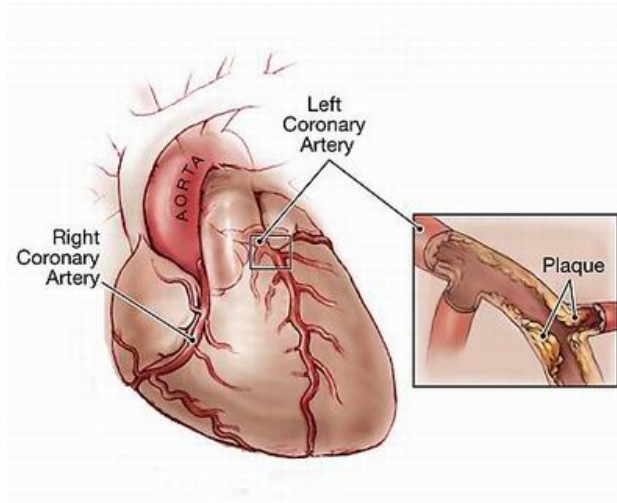
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Cardiovascular-related Chronic Diseases

- Cardiovascular disease is the leading cause of death in Canada
- People with diabetes, hypertension, and preexisting cardiovascular disease are at highest risk of future health complications

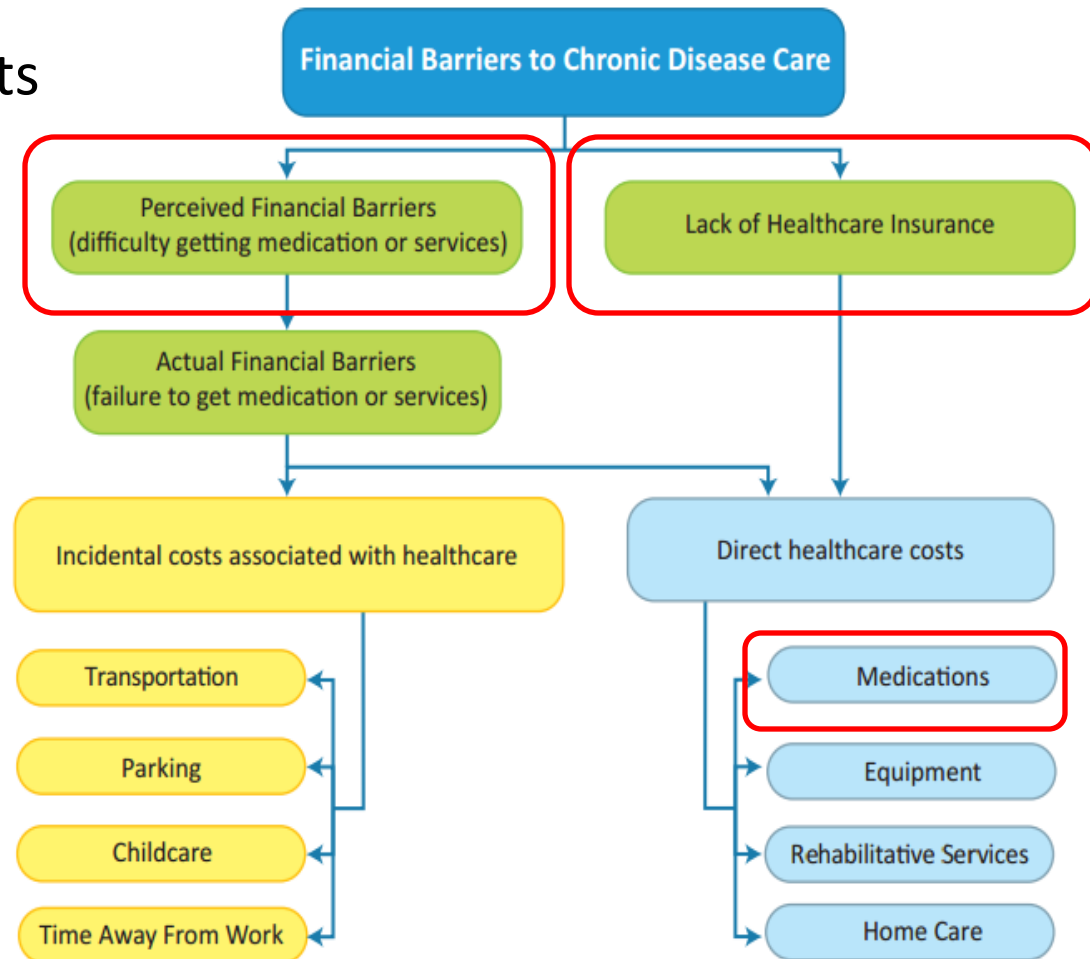


Barriers to Care

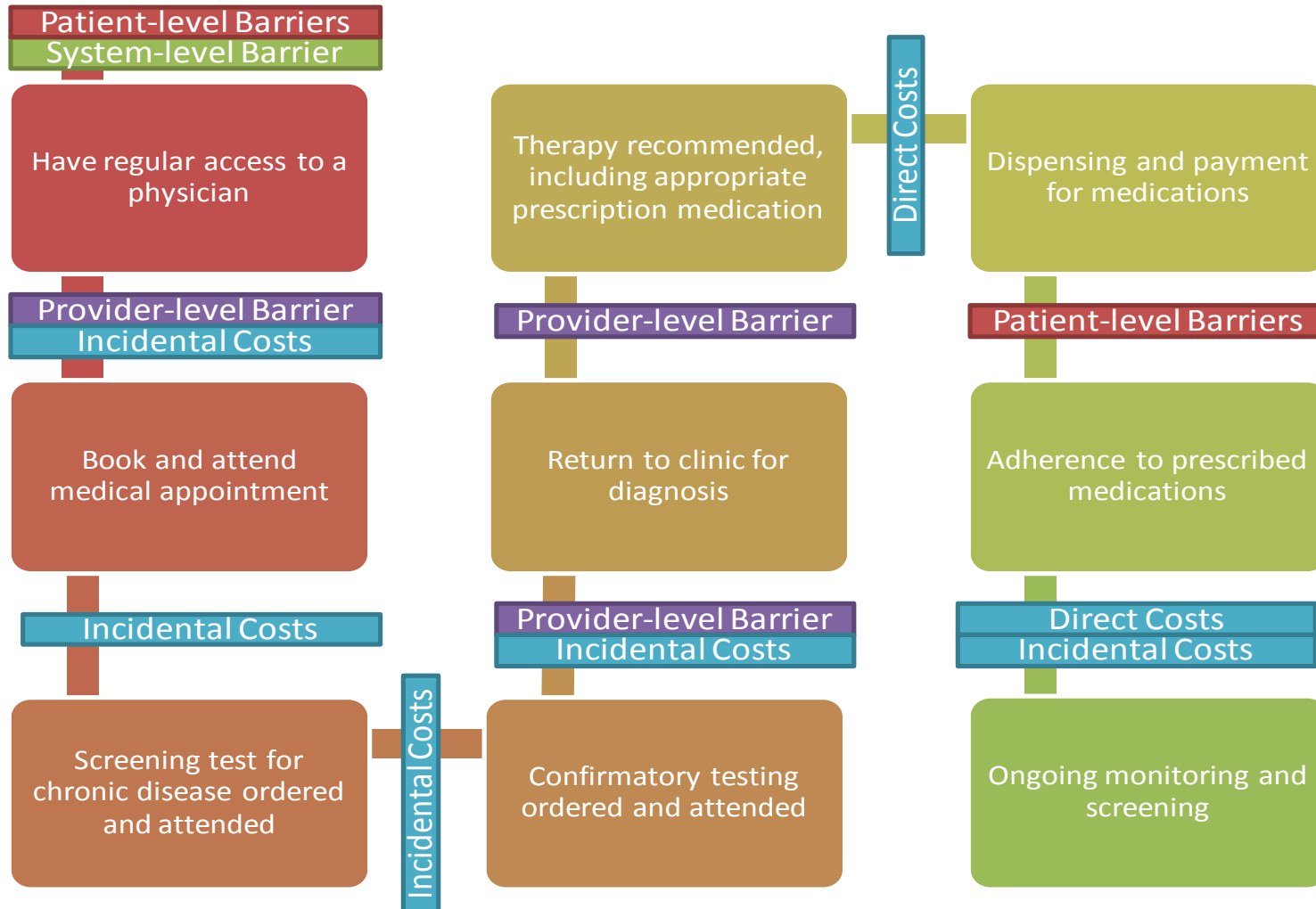
- Patients require intensive follow-up and potentially expensive medical treatment regimens
- Non-adherence to preventive medications is common and predisposes to serious complications
- Barriers exist which contribute to non-adherence

Barriers to Chronic Disease Care in Canada

- One type of barrier patients may face is financial barriers.
- These barriers are related to the **incidental costs** associated with seeking care, as well as the **direct cost** of paying for supplies and medications (since there is no public drug insurance in Canada).



Operationalization of Financial Barriers in receipt of appropriate chronic disease care



*Note: This is not a comprehensive description of all of the potential barriers to chronic disease care but helps to illustrate where along the clinical pathway different barriers may act

Barriers to Care for People with Chronic Health Conditions

Purpose:

- understand care and barriers to care among individuals with heart disease, stroke, diabetes and hypertension

Results

- help to understand patient experiences and views on accessing care and potential solutions to optimize their care
- identify reversible barriers that might be overcome by appropriate interventions



Survey - Barriers to Care for People with Chronic Health Conditions

- Sampling frame (n=2321) was 2011 CCHS respondents > age 40 with a history of one of the chronic conditions of interest who reside in:
 - British Columbia
 - Alberta
 - Saskatchewan
 - Manitoba
- Survey administered by Statistics Canada by telephone in Jan / Feb 2012
- Population weighted with bootstrap replications
- Sample of 1,849 respondents (80%RR)



Content Areas of the Survey

- General Health
- Continuity & Coordination of Care
- Contacts with Health Professionals
- Hospital & Emergency Dept. Use
- **Medication use**
- **Insurance Status**
- General Barriers to Care
- **Economic Barriers to Care**
- Reasonable Access to Health Services
- Recommended Care & Self-management
- Literacy & Education
- IT use
- Time Tradeoff



Study Objectives – Financial Barriers

1. Describe proportion of those with chronic disease who experience different financial barriers.
2. Describe outcomes in people experiencing financial barriers:
 - a) Use of recommended medications
 - b) Adherence to preventive medications (statins)
 - c) Out of pocket medication expenditures
 - d) Chronic disease related hospitalization/emergency department visits

Variables of Interest

Exposures of Interest

- General perceived financial barriers
- Specific financial barriers to drugs
- Lack of drug insurance

Outcomes

- Guideline recommended use of statins
- Adherence to prescription medications
- Chronic disease-related hospitalization

Covariates

- Sex
- Age category (<65, 65-74, 75+)
- Urban/Rural location
- Province of residence
- Household income
- Marital status
- Educational level
- Ethnicity
- Obesity
- Health literacy
- Self-perceived health



Data Analysis

- Frequency weights were calculated by Statistics Canada to account for non-representative sampling and to reflect the adult population with chronic disease in the four Western provinces
- Bootstrapping procedures with 500 replications were used to calculate standard errors and confidence intervals around the estimates.
- We used log-binomial regression models to calculate unadjusted and adjusted prevalence rate ratios (PRR)
- We used a backwards elimination technique to obtain the most parsimonious models
- Joint confounding and effect measure modification were assessed using modelling with specific interaction terms between lack of drug insurance and province, lack of drug insurance and age, and multimorbidity and age.

Baseline Characteristics

| Demographics | Total (n=1849) % (95%CI) |
|-------------------------------------|-----------------------------|
| Sex | |
| Male | 49.9 (46.0-53.8) |
| Female | 50.1 (46.2-54.0) |
| Age Category | |
| 40-65 yrs | 48.8 (45.7-52.1) |
| 64-74 yrs | 26.9 (23.9-29.8) |
| 75+yrs | 24.3 (21.5-27.0) |
| Region | |
| Urban | 82.5 (79.5-85.4) |
| Rural | 17.5 (14.6-20.5) |
| Household Income | |
| <\$30,000 | 21.8 (18.9-24.7) |
| \$30-54,999 | 27.4 (24.3-30.4) |
| \$55-94,999 | 24.9 (21.5-28.4) |
| \$95,000+ | 26.0 (22.3-29.6) |
| Number of Chronic Conditions | |
| 1 | 67.8% (64.8-70.8) |
| 2+ | 32.2% (29.2-35.2) |
| BMI Category | |
| Normal/Underweight | 23.3 (19.8-26.7) |
| Overweight | 36.7 (32.5-40.8) |
| Obese | 40.1 (36.2-44.0) |

Financial Barriers to healthcare services are common among persons with chronic diseases

| Type of Barrier | Overall % (95% CI) | 1 Chronic Condition Only % (95% CI) | 2+ Chronic Conditions % (95% CI) | RR (2+ vs 1 chronic condition) (95% CI) |
|---|--------------------|-------------------------------------|----------------------------------|---|
| General Perceived Financial Barriers | 12.0 (9.3-14.7) | 7.8 (4.9-10.7) | 20.9 (15.7-26.2) | 2.69 (1.71-4.23) |
| Financial Barriers to Drugs | 3.9 (2.2-5.6) | ** | 9.5 (4.8-14.2) | 7.64 (2.69-21.70) |
| Lack of Prescription Drug Insurance | 14.1 (11.2-17) | 14.2 (10.3-18) | 13.9 (10-17.7) | 0.98 (0.67-1.44) |

Out of pocket costs for drugs for people with chronic disease

| | Total % (95% CI) | 1 Chronic Condition Only % (95% CI) | 2+ Chronic Conditions % (95% CI) | Comparison |
|---|---------------------|--|--|-------------------|
| In the past 12 months, what were the out of pocket costs for your prescribed medicines, drugs and pharmaceutical products? | | | | |
| Mean (\$)- Overall | 539 (474-605) | 460 (375-546) | 714 (613-814) | P<0.001 |
| Mean (\$)- over age 65 | 631 (562-700) | 533 (447-620) | 782 (668-897) | P=0.001 |
| Mean (\$)- Under age 65 | 435 (345-562) | 406 (272-540) | 606 (450-763) | P=0.06 |

Lacking insurance or having financial barriers to drugs is associated with lower likelihood of using statins

| | Unadjusted model RR (95% CI) | Multivariate adjusted model RR (95% CI) |
|---|---------------------------------|---|
| Those who experience general financial barriers | 1.01 (0.87-1.39) | 1.04 (0.88-1.24) |
| Those who experience financial barriers to drugs | 0.51 (0.27-0.98) | 0.46 (0.25-0.85) |
| Those who lack prescription drug insurance | 0.72 (0.56-0.94) | 0.73 (0.57-0.94) |

Experiencing financial barriers to drugs is associated with a greater likelihood of stopping the use of prescribed medication

| | Unadjusted model RR (95% CI) | Multivariate adjusted model RR (95% CI) |
|---|---|--|
| Those who experience general financial barriers | 1.65 (0.89-3.08) | 1.26 (0.66-2.40) |
| Those who experience financial barriers to drugs | 3.17 (1.15-6.65) | 2.96 (1.41-6.21) |
| Those who lack prescription drug insurance | 1.03 (0.56-1.90) | 1.06 (0.58-1.95) |

Financial barriers are associated with chronic disease-related emergency department visits or hospitalizations

| | Unadjusted model RR (95% CI) | Multivariate adjusted model RR (95% CI) |
|--|---|--|
| Those who experience general financial barriers | 2.23 (1.32-3.79) | 1.71 (1.01-2.87) |
| Those who experience financial barriers to drugs | 1.84 (0.78-4.36) | |
| Those who lack prescription drug insurance | 0.90 (0.46-1.77) | 0.82 (0.41-1.62) |

Study Limitations

- Cross-sectional design
- Self-reported measures
- Inability to determine if barriers to direct costs or indirect costs
- Difficulty defining who should be using statins
- Small subgroups limiting analytic power

Summary

- Experiencing a financial barrier is common among Canadians with chronic disease
- Not having drug insurance or experiencing a financial barrier to drugs is associated with significantly lower use of statins
- Experiencing a financial barrier to drugs is associated with a significantly higher risk of stopping preventive medications
- Experiencing a general financial barrier is associated with a 70% higher risk of hospitalization or emergency department visit for their chronic condition
- Qualitative follow-up needs to be done to gain a better understanding of patient financial barriers