Pharmacist's Prescribing Activities and Characteristics of the Patients Accessing Pharmacist Prescribing Services

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Introduction:

Since 2014 pharmacists have had expansion in their legislated scope of practice but uptake of the expanded scope has not been captured. This study aims to describe the prescribing activities of community pharmacists; including areas of strength and weakness, and the characteristics of patients who use pharmacist prescribing services.

Objectives:

1. Pharmacist Cohort: To describe pharmacist prescribing activity and the characteristics of pharmacist prescribers
2. Patient Cohort: To describe the characteristics of patients who use the services of pharmacist prescribers

Conclusions:

Pharmacist prescribing increased over time. Older patients and those with multiple comorbidities used pharmacist prescribing services most often. Prescribing activities as described represent an increasingly utilized role for pharmacists in primary care.

Methods:

Design: Retrospective cohort study X2

Data sources: Administrative health data - Drug Information System (DIS) - tracks prescription claims filled in community pharmacies, Insured Patient Registry, Licensed Provider Registry, MSI Physician Billings, & Canadian Institute for Health Information Discharge Abstract Database

Population: 1. Pharmacists registered to practice in Nova Scotia who have prescribing data available in the DIS

2. Nova Scotia residents who have received prescribing from a pharmacist

Study Period: October 2016 to March 2020

Analysis: Trends in pharmacist prescribing over three fiscal years (April 2017 to March 2020) described using frequencies and means. Negative binomial regression examined patient factors associated with use of pharmacist prescribing services.

The data used in this report were made available by Health Data Nova Scotia of Dalhousie University. Although this research analysis is based on data obtained from the Nova Scotia Department of Health and Wellness, the observations and opinions expressed are those of the authors and do not represent those of either Health Data Nova Scotia or the Department of Health and Wellness.

Results:

1,185 pharmacists were identified. A first prescribing event was the most common (261.4, 275.1, 347.3 average prescriptions per pharmacist in fiscal years 2018, 2019, 2020).

Table 1: Pharmacist Prescribing Activity

Grouping	Number of pharmacist prescribers	Total number of pharmacist prescriptions	Mean number of prescriptions/ pharmacist/month (SD)
2018	987*	270,270*	24.57 (±18.60)*
2019	984*	286,381*	26.29 (±19.20)*
2020	1000*	364,632*	32.48 (±23.65)*
Overall	1161	1,085,919	26.40 (±20.51)
Rural	663	701,843	1058.59 (±838.00)
Urban	519	384,076	740.03 (±702.10)

*p<.05 for annual comparisons

The patient cohort contained 372,203 individuals. Older patients (>80 versus <18) had more pharmacist prescribing (4.3 versus 1.7 prescriptions). Patients with more comorbidities(>2, 2, or 1, versus 0) had more pharmacist prescribing. Drug plan type demonstrated a complex relationship with pharmacist prescribing services use.

Table 2: Negative binomial regression – Predictors of patient use of pharmacist prescribing services

Covariate	Estimate (95% CI)
Age	0.0090 (0.0088, 0.0092)*
Sex	0.025 (0.019, 0.031)*
Urban area	-0.089 (-0.095, -0.083)*
Modified, Modified Continuity Index	0.025 (0.013, 0.037)*
Income Quintiles	
Q2 - 20-40%	-0.013 (-0.022, -0.0045)*
Q3 - 40-60%	-0.025 (-0.034, -0.016)*
Q4 - 60-80%	-0.051 (-0.059, -0.042)*
Q5 - 80-100%	-.052 (-0.061, -0.043)*
Comorbidities	
1 comorbidity	0.18 (0.17, 0.19)*
2 comorbidities	0.23 (0.22, 0.23)*
>2 comorbidities	0.41 (0.41, 0.42)*
Drug plan	
Income Assistance copay	-0.12 (-0.13, -0.10)*
Income Assistance no copay	0.53 (0.52, 0.55)*
Seniors (pharmacare) non-GIS	-0.02 (-0.024, -0.0097)*
Seniors (pharmacare) GIS	0.10 (0.09, 0.11)*
Seniors (pharmacare) no copay	-0.11 (-0.20, -0.01)*

*Reference groups: sex (female=0), income quintile (Q1=0 - 0 – 20%), rural indicator (rural=0), comorbidities (none=0)
*p<.05