

Utilization of Primary Care Services in Two Community Health Centres



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Introduction

Numerous studies found that nurse practitioners (NPs) could provide care equivalent in quality to that of family physicians (FPs) in primary care practices¹ and often, at a lower cost². In Ontario Community Health Centres, NPs are well integrated in the interdisciplinary teams providing services to patients often facing various barriers to care. However, limited literature informs on the differences between patients seen by NPs and physicians, what the factors determining services of these two types of primary care providers are, and how NPs and FPs work together.

Study Context: Ontario CHCs

CHCs provide a unique context :

- greater role of NPs;
- physicians and NPs are salaried;
- diversity in patients seen.

All CHCs in Ontario have a common model of care characterized by 8 attributes:

- comprehensive,
- accessible,
- client and community centred,
- interdisciplinary,
- integrated,
- community governed,
- inclusive of socio-determinants of health, grounded in a community development approach.

Objectives

- Understand whether there is substitution or complementarity between NPs and physicians and whether what determines the utilization of services varies between the two provider types.
- Determine whether there are variations between the two CHCs.

Methods

Data on patients and their visits with NPs and physicians was collected from two CHCs ($n_0=2,236$ patients and $n_1=2,055$ patients) for the 2010/11 fiscal year.

Variables: number of physicians and NP visits, patients' socio-demographic information, socio-economic status and health status.

Statistical analyses:

- Model with pooled data
- Model for each CHC

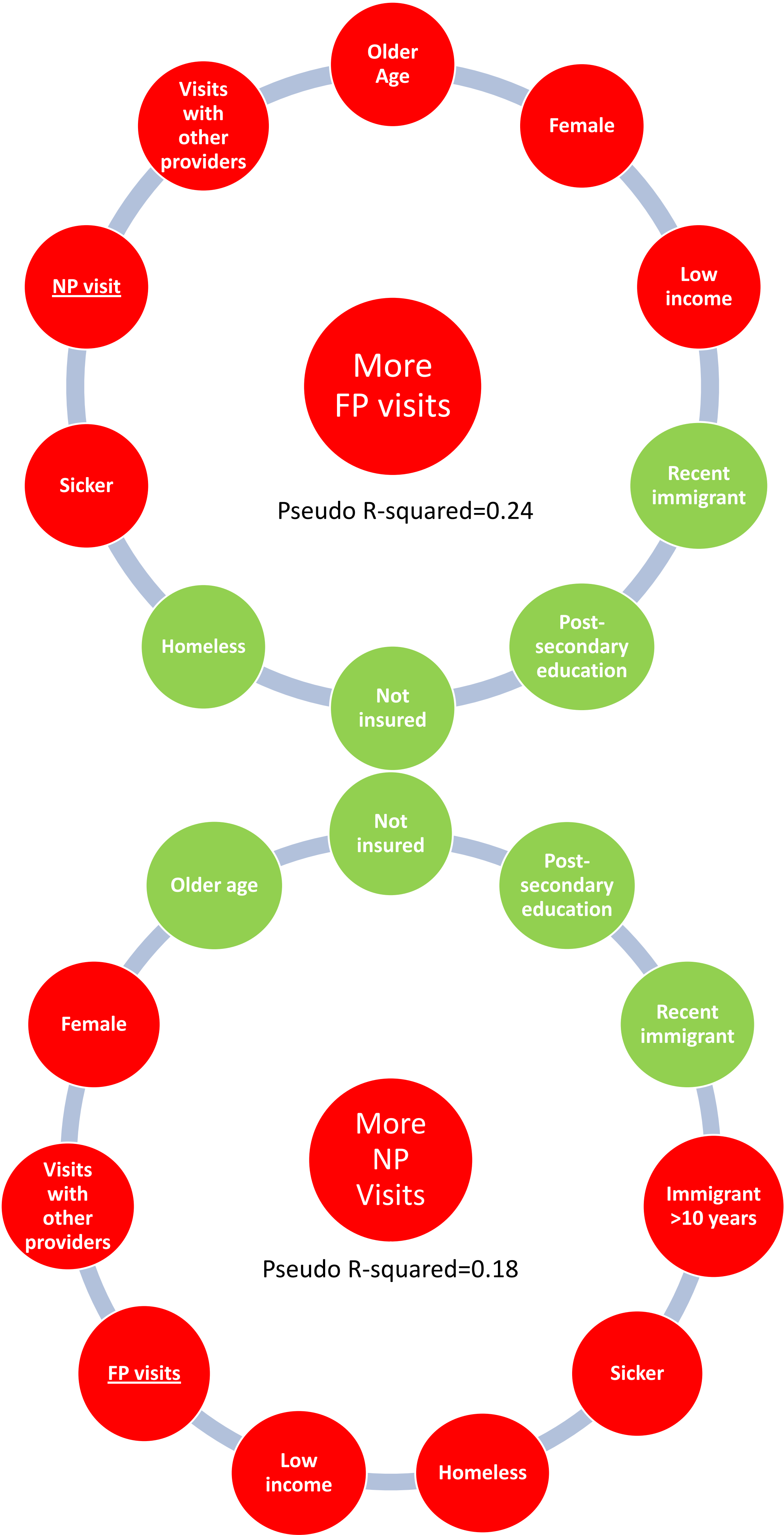
Two-part models (Probit + Poisson) for

- visits with family physicians
- NP visits.

Results

Table 1. Descriptive Statistics		
Variable	CHC 0, n=2236	CHC 1, n=2055
Age	46.8 (15.7)	47.7(18.7)
Gender = male	40.3%	33.4%
Homeless	10.6%	-
Not insured	12.2%	5.5%
Post-secondary education	40.3%	48.7%
Immigrants:		
• <10 years in CAN	27.9%	26.9%
• >10 years in CAN	19.6%	15.2%
Low income (<20k)	59.31%	34.32%
Mental Health or Additions issue	43.8%	38%
Chronic condition	28.7%	30.5%
Social issues	31.2%	-
Number of FP visits	3.1 (4.7)	4.6 (6.8)
FP visits > 0	63.9%	67.6%
Number of NP visits	2.0 (4.0)	3.5 (5.2)
NP visits > 0	49.4%	72.5%
Number of visits with other providers	9.4 (13)	12.9 (15)

What Affects FP and NP Visits?



Factors affecting FP and NP visits using pooled data

Red= more visits; Green = fewer visits

Results (continued)

Table 2. Results by CHC	# NP visits	# FP visits	# NP visits	# FP visits
CHC	0	0	1	1
Age	-	+	-	+
Gender = Male	+	-	-	NS
Homeless	+	-	-	-
Not Insured	-	-	-	-
Post-secondary education	NS	NS	NS	NS
Immigration:				
• <10 years	-	-	NS	-
• >10 years	NS	NS	+	NS
Low income	+	+	-	+
MHA issue	+	+	+	+
Chronic condition	+	+	+	+
Social Issue	+	NS		
# Visits not FP or NP	+	+	+	+
NP visits		+		-
FP visits	NS		+	
Pseudo R-squared	0.09	0.15	0.22	0.31

Conclusions

Results differ whether data is pooled or separated for each CHC. Pooled results suggest that NPs and FPs see the same patients. Separate results suggest that NPs in CHC 0 see patients who are socially more complex (homeless & with social issues). In both CHCs, NPs seem to have their own patients and there seems to be a pool of patients that see both NPs and FPs. There may be unobserved organizational factors that affect utilization of physician and NP services differently such as more consultative or collaborative practice models . More research would be required to better understand how NPs and FPs work and the effect on services.

References

1. Lenz ER, M O'Neil Mundinger, RL Kane, SC Hopkins, SX Lin, Primary Care Outcomes in Patients Treated by Nurse Practitioners or Physicians: Two-Year Follow-Up, Med Care Research and Review 2004;61(3):332-351
2. Morgan PA, DH Abbott, RB McNeil, DA Fisher, Characteristics of primary care office visits to nurse practitioners, physician assistants, and physicians in United States Veterans Health Administration facilities, 2005 to 2010: a retrospective cross-sectional analysis. Human Resources for Health 2012;10:42