REPORT SUMMARY

DRIVERS OF PRIMARY HEALTH CARE UNATTACHMENT

Why is the number of Nova Scotians unable to find a regular family doctor rising? Changes in factors affecting Nova Scotia's supply of and requirements for family doctors, 2006 - 2016

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MSSU
USSM

PLAIN LANGUAGE SUMMARY

The COVID-19 pandemic has added to the challenges facing Nova Scotia's health care system. Among these is the challenge of 'unattached' patients – that is, Nova Scotians without a regular health care provider who are actively seeking one. The number of unattached patients in Nova Scotia began growing rapidly in 2016, and since that time has remained in the tens of thousands, ranging between about 40,000 and 60,000 between January 2018 and March 2021.

The reasons for the sudden growth in the number of unattached patients in Nova Scotia that began in 2016 are unknown. The reasons so many Nova Scotians continue to be unable to find a family doctor are likely changing over time, and may be different now than they were when this study began in 2016. The goal of this study was to find potential explanations for the initial increase in unattached patients in the province. This was done by measuring changes between 2006 and 2016 in factors that affect the supply of and need for family doctors in Nova Scotia, and whether any of these factors changed enough over the last year of the study to explain why tens of thousands of Nova Scotians suddenly reported being unable to find a family doctor in 2016. This same approach can be used on an ongoing basis to help understand what is driving changes over time in the number of Nova Scotians unable to find a family doctor.

For this study, changes were measured using data from administrative databases, the Census, and the National Physician Survey. The strengths and limitations of these sources are reviewed in the main body of this report – briefly, none of them perfectly measures the things we used them to measure. That means it's possible that there were some changes in the factors that affect the supply of and need for family doctors in Nova Scotia during this period that do not show up in our results.

The study found no evidence that any of these factors changed enough to explain, on its own, the sudden increase in the number of unattached patients in Nova Scotia that began in 2016. For example, at the end of the study period in mid-2016 there were actually more physicians licensed as general practitioners or family physicians in Nova Scotia than ever before. Further, while the provincial population grew by several thousand people in 2016, the growth in the number of unattached patients was several times larger – that is, the number of unattached patients grew much more than the number of people in the province overall.

The findings also identified several gradual, long-term trends affecting the supply of and need for family physicians in Nova Scotia. In addition to the average age of the population increasing, the study found that, according to physician billing and hospital records, Nova Scotians aged 80 and older in 2016 had more chronic diseases and injuries than Nova Scotians aged 80 and older did in 2006. For all other age groups, the reverse was true—for example, Nova Scotians in their 60s and 70s in 2016 had fewer chronic diseases and injuries than Nova Scotians in their 60s and 70s did in 2006. The study also found that family physicians in Nova Scotia billed for fewer services per physician and fewer services per patient, and on fewer days per year, between 2006 and 2016. Data from the National Physician Survey suggest that the average Nova Scotia family doctor works well over 40 hours per week plus 'on-call' time.

Overall, the study findings support the idea that the 2016 increase in unattached patients resulted from multiple gradual, long-term trends that finally reached a "tipping point", as opposed to any one factor changing suddenly. These findings, and ongoing monitoring of these trends, can be used to inform future planning for the province's family physician workforce.

EXECUTIVE SUMMARY

Rationale

Access to primary health care is essential to both individual and population health, particularly in the context of a global pandemic. Primary health care includes medical services for prevention, wellness and common illnesses. While nurses, pharmacists, and other professionals have taken on larger roles in recent years, primary health care in Nova Scotia is mainly accessed through family physicians. There is evidence that the number of unattached patients — Nova Scotians without a regular family physician, but who are actively seeking one — began growing at an unprecedented rate in 2016. The reasons for this growth are unknown. The reasons so many Nova Scotians continue to be unable to find a family doctor are likely changing over time, and may be different now than they were when this study began in 2016. This study focused on understanding the causes of the increase in unattached patients in Nova Scotia in 2016; the same approach can also be used on an ongoing basis to help understand what is driving changes over time in the number of Nova Scotians unable to find a family doctor.

Aim

Generate hypotheses (i.e., potential explanations) about the causes of the 2016 increase in unattached patients in Nova Scotia.

Objectives

The objectives of this study were to estimate changes in population size and age structure, population health, levels of family physician service delivery, the number of family physicians, and family physician participation, activity, and rate of service provision in Nova Scotia between 2006 and 2016 in order to identify possible causes of the increase in the number of unattached patients beginning in 2016.

Study design

This was a population-based, hypothesis-generating study with repeated cross-sectional descriptive analysis. Administrative data housed at Health Data Nova Scotia, in addition to data from the Census and the National Physician Survey, were used to conduct the analyses.

Analytical framework

An analytical framework was used to estimate changes in the immediate determinants of the supply of and requirements for family physicians in Nova Scotia over time. The framework chosen was developed by Birch et al. (2007) and disaggregates the supply of and requirements for health human resources (HHR) into several key determinants.

UNDER THIS FRAMEWORK:

The supply of HHR is the result of:

- **Stock**—The number of individuals licensed to practice as members of the profession in question (in this case, family physicians)
- **Participation Level**—The proportion of those individuals who provide any direct patient care
- **Activity Level**—The proportion of full-time working hours those individuals spend on direct patient care as opposed to other activities such as administration or research

Requirements for HHR are the product of:

- **Demography**—The size and demographic structure of the population to be served
- **Epidemiology**—The distribution of health and illness, and risks to health, within that population
- **Levels of service**—The number and type of services to be provided per individual according to their level of health or illness, or risks to health
- **Productivity**—The rate at which members of the profession in question can provide each type of service at an acceptable standard of quality

Data sources

Data on factors affecting family physician requirements were obtained as indicated below.

REQUIREMENTS		SUPPLY	
DEMOGRAPHY	• Census • Medical Services Insurance registry (MSI)	STOCK	• Provider registry
HEALTH STATUS	• Physician billings + hospital discharge abstract database (DAD)	PARTICIPATION	• Provider registry • Physician billings
LEVEL OF SERVICE	• Physician billings	ACTIVITY	• Physician billings • National Physician Survey
RATE OF SERVICE PROVISION	• Physician billings • National Physician Survey (NPS)		

Summary: Data from the Census and MSI registry indicate that Nova Scotia's population grew and aged throughout the study period; Census data indicate that the population grew more between 2015 and 2016 than in any other year of the study period. Estimated changes in population health, levels of service provision, and family physician stock, participation, activity, and service delivery rates between the last two years of the study were no larger than those observed in the preceding decade.

Specific findings:

Population size and age structure

- Census and MSI registry data provide different accounts of the growth in Nova Scotia's population during the study period. Census data indicate that most of the growth in the provincial population between 2006 and 2016 occurred in the year between 2015 and 2016. In contrast, MSI registry data indicate the growth in the provincial population between 2015 and 2016 was no larger than it had been in other recent years. In both cases, the growth in unattached patients was several times larger than the growth in the provincial population over the same period.
- The size of the population aged 65 and older is growing faster than the rest of the population. The median age of the population increased by an average of 0.3 years per year over the study period, including an increase of 0.2 years in 2015-16.

Population health status

- During the study period, treatment prevalence of chronic diseases and injuries increased for those aged 80 and older, and decreased for all other age groups. For example, according to physician billing and hospital discharge records, Nova Scotians in their 60s and 70s in 2016 had fewer chronic diseases and injuries than Nova Scotians in their 60s and 70s did in 2006.

Levels of family physician service provision

- Aside from the introduction of new incentive fee codes years prior, the volume and mix of services Nova Scotia family physicians billed for did not change more between the last two years of the study than between previous years.

Rates of family physician service provision

- For most services, the volume family physicians reported providing each year decreased throughout the study period. The largest decrease was for regular office visits.

Stock of family physicians

- The stock increased between 2014-15 and 2015-16. During the last year of the study period, there were more people licensed to practice in family medicine or general practice in Nova Scotia than ever before.

Levels of family physician participation

- The proportion of family physicians who reported providing at least some family medicine services varied between 88% and 90%. In 2015-16 the proportion was 89%, as it was in several other years during the study period.

Levels of family physician activity

- Overall, the average number of days per year on which Nova Scotia family physicians billed for providing any service shifted lower during the study period. The change in this distribution of days billed between the last two years of the study was no larger than between previous years in the study period.

Limitations

Even though the datasets used for the study were the best sources available, the findings need to be considered in light of their various limitations, which are discussed in more depth in the main body of this report. In particular, physician billing data do not capture the full range or scope of the work physicians do, nor do they fully capture the health status of people cared for by those physicians. As such, it is possible that factors affecting the supply of and requirements for family physicians in Nova Scotia changed during the study period in ways not captured by these data and therefore not evident in the results presented here.

Conclusions

Changes observed over the study period suggest that gradual, long-term trends—as opposed to sudden, dramatic changes—are affecting the supply of, and requirements for, family physicians in Nova Scotia. The growth in the provincial population estimated by the Census (roughly 7,000 people) is several times lower than the estimated growth in the number of unattached patients in the province (roughly 40,000 at the end of 2016). This means, population growth is not enough to explain, on its own, the sudden growth in unattached patients in Nova Scotia that year.

The view that the sudden growth in unattached patients in Nova Scotia is attributable to a decline in the health of the provincial population is not supported by the findings of this study. Firstly, our analyses suggest that the health of the population is changing too gradually to explain, on its own, why thousands of Nova Scotians suddenly reported being unable to find a family physician in the spring of 2016. Secondly, while our analyses suggest a gradual decline in the health of Nova Scotians aged 80 and above over the study period, they also suggest gradual improvements in the health of the rest of the province's residents, who make up 95% of its population.

Similarly, the view that the sudden growth in unattached patients in Nova Scotia is explained by the fact that family physicians are doing much more for their patients than before is not supported by these analyses, which show that these physicians are, on average, reporting providing fewer services to their patients overall. They are also reporting providing fewer services per patient, on average, given their patients' age and health status, year by year. This may reflect limitations in the billing data from which these findings were derived—that is, physicians may be increasingly providing services for which they cannot and/or do not bill. Other things being equal, this would mean more family physicians are required in Nova Scotia.

The findings related to family physician activity from billing data and the NPS must be interpreted together. While the former suggest Nova Scotia family physicians may be working less, on average, than in previous years, the latter suggest they continue to work well beyond what would be considered full-time hours for other professions, even without accounting for time spent on-call. A health care system dependent on most of its physicians averaging 60 hours of work per week for decades to come may not be sustainable.

The analyses of billing data support the view that family physicians in Nova Scotia are working less, on average, than in previous years. The decrease in physician-reported activity measured here has not been large or rapid enough to explain, on its own, the sudden increase in unattached patients seen in 2016. This trend is instead gradual and occurring over many years. Regardless of the reason for it, this trend, in combination with the known aging of the population, would result in gradual increases in the numbers of family physicians required to care for Nova Scotia's population.

In summary, estimated changes in population aging, population health, levels of family physician service provision, and family physician stock, participation, activity, and service delivery rates between the last two years of the study were no larger than those observed in preceding years.

The COVID-19 pandemic has provided a more dramatic and ongoing demonstration of what these findings have shown - namely that the factors that determine Nova Scotia's supply of and need for family physicians are constantly changing. It is therefore critical that plans for ensuring an adequate provincial health workforce monitor these factors on an ongoing basis to track changes in them and account for these in provincial health workforce planning.

Download the full report

MacKenzie A, Grant A, Bell C, Boulos L, Burge F, Chapman K, Gibson R, Ishigami-Doyle Y, Jeffers E, Kontak J, Lawson B, Marshall E, McIsaac K, Orija O, Rupareliya A, Sampalli T, Tomblin Murphy G, Weld Viscount P. Why is the number of Nova Scotians unable to find a regular family doctor rising? Changes in factors affecting Nova Scotia's supply of and requirements for family doctors, 2006 – 2016. Halifax, Nova Scotia: Maritime SPOR SUPPORT Unit (MSSU); 2021. 45 p.