

## **Access to and availability of primary care physicians and Nurse Practitioners in Prince Edward Island: A MAAP (Models and Access Atlas of Primary Care) Study**

Jessica Pinkham, Dr. Emily Gard Marshall, Dr. Peter MacKean, Dr. Colleen O'Connell

### **Abstract**

**Introduction:** Improving the quality and accessibility of primary care services in Prince Edward Island is a provincial priority, however to date little empirical evidence exists on the accessibility to and structure of primary care services. The objective of this research project was to provide a snapshot of all primary care providers and practices in PEI and identify areas requiring enhancement.

**Methods:** Primary care providers including physicians and nurse practitioners (n=116) were surveyed after-hours and during working-hours using survey tools from Models and Access Atlas of Primary Care in Nova Scotia (MAAP-NS) (Appendix B, C and D). Data were collected from answering machines for the after-hours surveys and from the person who answered the phone at primary care offices during the working-hours practice survey. The respondent answered questions related to the practice and each provider in that practice. All data was collected between June and September 2015.

**Results:** After-hours services including 811, 911 and the emergency departments (ED) were mentioned on answering machines 16.4%, 37.3% and 59.1% of the time respectively. The working-hours practice survey had a response rate of 72.4%. Of those surveyed, 36.9% worked as solo practitioners and 63.1% had two or more providers co-located. Most practices were multidisciplinary, most commonly involving family practice nurses, nurse practitioners or dieticians. Only 9.5% of practitioners were accepting new patients unconditionally, 78.6% were not accepting patients and 11.9% were accepting patients under certain conditions. Next available routine appointment was same or next day for 27.2%, and more than 10 days for 33.3% of providers. Next available urgent appointment was same day for 38.9%, and over 5 days for 15.6%. In cases where a patient could be seen by either their physician or a nurse practitioner, wait time for non-urgent appointments decreased by 4 days, while wait times for urgent appointments were unchanged. If a patient could be seen by multiple providers in the practice, wait times significantly decreased by 5 days for routine appointments and from 1 day to same day for urgent appointments.

**Conclusions:** Access for new patients is challenging and wait times for current patents can be long. Future analysis will examine these trends by provider characteristics and geographical location to assist policy makers in targeting interventions to improve access to care.

**Funding:** The Creighton Family Rural Summer Studentship and the Dalhousie Research in Medicine program.

## **Introduction**

Improving the quality and accessibility of primary care services has been an ongoing priority for the Government of Prince Edward Island (1). Health PEI has created five geographic primary care networks across the province: West Prince, East Prince, Queens West, Queens East, and Kings. Within each, primary care health professionals such as physicians, registered nurses, nurse practitioners, registered dietitians, social workers and mental health therapists are available to provide care to patients (1). Ideally, these members can collaborate and provide higher quality, patient-centered care that is more continuous and better suited to meeting the needs of patients (2). In Canada, there has been a focus on building multidisciplinary primary care teams, the objective being that 50% of Canadians would have access to multidisciplinary health care teams by the year 2011 (3). Increased accessibility of family physicians and nurse practitioners in PEI could lead to, and has led to reductions in emergency room visits (2). It is clear in the literature that increased accessibility to primary care is correlated with more preventative care, better health outcomes and lower costs to the health care system (4).

In 2011, a pilot project called LEAN was introduced to a handful of primary care offices in Prince Edward Island with the goal of increasing access to appointment times for urgent cases and re-organizing appointment times for non-urgent and routine patients. The program proved to be successful in reducing wait times for appointments in the test locations and it was to be shared with other primary care providers in the hopes of becoming standard practice (5). Other recent efforts by the Government of Prince Edward Island to improve quality of health care provision and access to primary care have included the introduction of an Electronic Medical Record in both hospitals, hiring nurse practitioners, and introducing Telehealth 24-hour phone services (6, 7, 8).

Despite the initiation of these programs and services, governmental efforts are not always successful and patients' perception of the availability of their primary care providers as well as program evaluation is of utmost importance. In a survey conducted by the government of PEI in the fall of 2012, access to care was quoted as the primary issue islanders face (9). On a national level, The Commonwealth Fund International Health Policy Survey noted 65% of Canadians have difficulty accessing primary

health care in the evenings and weekends without having to go to their local emergency departments. Canadians visit the emergency department more often than those in the other surveyed countries, and 47% comment that the conditions they sought help for during those visits could have been treated by their primary care providers had they been available (10). This same study found that less than half of Canadians can access a same-day appointment with their primary care provider when they require medical attention, the lowest percentage of all 11 countries surveyed (10).

Efforts by the Government of Prince Edward Island continue to improve the quality and accessibility of primary care services to islanders. However, to date, little empirical evidence exists on the accessibility of primary care providers in the province. Moreover, there have been commitments to increase access to primary health care teams to improve management of basic health and chronic conditions, but a clear picture of the models of primary care in the province is absent. As such, this study is an extension of the Models and Access Atlas to Primary Care in Nova Scotia (MAAP-NS) study that collected such data in the province of Nova Scotia, with the goal of determining accessibility to and structure of primary care in Prince Edward Island. This research will be used to identify areas of primary health care on PEI that would benefit from improvement.

## **Methods**

Prior to beginning the survey, approval for this research was obtained from the PEI Research Ethics Board. To determine the number of primary care providers in PEI, a list of current family physicians and was provided by the Medical Society of Prince Edward Island and a list of current primary care nurse practitioners was provided by Health PEI. Letters notifying providers of this research and giving them the option to opt out of the study were mailed out to each individual before commencing data collection. No providers requested to opt out. Subsequently, two calls to each primary care practitioner's office in PEI were conducted, one after working hours and the other during working hours. The surveys used during this study were very similar to those used in the MAAP-NS study, with one question added regarding third next available appointment as requested by Health PEI (Appendices B, C & D). First, the

after-hours call determined if instructions or resources were provided to patients calling their primary care provider after-hours. Data were collected from answering machines when offices were closed. The second survey was done during working-hours and the questions were designed to allow responses from the receptionist or the person who answers the practice telephone. The goal of the working-hours call was to establish the following parameters regarding access to primary care: is the practice accepting new patients, what are the hours of operation, when is the next available appointment for urgent and non-urgent care and are same day appointments offered. We also sought to confirm information on the structure of primary care services within that office, who works in the office, is the office walk-in or appointment only, and if a patient can be seen by multiple providers. To determine if categorized wait times were significantly different if a nurse practitioner could also see patients in a practice, a Mann-Whitney U test was used as the data was not normally distributed. To analyze if wait times were significantly different when a patient could be seen by any provider in the practice, a Wilcoxon test was used as the data for this was also not normally distributed. Overall, these two surveys determined access to practitioners from the perspective of an average patient and the structure of primary care services in PEI. Overall, 94 family physicians and 16 nurse practitioners were surveyed (Figure 1 in Appendix A). All data was collected between June and September of 2015.

## **Results**

### *Part 1: The After-hours Survey (Appendix B)*

The After-hours Survey collected information from answering machines if they were present. Figure 2 (in Appendix A) shows what services and information were provided to the public and how often. Notably, 811, 911 and emergency room services were mentioned by 16.4%, 37.3% and 59.1% respectively. Additional information collected included how often the message machine mentioned the names of the practitioners, the hours of operation, when they would re-open, if patients could leave a message, explanation of when it was appropriate to contact 811, 911 or present to a local emergency department or walk-in clinics, and if the patient could be connected to an on-call physician. The names of

the practitioners working in the clinic were mentioned 60.9% of the time, in 10.9% of cases patients could leave a message, hours of operation were mentioned 47.3% of the time and 88.2% of messages indicated when the clinic would re-open (Figure 2 in Appendix A).

### *Part II: The Working-hours Survey (Appendix C & D)*

The working-hours survey had a response rate of 72.4%, a total of 84 providers (Figure 3 in Appendix A). The other 27.6% of providers did not answer after 5 attempts at reaching the office (n=8) or the person who answered the phone refused to participate in the survey (n=24). Data collected from the working-hours survey included information on structure of practices and access to care.

#### Structure of practice

- 36.9% (n=31) of physicians or nurse practitioners have a solo practice and 63.1% (n=53) of physicians or nurse practitioners were either co-located or shared a group practice with 2 or more providers (Table 1 in Appendix A).
- All Nurse Practitioners responded to the survey (n=16). 87.5% (n=14) were either co-located or shared a group practice with 2 or more providers (Table 1 in Appendix A).
- 85.7% (n=72) of practices did not function as a walk-in clinic, 13.1% (n=11) operated as a mixed walk-in and regular clinic and 1 clinic was solely a walk-in clinic (Table 1 in Appendix A).
- 67.9% (n=57) of practices had a family practice/clinic nurse, 47.6% (n=40) of practices were associated with a nurse practitioner, 20.3% (n=17) had a dietitian, 8.3% (n=7) had a public health nurse, and 5.9% (n=5) had a mental health nurse and 5.9% (n=5) had a pharmacist. Less than 5 practices had physiotherapists, social workers, or psychologists and none had psychiatrists, occupational therapists, pediatricians or podiatrists (Table 2 in Appendix A).

#### Access to primary care practitioners

- Only 9.5% (n=8) of practitioners were accepting new patients unconditionally, 78.6% (n=66) were not accepting patients at all and 11.9% (n=10) were accepting patients under certain

conditions. Conditions included being a family member of a current patient, being pregnant, not having a family physician, being considered on a case by case basis and “other reasons” (newborns, referrals, others) (Table 3 in Appendix A).

- Of those accepting new patients with exceptions, 10.6% (n=7) required a meet and greet. When asked “after the meet and greet, does the patient ever decide not to continue seeing their practitioner or does the physician ever decide not to continue seeing the patient”, the answer was no for the majority (85.7%, n=6) of cases (Table 4 in Appendix A).
- Of those practitioners who said they were accepting new patients unconditionally (n=7), 71.4% (n=5) then indicated that they would not accept new patients if they required narcotics (Table 5 in Appendix A).
- The average number of hours practitioners spent seeing patients was 24.2 hours, while the range was 4-43 hours (Table 6 in Appendix A).
- The next available routine appointment was same or next day for 27.2% (n=22), and more than 10 days for 33.3% (n=27). The next available urgent appointment was same day for 38.9% (n=30), and over 5 days for 15.6% (n=12) (Table 7 in Appendix A).
- In cases where a patient could be seen by either their physician or a nurse practitioner, wait time for non-urgent appointments decreased by 4 days (n=35), which was statistically significant (p=0.01). However, in cases where a patient could be seen by either their physician or a nurse practitioner, wait times for urgent appointments did not change (p=0.99) (n=33) (Table 8 in Appendix A).
- Of those providers who were co-located (n=34), patients could be seen by any provider 47.1% (n=16) of the time, only their own provider in 14.7% (n=5) of cases and another provider if theirs was away or sick in 38.2% (n=13) of cases (Table 9 in Appendix A).

- If a patient could access another provider in the practice, there were same day routine appointments available for 57.1% (n=12) and same day urgent appointments available for 58.8% (n=10) (Table 10 in Appendix A).
- In cases where a patient could be seen by any provider in the practice (n=9), wait time for routine appointments decreased from 6 days to 1 day, which is statistically different (p=0.017). For urgent appointments (n=7), wait time decreased from 1 to 0 days, which was also significantly different (p=0.007) (Table 11 in Appendix A). For this analysis, comparisons could only be made between practitioners who had provided both values with decreased the sample size.
- 96.4% of providers (n=81) did not provide on call services (Table 12 in Appendix A).
- 17.9% (n=15) of providers had a one issue per appointment policy while 82.1% (n=69) did not have this policy (Table 13 in Appendix A).
- 11.9% (n=10) provided an email address to patients for which they could use to ask medical questions (Table 13 in Appendix A).
- 34.5% (n=29) were using an EMR at the time of the survey. For patient scheduling (93.1%), recording patient encounters (75.9%), recording lab results (62.1%), billing (51.7%) and to prompt calls for patient follow up (31%) (Table 14 in Appendix A).

## **Discussion**

Overall, the goal of this survey was to determine the structure of and access to primary care in PEI and identify areas for improvement. This data is most useful when repeatedly collected over time and when compared with data from other provinces. Similar data is being collected in Nova Scotia, Newfoundland and British Columbia with the MAAP Survey and comparisons will be possible in the future. The MAAP project now has a Canadian Institute of Health Research grant to collect data from across Atlantic Canada over time.

The after-hours survey demonstrated that it can be challenging for patients to acquire information about where they can access after-hours primary care, and when they will be able to contact their primary care provider. We suggest that practices use a standard voicemail message providing important details such as practitioners' name, hours of operation, and alternative on-call resources such as 811, 911, walk-in clinics or a local Emergency department. This would ensure adequate information is provided to patients when their primary care provider is unavailable.

The working-hours survey demonstrated that the majority of practices were interdisciplinary, most commonly comprising of physicians working with family practice/clinic nurses or nurse practitioners, but often patients had access to other health care practitioners as well. However, very few physicians or nurse practitioners in the province were taking on new patients. The majority of providers were co-located but did not always share patients. If patients were able to be seen by multiple providers in the practice or a nurse practitioner, wait times usually decreased. A limitation of the analysis of wait times was that the number of respondents for this question was low, as not every provider answered the question, and some did not have appointments remaining as they were retiring or finishing a locum. Further analysis of wait times will be possible in the follow up studies.

This project was modeled after MAAP- NS, for which there was a third phase of data collection in the form of a fax survey to be filled out by family physicians and nurse practitioners themselves. This survey will be also done in PEI to collect more detailed information about the practice and link the overall survey results to billing data.

## **Conclusion**

Aligning with national and provincial goals, the majority of primary care providers in PEI work in a multidisciplinary practice, are at least co-located with other physicians or nurse practitioners and sometimes share patients. Wait times for routine and urgent appointments are consistent with national averages, although if patients are able to be seen by multiple providers wait times decrease. Access for new patients remains a challenge and wait times for current patients can still be long. The Canadian



population is aging, and patients increasingly have several co-morbid conditions and thus access to primary care is fundamental in their health outcomes. Future analysis will examine the trends found in this survey longitudinally, by provider and practice characteristics and geographical location to assist policy makers in identifying strategies designed to improve quality and access to care.

## References

1. M Barrett. What Islanders should know about Primary Care Networks. 2012. Available at: <http://www.healthpei.ca/index.php3?number=1042949&lang=E>. Accessed Mar 30, 2015.
2. D Bradley. Better access to primary care leads to fewer emergency department visits. 2011. Available at: <http://www.healthpei.ca/index.php3?number=1040320&lang=E>. Accessed Mar 30, 2015.
3. S Khan, C McIntosh, C Sanmartin, D Watson and K Leeb. Primary Health Care Teams and their Impact on Processes and Outcomes of Care. 2008. Available at: <http://www.statcan.gc.ca/pub/82-622-x/82-622-x2008002-eng.htm>. Accessed Mar 30, 2015.
4. B Starfield and L Shi. Commentary: Primary Care and Health Outcomes: A Health Services Research Challenge. Health Serv Res. 2007. Dec; 42: 2252–56.
5. R Laird. Increasing access to medical appointments relies on supply and demand. 2012. Available at: <http://www.healthpei.ca/index.php3?number=1044870&lang=E>. Accessed Mar 30, 2015.
6. M Barrett. Nurse practitioners play a critical role in Island health care. 2011. Available at: <http://www.healthpei.ca/index.php3?number=1040319&lang=E>. Accessed Mar 30, 2015.
7. L Whitty. Electronic Health Records integrate information, improve care. 2012. Available at: <http://www.healthpei.ca/index.php3?number=1042136&lang=E>. Accessed Mar 30, 2015.
8. M Barrett. Health information through your telephone. 2013. Available at: <http://www.healthpei.ca/index.php3?number=1049141&lang=E>. Accessed Mar 30, 2015.
9. M Barrett. Survey feedback leads to improvements in primary health care. 2013. Available at: <http://www.healthpei.ca/index.php3?number=1047268&lang=E>. Accessed Mar 30, 2015.
10. Health Council of Canada. How Do Canadians Rate the Health Care System? Results from the 2010 Commonwealth Fund International Health Policy Survey. 2010. Canadian Health Care Matters, Bulletin 4. Toronto: Health Council of Canada. [www.healthcouncilcanada.ca](http://www.healthcouncilcanada.ca)

## Acknowledgments

Authors: Jessica Pinkham, Dr Emily Marshall, Colleen O’Connell and Dr. Peter Mackean

Funding: The Creighton Family Rural Summer Studentship

Thank you to Health PEI & MSPEI

## Contact

Jessica.pinkham@dal.ca

Emily.marshall@dal.ca

pmackean@pei.sympatico.ca