DAVIS PIER

811 TELE-TRIAGE EVALUATION FINAL REPORT

PREPARED FOR DEPARTMENT OF HEALTH AND WELLNESS

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1 BACKGROUND & HISTORY OF 811

In September 2000, the Government of Canada established an $800 million-dollar Primary Health Care Transition Fund (PHCTF) to support provincial and territorial governments in developing and implementing primary health care reforms that aim to create a more sustainable, integrated and accessible health system. A portion of this fund was specifically earmarked to provide support for transitional costs associated with introducing new approaches to primary health care delivery.

In 2003, the four Atlantic provinces approached the PHCTF and requested $6.9 million in funding to support a 3-year multi-jurisdictional collaboration that sought to establish a shared approach to delivering fully bilingual tele-triage service across Atlantic Canada. Building on the service model already in place in New Brunswick (NB), the initiative aimed to increase opportunities for the public to access helpful, accurate, and timely evidence-based health information and to provide telephone based tele-triage services[1].

At the conclusion of the PHCTF funding, although the collaboration elevated the profile of self-care/tele-triage in Nova Scotia (NS) and Prince Edward Island (PEI), both provinces decided to step away and not continue to implement a tele-triage line at that time. A major factor in this decision was the significant annual operating costs. NS and PEI opted instead to wait so they could learn from and build upon the experiences of the other Atlantic provinces, realizing economies of scale and increasing efficiency by avoiding any duplication of effort.

Over the next three years, shifting demographics and continued changes in the patterns of primary care access in NS emerged. The government identified access to basic primary health care as a significant challenge and began examining the inequities and differences between access for the rural and urban populations in the Province. In addition, by 2009, emergency departments (ED) in Nova Scotia were receiving approximately 90,000 calls annually for health advice and information of a non-urgent nature. While patterns of primary care access were shifting, the traditional tools and resources for dealing with the emergence of these new demands on the health system – particularly at the ED level – were falling short.

In addition to the shifting demographics and the strain this placed on demands for access to health care, several other factors were pushing NS to institute a tele-triage option in the Province. These included:

- A desire to shift emphasis to self-care and self-management, where appropriate, to empower Nova Scotians to make informed decisions about their health;
- A desire for enhanced continuity of care outside of traditional office hours;

[1] 2007. Health Canada. Primary Health Care Transition Fund. Summary of Initiatives: Final Edition. Accessed on January 17, 2017: http://www.hc-sc.gc.ca/hcs-sss/alt_formats/hpb-dgps/pdf/phctf-fassp-initiatives-eng.pdf

- A desire to pursue a model that allowed for more equitable access to health services (considering the increasing rural/urban divide and aging population in NS, and the impact both factors had on the ability of the population to travel to and from primary care access points); and,
- A desire to ensure that patients could navigate the health system and access the most appropriate level of care for their situation.

Recognizing the need and appetite across the province for reliable, evidence-based health advice and information, the Government established 811 Tele-triage Services in July 2009. This service would support and enable Nova Scotians to make the most appropriate decisions about health, wellness and other health care decisions in a timely manner.

1.1 The 811 Service

The 811 Service is delivered by a contracted service provider who is funded and managed by the Department of Health and Wellness (DHW) to provide a suite of Telecare services to Nova Scotians. The 811 Service provides a single number for Nova Scotians to call when they need tele-triage services including general health information and advice. The full suite of telecare services also includes a gambling support help-line that connects callers to the Gambling Support Network, access to the Tobacco Free NS quit line and a toll-free number for Nova Scotians looking to register to find a primary care provider. The focus of this evaluation is on the 811 Tele-triage components of the broader suite of telecare services available in the province.

811 tele-triage service provides around the clock access to Registered Nurses and health information; 24 hours a day, 7 days a week, 365 days per year. These services can be accessed from anywhere in the Province in more than 120 languages through an interpretation service. A Nova Scotia health card is not required to receive services through 811, so visitors to the Province as well as newcomers and new immigrants can be supported by 811.

The objectives of the 811 tele-triage service are to:

- Promote self-care;
- Provide a reliable, trusted and evidence-based source of health-related information;
- To reduce the need for travel to obtain basic primary health care advice/support;
- To improve the capacity of the Province to respond to community based adverse health events (i.e. Public Health emergencies, outbreaks and pandemics); and,
- To assist Nova Scotians in accessing the right care, at the right place, in a timely manner.

Registered nurses are tele-triaging patients based on the urgency of their symptoms, and advising patients how best to address their symptoms. Patients who are tele-triaged are provided with a recommendation and may be advised to:

- Proceed to the nearest emergency department;
- See their primary care provider, a pharmacist, dentist, or other healthcare provider; or,
- Utilize information provided so they can manage their symptoms at home, without needing to access care from any other provider.

Callers can also access 811 to receive health information even if they do not have symptoms but have health-related questions. Finally, the service also offers a provider referral component where nurses advise callers of health resources, non-profits, agencies, or providers that can meet their health and wellness needs in their communities.

Although 811 is not intended to be an "emergency service", approximately 4% of calls each month require immediate transfer to 911 or Poison Control. 811 has the capability to transfer such calls to 911, Poison Control or the Mental Health Crisis Line, as appropriate, with 811 staff remaining on the line to ensure safe transfer of care of the patient.

The current service provider for 811 is Emergency Medical Care Inc. (EMCI), a privately-owned company that also operates the Province's ground ambulance, medical communications centre and air medical transport operations. The 811 service is also extended to PEI, who are signatory to the contract. In addition to the 811 tele-triage line, EMCI also operates the Tobacco Free NS quit line and the Gambling Support Network's problem gambling help-line; all three services have been bundled together under a single umbrella agreement to reduce costs relative to the provisioning of each of these three individual services. The total combined contract value for NS from December 1, 2014 to March 31, 2019 is [redacted]. The annual cost for the 811 tele-triage portion of this contract in fiscal year 2016-17 was [redacted].

The Operator, EMCI, is responsible for delivery of the service including clinical oversight and direction via a Medical Director, who is also a licensed physician in NS. The Operator employs clinical leadership for the nurses at an operational and quality level. There is a Clinical Advisory Committee that consists of a range of clinical experts across NS and PEI. The Operator is also responsible for managing staff, technology and infrastructure as well as playing a key role in quality investigations. DHW is responsible for governance, accountability, quality and monitoring the service, as well as day-to-day support and guidance of the Operator on issues that arise.

1.2 Context Setting for Interpretation of the Evaluation

Davis Pier and Blueprint were contracted by the DHW to perform an evaluation of the 811 tele-triage system. DHW has provided foundational work that the evaluators leveraged to develop the evaluation strategy used to complete this work. Previous evaluation work had examined specific components of the 811 Service, but a comprehensive and systematic multi-method evaluation of the Service had not been completed to-date. This is an important undertaking and is intended to inform DHW's understanding of the overall value of the 811 tele-triage system in the Nova Scotia health care system.

This evaluation is based upon three key questions that probe 811's contribution to enhancing appropriate access to care, integration with the health care system and value for money. The following evaluation objectives were developed from those questions:

1. To what extent does 811 enhance appropriate access to the Nova Scotia health system (including urgent and primary care)?

    - OBJECTIVE: Appropriate access addresses efficacy of the service by determining if 811 provides serviced patients with advice that is well suited to health care and personal needs regarding type of care, the provider of care and the timing with which it should occur.

2. To what extent does 811 contribute to an integrated health care experience for Nova Scotians?

    - OBJECTIVE: This addresses (a) how seamless the transition is from 811 to the next phase of care, and (b) how well 811 fits into and acts in complement to the NS health care system.

3. To what extent does 811 provide value for money?

    - OBJECTIVE: Understanding objectives 1 and 2 enabled us to determine the social perception of the value of 811 to key stakeholders associated with its use. Although the financial impact of 811 on the health care system is considered, it is difficult to quantify and interpret how redirection of services (based on 811's advice) leads to any cost savings or avoidance. It is assumed that money will be spent on the health care system regardless of how the patient presents to a given site (i.e. emergency department or family practice office). Additionally, the indirect cost effects of 811 (i.e. prevention/causation of future costs) are not considered here due to the high degree of uncertainty associated with them.

2 EVALUATION RESULTS

The results of the evaluation analysis and interpretation are organized to (1) describe how 811 is being used via "The 811 Patient Journey" (to properly orientate the reader), and (2) answer the three evaluation questions in the context of that usage. Perceptions of the 811 services will also be provided from the perspective of the 811 patients themselves, the health care practitioners (both those who would see 811 patients as a result of their encounter and those who would not), and from a management perspective of key stakeholders associated with Nova Scotia health care.

Throughout the report there are examples of "What We Heard" during interviews and focus groups.

2.1 The 811 Patient Journey

Addressing each of the three evaluation questions first requires an intimate understanding of the 811 patient's journey. This includes understanding who is calling 811, how they are classified once they have been engaged, what service can be expected from 811 and how 811 influences what patients say they will do when the call has ended. This initial leg of the journey is described quantitatively using data analysis of 811 administrative data for the 2016 calendar year, with reference to data across years as indicated (September 2011 – January 2017).

Typically, once the 811 call has ended, there is no indication of what happened to that individual. In order to inform the post-call leg of the journey, qualitative data was obtained from a caller survey that occurred within 30 days of the call and inquired about the patient in question. Quantitative data was matched for patients that called 811 and subsequently were captured in NS Emergency Department data the same day or next day, or in Medical Service Insurance program (MSI) physician office billing data during the following week.

The following sections outline the patient journey using the data described above.

2.1.1 General Breakdown of 811 Calls and 811 Patients

The following details provide context for the analysis that followings:

- To understand who is using 811, how they are using it and why they are using it, people using 811 were segmented by age, gender and geography. This segmentation is based on how they are coded in the 811 database.
- All data points used for analysis are based on serviced 811 patients, which means that health information and/or advice has been provided to a person by a registered nurse. This use of data solely from serviced patients is relevant because it is a key metric that dictates DHW's funding to the 811 service provider, EMCI.
- The administrative 811 data used for this report spans from September 2011 – January 2017.
- The 2016 calendar year has been used to describe the 811 patient journey because it is the most recent annual description of 811 use.
- The changes in use over time are described in Section 3 through answers to the evaluation questions.

In 2016, a total of 87,595 individual 811 calls were fielded for serviced patients. When a call is serviced, the individual(s) calling may be doing so on behalf of themselves, someone else (or multiple people), or multiple people including themselves. Therefore, the number of serviced patients is greater than the number of serviced calls. There were 101,487 patients that were serviced by 811, which means that, on average, each call serves approximately 1.2 patients. It was found that 83-85% of calls are for an individual patient, and the remainder were for more than one patient. Finally, it was determined that 76,723 unique patients were serviced during this time period based on unique patient identifiers

indicating that, on average, a patient used the tele-triage service 1.32 times in 2016. Table 1 describes the above values per year since 2011. The observed decline in patient volume is discussed in Section 3 (see figure 12).

The 811 serviced patient volume was compared to the NS population to determine the extent of use of 811 by Nova Scotians. Based on Statistics Canada populations in 2011 and 2016, the NS population was estimated[2] for each calendar year and the relative percent of unique patients/year was calculated (see Table 2). For example, in 2016 the unique 811 patients represented 8.3% of the NS population. This means that a maximum of 8.3% of Nova Scotians used 811 in 2016. In fact, the actual percentage of Nova Scotians using 811 must be lower because some non-Nova Scotians are known to use the service. Based on 811 patients without a MSI number that had a geographic region identified as "other"[3], it is estimated that percentage range of Nova Scotians using the services is 7.1%-8.3%.

Table 1. Breakdown of serviced calls and the patient volumes served since 2011

	2011*	2012	2013	2014	2015	2016
Serviced Calls	39,787*	113,534	110,758	97,460	91,143	87,595
Serviced Patients	47,636*	137,594	131,778	114,467	105,538	101,487
Unique Patients	38,865*	99,579	97,330	84,615	79,704	76,723
Patient/Call	1.20	1.21	1.19	1.17	1.16	1.16
811 Use/Patient	1.23	1.38	1.35	1.35	1.32	1.32

**denotes partial year*

Table 2. 811 patient usage expressed as percentage of the NS population

	2011*	2012	2013	2014	2015	2016
NS Population	921,727	922,101	922,475	922,850	923,224	923,598
Unique Patient (%)	n/a	10.8%	10.6%	9.2%	8.6%	8.3%

**denotes partial year*

When a patient is served by 811, there are several events that can occur, and they are not mutually exclusive (i.e. total is greater than 100%). Using the 2016 calendar year as the most recent annual example available for the evaluation, the percentage of these events are described relative to the serviced patients (101,487 patients), as they are the intended recipients of the information and advice that is provided by 811.

- **74.5% of serviced patients are triaged**. This means that patients have presented to 811 with a symptom(s) and are subsequently provided with advice (recommendation) that is the result of the use of clinical guidelines that follow specific algorithms and nursing judgement/expertise,

[2] Assumes the calculated 0.2% population growth from 2011-2016 was spread evenly over that time period.
[3] This would include both non-residents of NS and anonymous 811 patients.

leading to a final disposition (advice or recommendation about what the patient should do). The most common advice that was offered includes: call 911; call Poison Control; go to an emergency department; contact a primary health care practitioner within 48 hours; contact a primary health care practitioner if persists more than 48 hours; and, provide self-care.

- **29.3% of serviced patients are provided with health information[4].** Approximately half of those patients (15.6%) are provided with information obtained from the internal 811 database and the other patients (13.7%) are provide with information from external sources that have been approved for use.
- **6.7% of patients received a referral to a provider.** This includes indicating a walk-in clinic, referral to the Need a Family Practice Registry, or mental health services.

The data above describes the three general categories of events that can occur (patient is triaged, health information is provided, provider referral). These events are not mutually exclusive, meaning that a patient could experience one event or any combination of them. This explains why the data above totals more than 100%. To be able to understand how patients are being served by 811 in more detail, the data was aggregated so that all patients were mutually exclusive (adding up to 100%; see Table 3). In 2016, non-triaged patients (representing 25.5% of all serviced patients) received internal health information 8.5% of the time, external health information[1] 13.8% of the time, and provider referrals[5] 3.2% of the time. Triaged patients received only health advice based on 811 algorithmic guidelines 65.1% of the time, received health advice plus internal health information 6.0% of the time, and health advice plus a provider referral[2] 3.5% of the time. Table 3 summarizes this information.

There are three distinct sources of the health information material that is provided to serviced patients, including both the (1) internal (i.e. 811 health topics database) and (2) external (i.e. approved online resources) health information sources outlined above, and (3) information from the 811 guidelines[6] used during a triaged patient encounter. The change over time is discussed in Section 3 (see figure 13).

In addition to the health information that is available from 811 during a phone encounter, 811 also provides access to health information from their website, https://811.novascotia.ca. Website traffic has increased since 2015, largely since November 2016, although, interestingly, from fewer unique users[7].

- For the calendar year 2015 the site had an average of 3,541 web sessions/month from 3,112 unique users.
- In 2016 there were 3,509 sessions/month from 2,829 unique users.
- In 2017 there were 4,981 sessions/month from 2,770 unique users.

[4] The exact number requires further investigation because a signification percentage of the information provided was not coded in the data available for the evaluation.
[5] Provider referrals may also have included provision of health information
[6] The guidelines are specific health topic algorithms used to determine to triage patients and provide advice.
[7] A user may be counted multiple times if they delete their browser cookies and/or use multiple devices

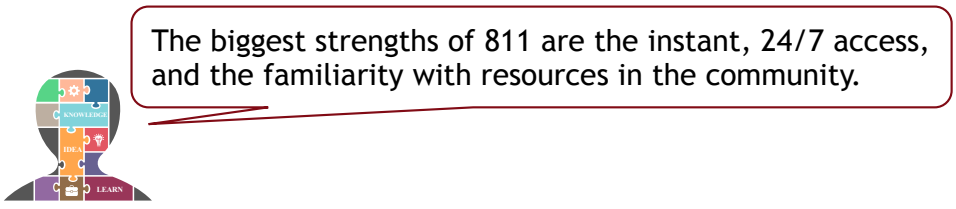
Table 3. Service events provided to patients by the 811 Service

Patients	Event	2011	2012	2013	2014	2015	2016
Non-Triaged	Internal Health Information	14.8%	10.6%	9.5%	10.1%	8.7%	8.5%
	External Health Information	16.3%	17.3%	15.4%	13.9%	13.5%	13.8%
	Provider Referral	1.2%	2.0%	2.3%	2.6%	2.5%	3.2%
Triaged	Triage Only	56.2%	57.3%	60.7%	62.3%	66.1%	65.0%
	Internal Health Information	10.5%	9.3%	7.9%	7.3%	5.9%	6.0%
	Provider Referral	1.0%	3.5%	4.2%	3.8%	3.3%	3.5%
All	TOTAL (n)	47,636	137,594	131,778	114,467	105,538	101,487

In 2017, the typical sessions lasted 2 minutes and 38 seconds, which is within the industry standard. However, the 811 website bounce rate - the rate at which someone leaves the site before navigating to a new page - is higher than the 50% industry guideline for bounce rate (see footnote for a general discussion about industry guidelines[8]).

2.1.2 Demographic Profile of People in the 811 Database

A comparison of 811 patients to the NS population shows a large difference by gender and age. For example, in 2016 females accounted for 64.5% of all patients while males represented 34.7%. (Those individuals that indicated anonymous or other accounted for 0.8%). However, 2016 Statistics Canada data indicate that the NS population is evenly split between females (51%) and males (49%). When gender is segmented by age, males and females are equally represented amongst 811 patients up until age 14. This is likely due to the fact that a parent, family member or another individual is calling on their behalf, since there is a very low number of patients in that age range calling 811 themselves (see figure 1). The gender difference is apparent from the age of 15 and over, as it becomes much more prevalent that the caller is also the patient. The NS population distribution by gender shows a relatively even distribution of females and males across all age ranges up until 80 years and over (see figure 2). In contrast, the female and male distribution across age groups is skewed towards females after age 15 (see figure 3).



[8] https://reportgarden.com/2017/08/17/google-analytics-metrics/

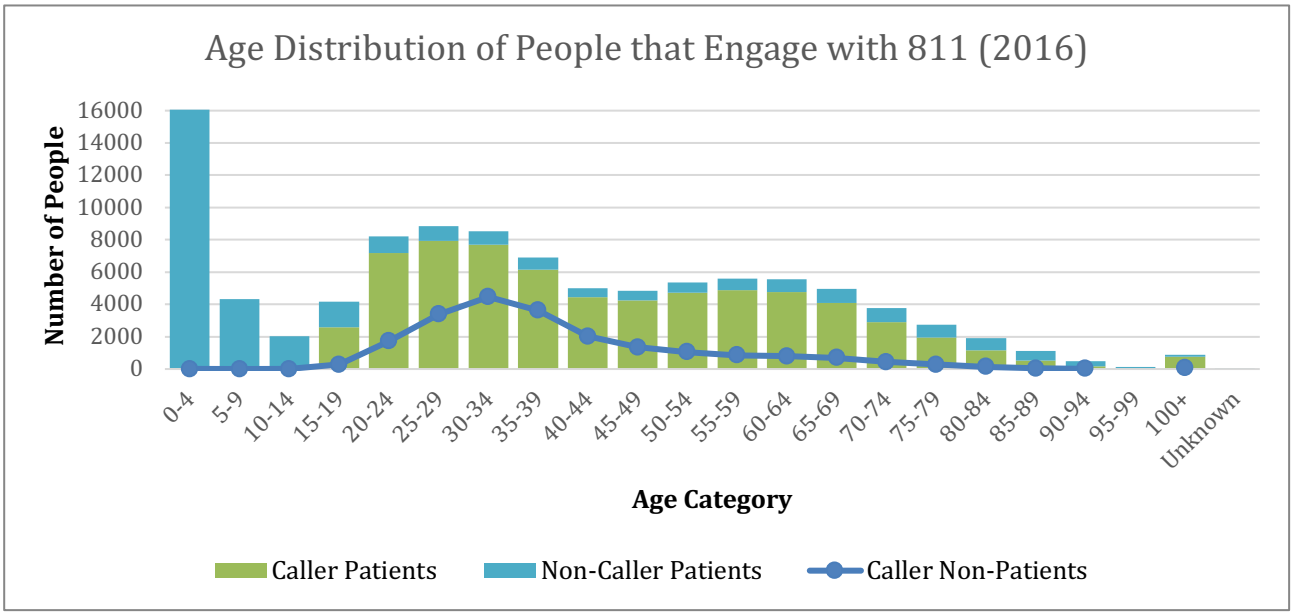


Figure 1. Age distribution of the people that engaged with 811 in 2016.

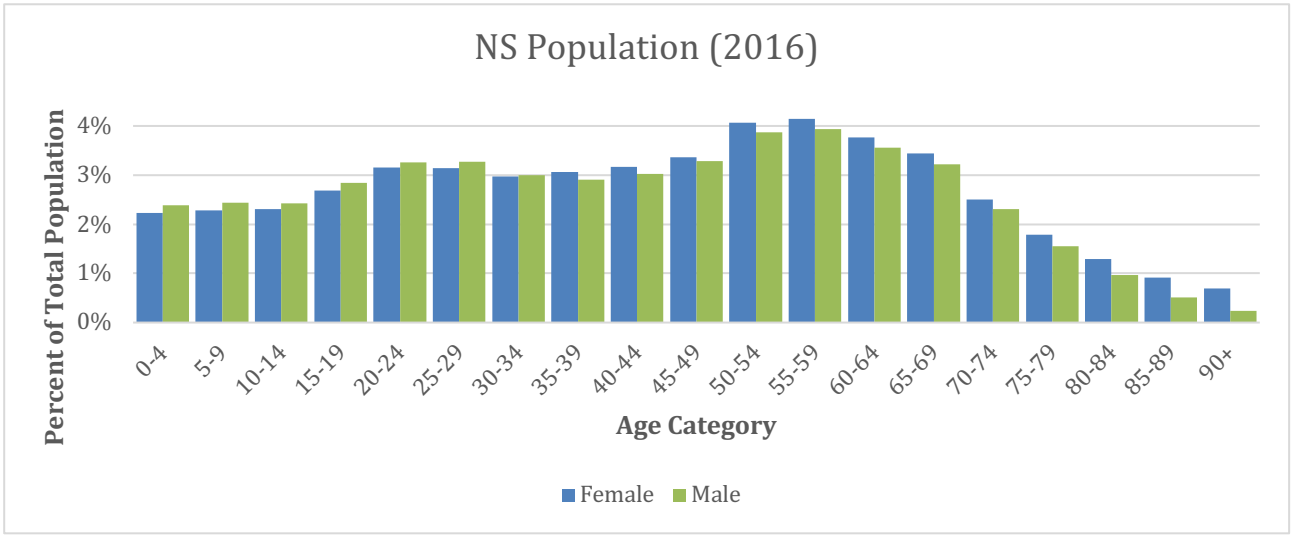


Figure 2. Nova Scotia population estimated age distribution including male and female proportion.

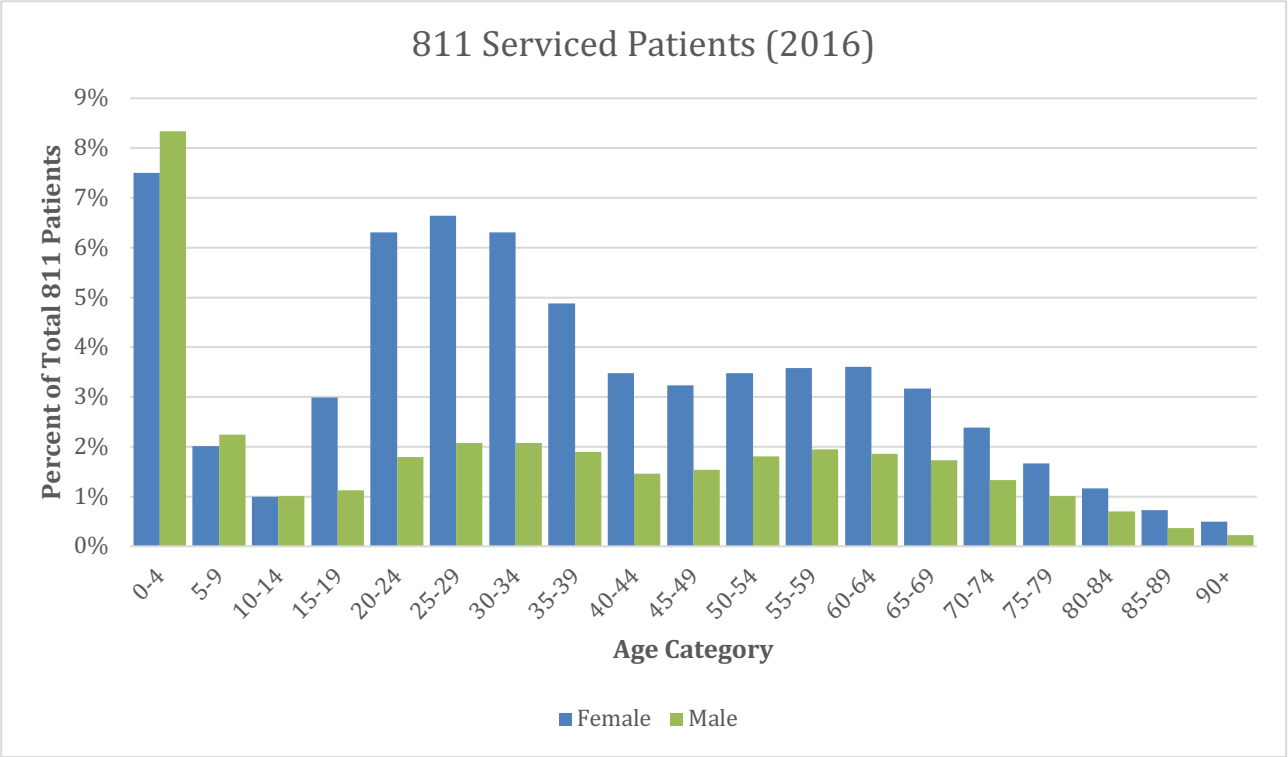


Figure 3. Age distribution of 811 serviced patients including proportions of males and females. Note: Gender categories "anonymous" and "other" are not included as they represent less than 1% of serviced patients.

The third demographic comparison performed was that of patient location. The 811 patient residence was grouped into the four management zones (Eastern, Northern, Western and Central) and compared with the relative NS population for each zone (see figure 4). The 811 patient population was adjusted for the 12.3% of patients that were either out of Province, did not have a health card or chose to remain anonymous.

- Eastern Zone patients represent 14.3% of all 811 patients while NS residents represent an estimated 17.8% of the population.
- Northern Zone patients represent 15.5% of 811 patients and NS residents represent an estimated 16.4% of the population.
- Western Zone patients represent 21.0% of 811 patients and NS residents represent an estimated 21.5% of the population.
- Central Zone patients represent 49.2% of 811 patients while NS residents represent an estimated 44.3% of the population.

Therefore, Central Zone 811 use is proportionately higher than its relative population and Eastern Zone 811 use is proportionately lower than its NS population distribution.

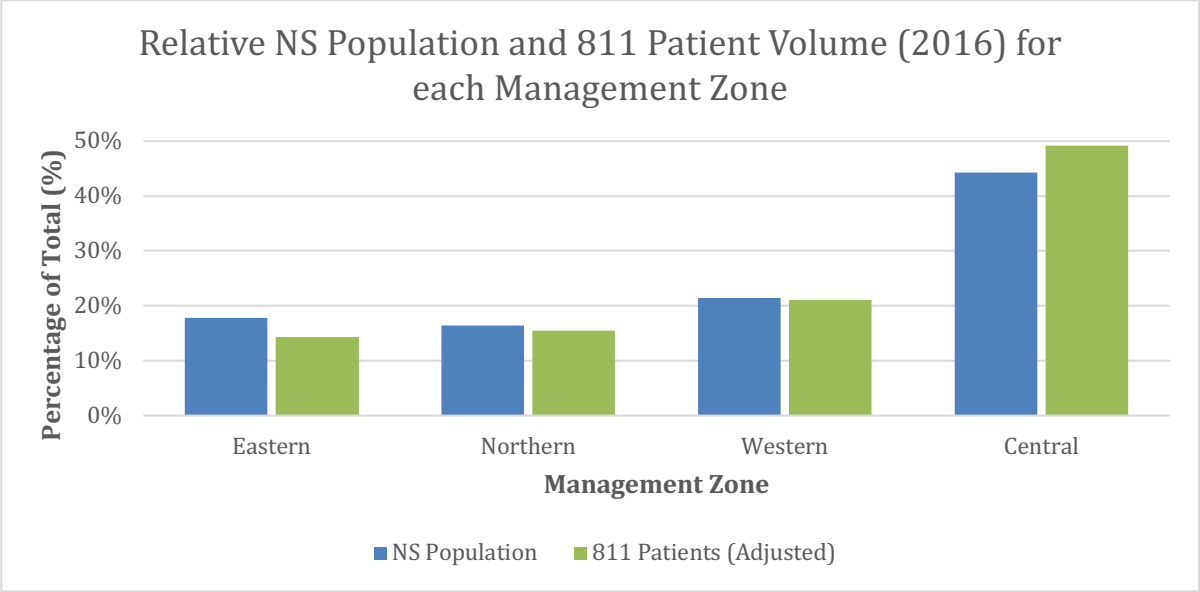


Figure 4. Relative proportion of NS population and the relative proportion of 811 patients as segmented by management zone.

2.1.3 Description of When 811 is Being Used

Four different timeframes were investigated to understand how 811 is being used. On average, patient volume and call volumes consistently ranged from 1.12 to 1.18 patients per call. The first timeframe, yearly, is addressed above (see figure 1), and demonstrates how 811 use has declined over time. The second timeframe considered the monthly variability in patient volume. For this analysis, 2016 calendar year data was used since it is the most recent, full year's worth of data. Despite representing a single year, it is reflective of 811 use across years. As seen in figure 8, patient volumes are highest during the Winter months (Jan-Mar) and decrease over Spring and into Summer (Apr-Aug). Fall has the lowest patients volumes (Sep-Dec) but they are slightly elevated leading into the Winter months.

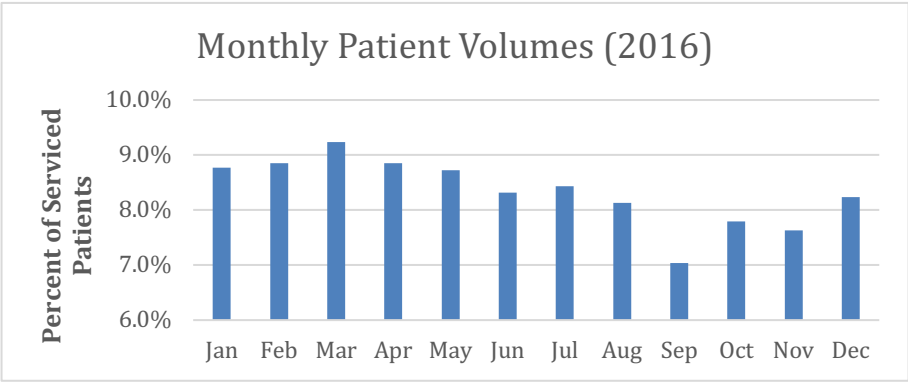


Figure 5. Variability in serviced patient volume as a function of month.

The third timeframe reported considers how patient volumes vary by the day of the week. As seen in figure 6, patient volumes are highest on Friday – Monday and lowest from Tuesday – Thursday. This distribution is relatively consistent across months and years.

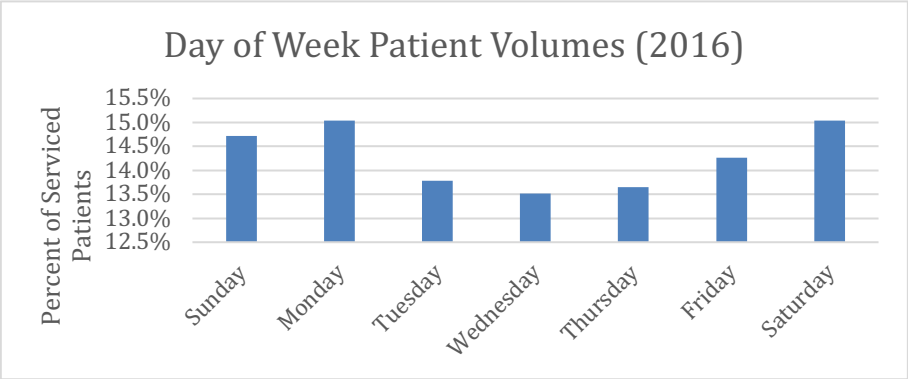


Figure 6. Variability in serviced patient volume as a function of day of week.

The final timeframe considered was how patient volume varied over the course of a day. Figure 7 shows the variability that occurs when data is aggregated by hour. Of particular note are the two peaks that occur, the first in the morning between 9:00 AM –12:00 PM, and the second, higher peak in the evening between 5:00 – 8:00 PM. Slight variations exist across the days of the week, in particular with lower 9:00 AM – 5:00 PM volumes Tuesday – Thursday, which largely account for the overall lower patient volumes reported in figure 6.

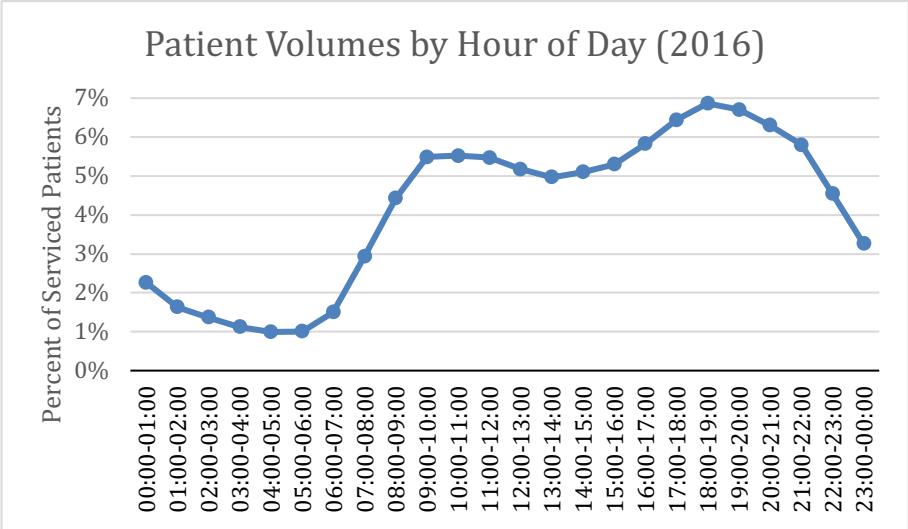


Figure 7. Variability in serviced patient volume as a function of hour of day.

As indicated above, there are two peak calling times during the day. A morning peak that occurs around 9:00 – 10:00 AM and an evening peak that occurs around 6:00 PM. In general, the highest volume of patients (and calls) occurs during the evening; however, in Western (South Shore and South West

regions) there is a higher relative proportion of morning calls than other zones (0.92 and 0.94, respectively; see figure 8).

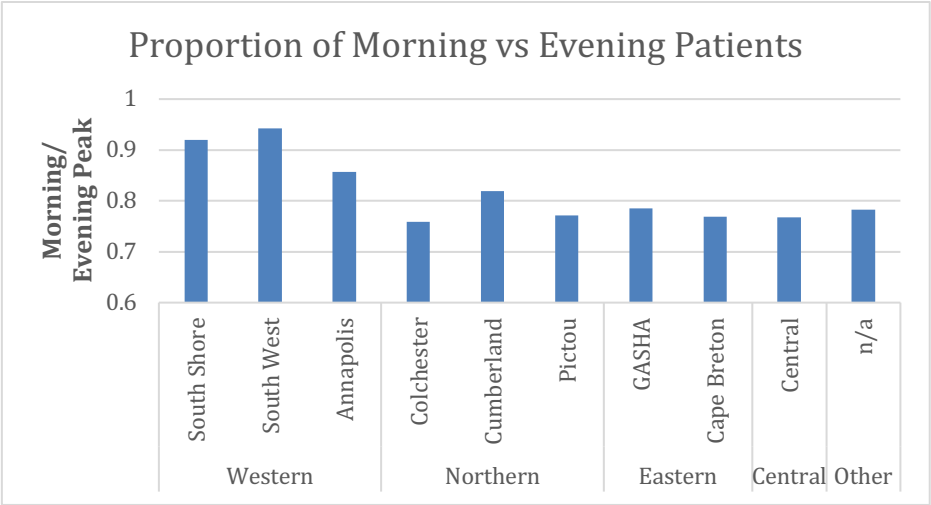


Figure 8. Western has a proportionately higher patient volume during the morning compared to all other Management Zones. Different management zone regions are also displayed.

Time of day was grouped into eight, 3-hour segments. As above (see figure 7) when comparing "All 811" patients, the lowest volumes occur from 12:00 AM – 8:00 AM. Volumes are significantly higher for the remainder of the day with the highest volumes occurring in the evening (6:00 – 9:00 PM). Age categories were grouped sequentially by comparing similar volume trends from a single 5-year age group to the next. The age segment graphs in figure 12 show the percentage of calls in each 3-hour period for the corresponding group. Ages 0-14 show two distinct peaks in the morning and evening. Ages 15-29 are proportionately highest during" off-hours" (9:00 PM –6:00 AM). Ages 30-44 patient proportion is relatively constant all day (meaning that actual volume would closely match the shape of the "All 811" patients graph). Ages 45-64 show a similar trend, but proportionate volumes decline slightly throughout the day. Patients 65 and over are most heavily represented from 9:00 AM –6:00 PM.

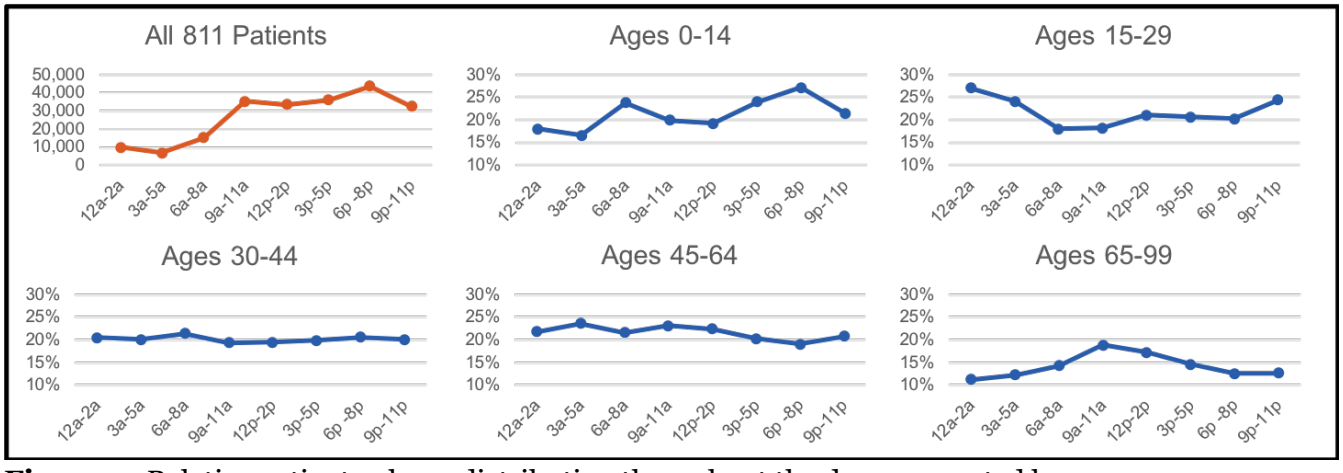


Figure 9. Relative patient volume distribution throughout the day, segmented by age.

2.1.4 Range of Health Issues Associated with 811 Use

The number of triaged patients has increased from 68% to 75% since 2011 (see figure 3). Therefore, the majority of the health information provided to callers will come (at the very least) from the last guideline that is accessed during the triage process. Based on available data for the evaluation, the health issues being explored with/for patients could only be determined by the guidelines accessed during the triage process.

The top 20 guidelines used by 811 in these groups account for **40%** of those used:

UNDER 45

Top 5 Guidelines	Female	Top 5 Guidelines	Male
Abdominal Pain / Discomfort	5.94%	Abdominal Pain / Discomfort	5.20%
Pregnancy: Spontaneous Termination, Less Than 20 Weeks	4.19%	Chest Pain / Discomfort	4.97%
Medication Question Calls (Adult)	3.81%	Medication Question Calls (Adult)	3.70%
Vaginal Bleeding (Premenopausal) -- Abnormal	3.75%	GI Bleeding	2.68%
Headache	3.71%	Teeth and Jaw Symptoms	2.54%

The top 20 guidelines used by 811 in these groups account for **50%** of those used:

OVER 45

Top 5 Guidelines	Female	Top 5 Guidelines	Male
Medication Question Calls (Adult)	5.65%	Medication Question Calls (Adult)	5.58%
Chest Pain / Discomfort	4.88%	Chest Pain / Discomfort	5.23%
Abdominal Pain / Discomfort	4.13%	Abdominal Pain / Discomfort	4.60%
Back Symptoms	3.18%	Urinary Symptoms - Male	3.37%
Diarrhea / Change in Bowel Habits	3.08%	Bites and Stings - Insects / Spiders	2.97%

Figure 10. Top guidelines used for adult males and females.

Based on the age distribution of males and females, each gender was grouped into two age categories: (1) under 45 ,and (2) over 45 (see figure 10). These age groups were chosen because 45 is the midpoint between two age peaks of 811 patients (as seen in figure 3) that occur in adulthood. Similar peaks are seen in the general population but are less pronounced (see figure 2). Similarly, the top guidelines used for patients younger than 20 (identified in figure 11) are the most utilized guidelines by nurses, which indicate the areas of potential concern identified through the triage process.

The top 20 guidelines used by 811 in these groups account for **55%** of those used:

Age 0-9

Top 5 Guidelines	
Cough (Pediatric)	6.46%
Vomiting Without Diarrhea (Pediatric)	6.24%
Colds (Pediatric)	5.67%
Trauma - Head (Pediatric)	4.35%
Fever - 3 Months or Older (Pediatric)	4.30%

The top 20 guidelines used by 811 in these groups account for **38%** of those used:

Age 10-19

Top 5 Guidelines	
Trauma - Head (Pediatric)	4.61%
Abdominal Pain (Female) (Pediatric)	3.40%
Sore Throat (Pediatric)	3.17%
Headache (Pediatric)	2.92%
Vomiting Without Diarrhea (Pediatric)	2.58%

Figure 11. Top guidelines used for patients under 20.

In addition to the health information provide to patients via the guidelines used during a patient triage, the type of health issues that 811 is helping Nova Scotians with can also be identified by the health topics that are accessed on the 811 website. Access to health information topics account for a very small number of the 331,920 page views since the website's launch. The most popular topics include: Teen Pregnancy (649 views), Car Seats (519 views), Stomach Flu (298 views).

2.1.5 The Advice Given to 811 Patients

Section 2.1.4 highlighted the different forms of information provided to 811 patients including health information from the internal database and from externally approved sources. This section focuses on those patients (74.5% triaged in 2016) that receive health recommendations/advice from 811.

Of the 87,599 calls that served 101,487 patients in 2016, the following took place:

- 39% of patients were NOT recommended to an emergency department or primary health care practitioner's office. They were provided advice for self-care at home (13.2%), health information[9] (22.3%) or referred to another service[3] (3.2%).
- 40% were recommended to see a primary health care provider, including their physician, a pharmacist or another practitioner.
- 15% were recommended to go to an emergency department or hospital.
- 6% were connected directly to 911 (3.8%) or Poison Control (1.9%).

The above information describes the course of action that 811 recommended; however, there are several factors that must be considered when interpreting the impact of this advice on Nova Scotians. These include:

(1) The caller's original intent (i.e. what would they have done if not for 811) and whether 811's advice is the same or different.
(2) The advice provided by 811 and the extent that patients say that they will follow that advice.
(3) Whether when a patient hangs up the phone, they actually follow 811's advice.
(4) The extent that the advice provided to the caller was correct, considering time and place.

First, considering the caller's original intent, when a call is placed regarding a patient, the caller/patient may:

- Have no indication of what to do (**5% of triaged patients** in 2016).
- Originally intend to do one thing (e.g. go to a primary health care provider) but 811 recommends an alternative (e.g. go to an emergency department) (**64% of triaged patients** in 2016).

[9] These are the serviced patients that are not triaged (25.5% in total, 2016)

- Have their original intention confirmed by 811 (e.g. 811 recommends go to a primary health care provider, using the previous example) (**25% of triaged patients** in 2016).
- Require a transfer to 911 or Poison Control (**6% of triaged patients** in 2016)[10].

For each of these four groups of patients, there is a clear benefit to receiving a recommendation from 811 that is both correct in what should be done and the timing with which it should occur. For patients that are not sure what they should do, 811 can provide them a course of action. For patients who 811 recommends an alternative course of action, they can now make a more informed decision about what they will do. Patients who have their original intent confirmed can be more confident in their decision. Patients who are transferred to 911 or Poison Control out of presumed necessity, and in a manner that ensures they are being looked after (such as when the 811 nurse remains on the transferred call) will ensure that the patient is taken care of (a warm transfer).

At an aggregate level, patients pre-call intentions change to the direction that corresponds to what 811 recommends, as indicated by their reported post-call intent. Tables 4-7 describe patients' initial intent, the advice from 811 and patients' subsequent intended action for 2016 triaged patients. For emergency departments, originally 29.0% of patients have a pre-call intention of presenting there, however 811 recommends the ED to only 20.4% of triaged patients, so subsequently less people say they will go to the ED (22.9%; see Table 4).

Table 4. *Emergency department intents and advice*	*Count*	*Share*
Pre-Call Intent	21,929	29.0%
811 Recommendation	15,426	20.4%
Post-Call Intent	17,317	22.9%

2016 Triaged Patients (75,618)

For primary health care practitioners (PHCP) [within 48 hours], originally 20.3% of patients have a pre-call intention of presenting there. However, since 811 recommends PHCP to more than twice as many patients (42.7%), subsequently more people say they will contact a PHCP within 48 hours (37.1%; see Table 5).

Table 5. *PHCP within 48hrs intents and advice*	*Count*	*Share*
Pre-Call Intent	15,350	20.3%
811 Recommendation	32,289	42.7%
Post-Call Intent	28,054	37.1%

2016 Triaged Patients (75,618)

[10] The total for all four groups is 104% due to some overlap with patients who have been transferred to 911 or Poison Control

For primary health care practitioners [over 48 hours], originally 2.1% of patients have a pre-call intention of presenting there, but 811 recommends it to 11.5% of triaged patients so subsequently more people say they will contact a PHCP in over 48 hours (8.7%; see Table 6).

Table 6. *PHCP over 48hrs intents and advice*	*Count*	*Share*
Pre-Call Intent	1,596	2.1%
811 Recommendation	8,711	11.5%
Post-Call Intent	6,586	8.7%

2016 Triaged Patients (75,618)

For self-care pre-call and post call intentions, with the 811 recommendation there is almost no difference between the number of triaged patients (see Table 7).

Table 7. *Self-care intents and advice*	*Count*	*Share*
Pre-Call Intent	13,415	17.7%
811 Recommendation	13,400	17.7%
Post-Call Intent	13,413	17.7%

2016 Triaged Patients (75,618)

While the data above is consistent with 811 recommendations influencing what patients say they will do post-call, it is important to determine the extent that the 811 advice is consistent with or is different than the patients' pre-call intent and subsequently how the 811 advice compares to their post-call intent.

The frequency with which 811 agrees with what patients originally intended to do is a good indicator of the extent that 811 facilitates informed decision making among patients about where to access health care. Table 8 shows the comparison of the original intent of the patient (i.e. what they said they would have done if they had not called 811) to what the 811 nurse recommended they do at the end of their call. As mentioned above, 811 agrees with triaged patients' original intended action 25% of the time and suggests an alternative course of action 64% of the time. The remaining percentage represents patients who did not know what to do or were transferred to 911/Poison Control.

The extent to which 811 provides advice that is consistent with patients differs depending on what patients originally intended to do. Data presented in Table 8 suggest that 811 nurses are less likely to agree with the initial intent of patients who expressed that they are planning to seek care via 911, the emergency department or that they intend to provide self-care. Conversely, 811 nurses are more likely to agree with patients who initially intend to seek care via a primary health care provider, albeit, only about 50% of the time. Of note, patients that state an alternative original inclination represent a large portion of patients where 811 would disagree.

Table 8. The extent that 811 provides advice that is consistent with the patient's original inclination[11]

Original Intention (pre-call intent)	*Count*	*811 Agrees*	*Percent*
Would have called 911	1,317	170	13%
Would have called Poison Control	71	54	76%
Would have gone to the ED	21,927	6,376	29%
Would have contacted PHCP < 48 hrs	15,316	8,521	56%
Would have contacted PHCP > 48 hrs	1,599	736	46%
Would have provided Home/Self Care	13,413	3,313	25%
States alternate original inclination	14,081	0	0%

The second consideration that is relevant to determine the impact of 811 on Nova Scotians' decision making is whether 811 patients say they will follow 811's advice. Therefore, the 811 recommendation for patients was compared to what patients indicated they would do once they finished the 811 interaction (see Table 9). Overall, regardless of what 811 recommended, the majority of callers said they would follow 811's advice[12].

- Patients were most likely to agree with the 811 recommendations "provide self-care" (96% of the time in 2016) and "go to emergency department immediately" (88% of the time in 2016).
- Patients were least likely to agree with an 811 recommendation of "contact a primary health care provider". Contact in greater than 48 hours were 72% agreeance in 2016 and contact in less than 48 hours was 82% agreeance.
- 911 and Poison Control are included in the Table, however they are not necessarily reflective of agreeance because in all of these cases, a transfer to 911 or Poison Control occurred (i.e. 100% agreeance).

Table 9. The extent that patients say that they will do what 811 recommends

811 Recommendation	*Count*	*Patient Agrees*	*Percent Agreeance*	*No Response*	*Adjusted Agreeance*
*911**	*3,825*	*1,251*	*33%*	*1274*	*66%*
*Poison Control**	*1,924*	*1,055*	*55%*	*779*	*95%*
Go to ED Immediately	15,431	13,032	84%	496	88%
PHCP (Within 48 Hours)	32,254	25,283	78%	1171	82%
PHCP (Over 48 Hours)	8,710	6,096	70%	201	72%
Provide Home/Self Care	13,399	12,379	92%	454	96%

**all patients that are recommended 911 and Poison Control have been transferred to those services*

[11] There are 109 patients (0.1% of triaged patients in 2016) that are not included in this analysis due to difficulty determining 811 agreeance.

[12] Patient agreeance was adjusted based on the assumption that patients that did not indicate what they would do intended to follow 811's advice.

2.1.6 Following the Patient after the 811 Encounter

For a plethora of reasons, not the least of which regard privacy, there is not a system in place to determine what patients have done once they disengage from 811. This means that there is limited ability to know whether a patient has acted in accordance with what they indicated. Therefore, it is difficult to determine if 811 is truly enhancing the decision-making capability of Nova Scotians. Additionally, it also means that there is limited opportunity to determine the outcomes of 811 patients after their call. This can lead to outcomes feedback that is anecdotal evidence of extremely positive or negative experiences (e.g. life altering events). There were three sources of data that allowed the tracing of the patient journey post-call, including: an 811 patient recorded in the NSHA and IWK emergency department records the day of or the day after a call was placed with 811 on their behalf, an 811 patient that is recorded within MSI physician office billings within the following week post-call, and the recollection of 811 patients who were surveyed within 30 days of their 811 call.

In the 2016 calendar year 101,487 patients used 811. In that same time period, there were 21,969 visits to an emergency department that were identified as likely to have been influenced by an 811 encounter (see Table 10). This was comparable to both the number of patients that 811 recommended to go to the emergency department (21,180) and the number of patients who said that they intended to (22,569).

Similarly, there were 31,324 physician's office visits in 2016 that could be identified as potentially being influenced by an 811 encounter. This was lower than both 811's recommended course of action (40,966) and the patient's intended course of action (36,003). The match for physician's office was limited to a 7-day post-call window that likely influenced this relative proportion. Conceptually, the longer the time passed between the 811 call and the office visit, the less likely it is to be directly related to the 811 call.

Table 10. Match of 811 patients (2016) to an emergency department or physician's office after their 811 encounter

Post-call Destination	*Based on 811's Advice*	*Patient's Stated Intent*	*Match in External Databases*
Emergency Department	21,180	22,569	21,207
Physician's Office	40,966	36,003	31,324
Self-Care (Home)	13,399	13,866	n/a
Other	73	3,180	n/a
Not Triaged (Home)	25,869	25,869	n/a
Total	101,487		52,531[8]

Next, it was determined whether 811 had actually recommended an ED visit to the matched patients presented above. Of the total 21,969 visits to an emergency department that were matched with 811 patients, 52.2% were either advised by 811 to go or presented due to actions taken by the 811 nurse (i.e. transfer to 911; see Table 11). Meanwhile, 58.8% of visits were from patients who said they would go to the emergency department, suggesting that the intended action of the caller may be a better indicator of

what they will do after a call. However, given that it cannot be determined with certainty that the 811 call influenced the ED visit, it is not clear if this is indeed the case.

Patients who were recommended by 811 to contact a primary health care practitioner represented 40.2% of ED visits. Comparatively, 30.8% of the ED visits were from a patient who said they intended to go to primary health care provider. Either scenario represents a high proportion of ED visits from patients that were either recommended by 811 or said they intended to go to a primary health care practitioner. The data does not indicate whether this is due to patients ignoring 811's advice or their own intent, changing their mind after the call, or whether access to a primary health care provider was limited.

Table 11. Consistency of emergency department visit based on 811 recommendation and patients stated intended course of action

Post-call Destination	*Based on 811's advice*	*Patient's Stated Intent*
Emergency Department	52.1%	58.7%
Primary Health Care Practitioner	40.2%	30.8%
Self-Care	3.8%	4.2%
Other	0.1%	2.5%
Not Triaged	3.8%	3.8%
Total ED Visits	21,969	

Of the 31,324 total matched visits to physicians' offices, 54.8% were recommended by 811 to contact a primary health care practitioner, whereas 49.9% indicated that they would (see Table 12). About 20% of physician's office visits were from patients who would likely be seen in an emergency department based on the interaction with 811. This represents 6,207 patients based on 811's advice (19.8% of visits) and 6,679 patients based on their stated intent (21.3%). There were 5,777 patients who visited a primary health care practitioner within the week following an 811 encounter that first visited an emergency department after speaking with 811. This suggests that their emergency department visit required additional follow-up with a primary health care practitioner or they were recommended at the emergency department to do so.

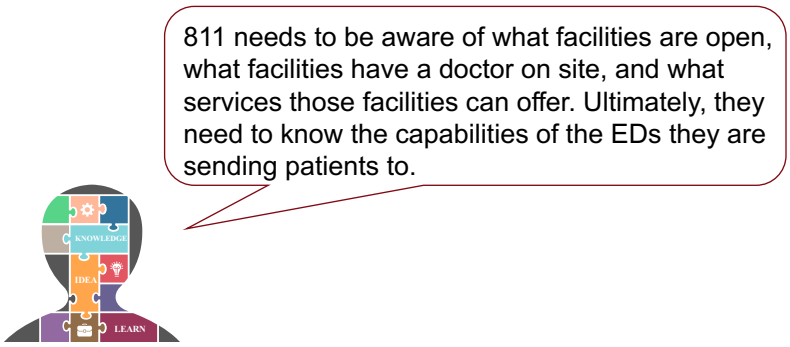


Table 12. Consistency of physician's office visit based on 811 recommendation and patients stated intended course of action

Post-call Destination	*Based on 811's Advice*	*Patient's Stated Intent*
Primary Health Care Practitioner	54.8%	49.9%
Emergency Department	19.8%	21.3%
Self-Care	10.4%	10.6%
Other	0.0%	3.2%
Not Triaged	15.0%	15.0%
Total Physician Office Visits		31,324

The above data analysis relied on matching patients' 811 administrative data to their presentation at an emergency department and/or to a physician's office based on MSI office billings. However, because it was primarily based on the time between an 811 encounter and a subsequent visit to an emergency department or physician's office, it is unknown the extent to which the 811 encounter influenced each visit. Furthermore, because it relies on access to database records, self-care patients are not reflected in this analysis unless they decide to go to one of these locations. In order to determine more accurately the extent that 811 patients followed 811's advice (or followed the course of action that they intended), the evaluation 811 caller survey was used (see Table 13 and 14).

Overall:

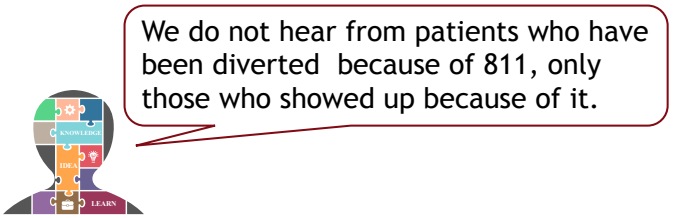
- 353/414 survey participants were triaged during their 811 encounter, meaning that, at the very least an 811 recommendation was available, and typically their pre - and post-call intent.
- 85.8% of respondents who were triaged by 811 said they followed the advice given by 811.
- 1.4% said they did not know if they followed 811's advice.
- 12.7% of survey respondents (i.e. 45 people) either said they did not follow the advice or only somewhat followed the advice.
- Common reasons for not following advice included: unable to access care (due to transportation, work; 7/45), decided not to follow what was suggested (i.e. just wanted to go to the ED; 7/45), an improvement in symptoms (9/45), and, did not indicate or could not remember why they did not follow 811's advice (11/45).

Table 13. Did you follow 811's advice?

Response	*Count*	*Share (Triaged Only)*
Don't know	5	1.4%
No	21	6.0%
Somewhat	24	6.8%
Yes	303	85.8%
Not Triaged	61	n/a
Grand Total	**414**	353

Table 14. Why didn't you follow 811's advice?

Count	*Reason for not following 811's advice*
11	Did not know or did not respond
9	Symptoms subsided or lessened
7	Unable to access suggested service
7	Did not want to do what was suggested
4	Disagreed with the advice
4	Symptoms persisted (relevant to self-care)
3	Did not understand or was not helpful



3 ANSWERING THE EVALUATION QUESTIONS

The previous section outlined how 811 is being used by Nova Scotians, how 811 is being accessed and how it is influencing their decision making. This provides context for understanding the answers to the evaluation questions. For each of the three questions, the strengths and challenges of 811 are addressed.

3.1 Evaluation Question 1

Question: To what extent does 811 enhance appropriate access to the health system, including urgent and primary care for Nova Scotians?

Context: The role of 811 is to provide accurate health information and/or health advice to an 811 "patient". Typically, upon receiving this information and/or advice, it is then the responsibility of the caller to make a decision about their best course of action based on the 811 interaction. Much less frequently, 811 directly transfers the caller to another service (i.e., 911, Poison Control). Therefore, a multitude of scenarios can result from an 811 encounter. Appropriate access to the health system means that, for these scenarios, patients are influenced by 811 to position them to receive the type of care required to address their health care needs in a timely manner. It is worthwhile emphasizing that 811 is being evaluated on its ability to **position** patients to be in the right place at the right time, because whether patients actually receive appropriate care is the responsibility of the providers they are recommended to go see and a patient's ability to follow self-care directions.

Challenge: There is a decreasing number of Nova Scotians being served by 811.

The ability of 811 to enhance appropriate access for Nova Scotians depends on whether citizens are using the system. In the 2016 calendar year a maximum of 8.3% of the NS population were 811 patients. Furthermore, since its inception, both call volume and serviced patients has steadily decreased (see figure 12). The precise reason(s) for this decrease is unknown and, while under certain circumstances there may be some positive interpretation of this decline, it is likely not desirable that volume has declined. It is possible that Nova Scotians are choosing not to use 811 or that they are unaware of the service or its utility. From an evaluation context, the decreasing number of Nova Scotians using the 811 service ultimately means that its overall potential impact has been declining.

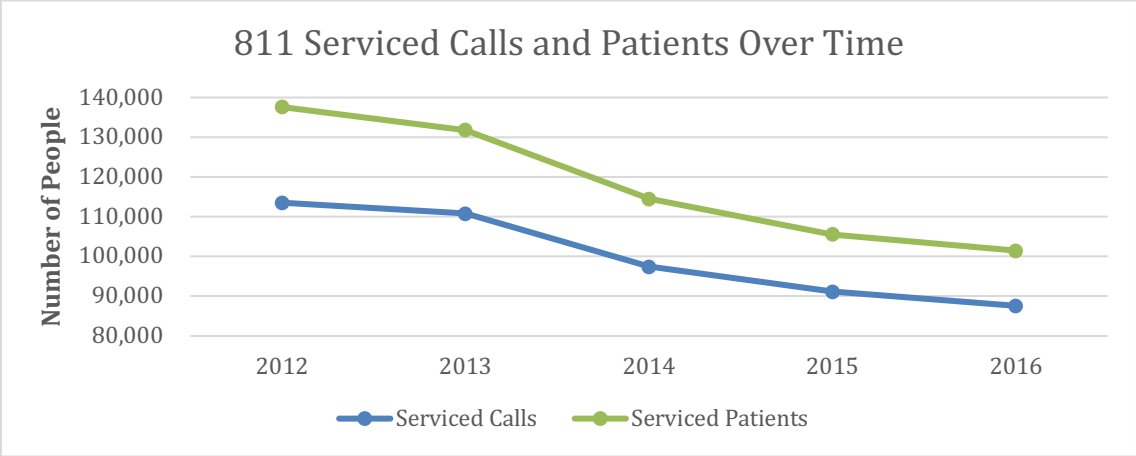


Figure 12. Both serviced call volume and serviced patient volume has declined year over year.

The percent decline in patients served has been different when compared across management zones. The patient percentage relative to the zone population from 2012 to 2016 was:

- Eastern, 11.5% to 7.8% (a 32.8% decline)
- Northern, 14.3% to 9.1% (a 36.2% decline)
- Western, 14.2% to 9.5% (a 33.2% decline)
- Central, 14.1% to 10.7% (a 24.0% decline)

Strength: There is a high proportion of 811 use in specific demographic groups.

In addition to the difference in patient decline, there is an unequal representation of 811 patients compared to the NS population based on gender and age. In particular, there is proportionately higher use for those under 10 and for females aged 20-40, and proportionately low use for those aged 10-20 and over 50. In general, female users account for 2/3 of all users and males about 1/3. Two population

groups in particular have a significantly higher usage of 811 (as patients suggesting that they are the most poised to be impacted by it):

- 27% of the NS population aged 0-4 were 811 patients (based on unique patients)
    - Children age 0-4 are by far the highest proportion of patients using 811. They accounted for 15.8% of all 811 patients.
- 16% of the female NS population aged 20-39 were 811 patients in 2016.
    - Females aged 20-39 combined represented 24% of 811 patients.

Strength: Nova Scotians' ability to access health information via 811 is very good.

When a caller or person they are calling for is identified as a patient, any combination of three outcomes could occur. They could be triaged (or not), provided with health information, and/or receive a provider referral. Furthermore, as identified above, when health information is provided, it may come from the internal 811 database or from externally approved sources. Figure 13 shows that the distribution of internal health information (to non-triaged or triaged patients) has been declining, and the decline in external health information provision has subsided.

As seen in figure 14, triaged patients have risen from 68% to 75% of total 811 patients. Therefore, the majority of the health information provided to callers will come from the guidelines that are accessed during the triage process. Health information provided via external sources has not been declining since 2014 and may be even trending positively (see figure 13). Furthermore, since this information was not captured in the 811 database used for the evaluation, it is unknown to what extent external sources are used to provide health information to triaged patients.

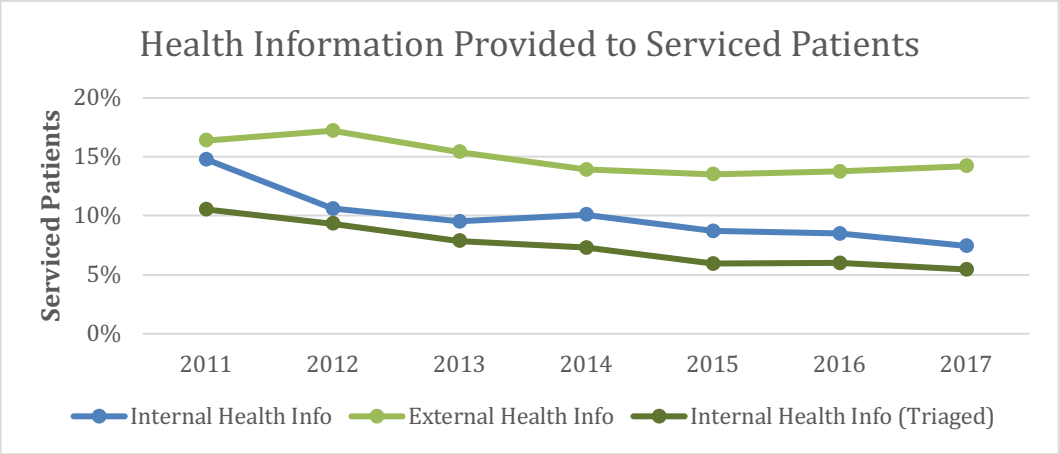


Figure 13. Health information provided through internal 811 health topics and external approved sources has declined over time. 2011 and 2017 are partial years.

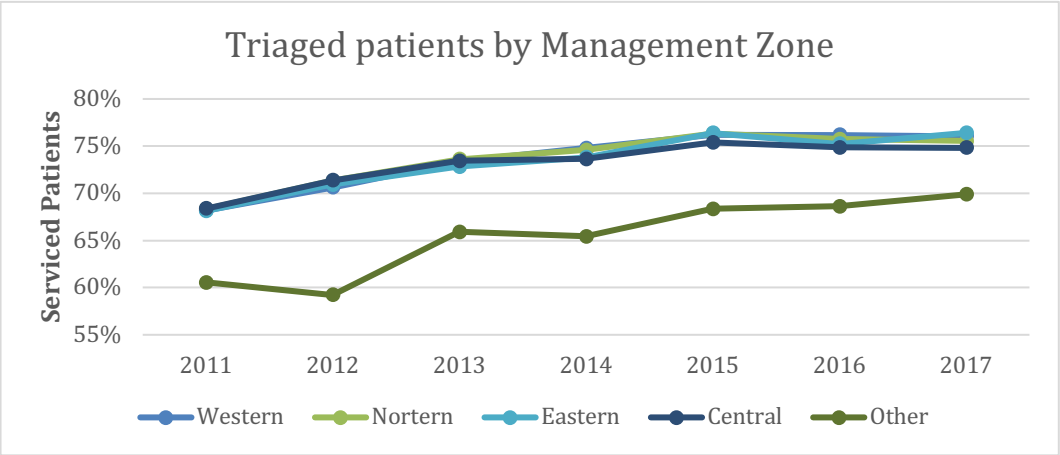


Figure 14. The relative proportion of serviced patients that are triaged has increased over time and is consistent across management zones. 2011 and 2017 are partial years.

The following three tables (Table 15-17) demonstrate that 811 callers and patients view the service as an effective resource. It helps callers to understand the information that is provided and gain new knowledge from the interaction as indicated by the survey responses:

Table 15. *I received the information I needed during the call*	*Count*	*Share*
Strongly disagree	3	4.9%
Disagree	4	6.6%
Neither agree nor disagree	7	11.5%
Agree	6	9.8%
Strongly agree	40	65.6%
Don't know	1	1.6%
Responses from Non-Triaged Patients Only	60	100%

Table 16. *I understood the health information I received*	*Count*	*Share*
Strongly disagree	2	3.3%
Disagree	0	0.0%
Neither agree nor disagree	1	1.7%
Agree	6	10.0%
Strongly agree	50	83.3%
Don't know	1	1.7%
Responses from Non-Triaged Patients Only	60	100%

Table 17*. After the call, I had a better understanding of the health topic I originally called about*	*Count*	*Share*
Strongly disagree	5	8.2%
Disagree	3	4.9%
Neither agree nor disagree	6	9.8%
Agree	9	14.8%
Strongly agree	37	60.7%
Don't know	1	1.6%
Responses from Non-Triaged Patients Only	61	100%

Challenge: There is high variability in practitioner's perception of 811 as a source of health information.

Practitioners were posed several statements to determine their perception of 811 as a source of health information. Categories of practitioners included paramedics (that work in emergency departments), emergency nurses, family practice nurses, other nurses (i.e. public health), emergency physicians and family practice physicians. It is important to recognize that the physician survey response rate was extremely low, and paramedics were a small sample size in total. Therefore, it is difficult to determine how representative these perspectives are of the broader population.

The statements included the following:

- Whether they thought 811 helped callers learn about health issues (see figure 15):
  - Physicians had more negative responses and the least positive responses;
  - Paramedics and ED nurses had relatively similar positive and negative responses;
  - Family practice nurses and "other" nurses were more likely to have positive responses than negative responses; and,
  - There was a high degree of "uncertainty" related to this question across groups, as there was a high percentage of "neutral" and "don't know" responses.

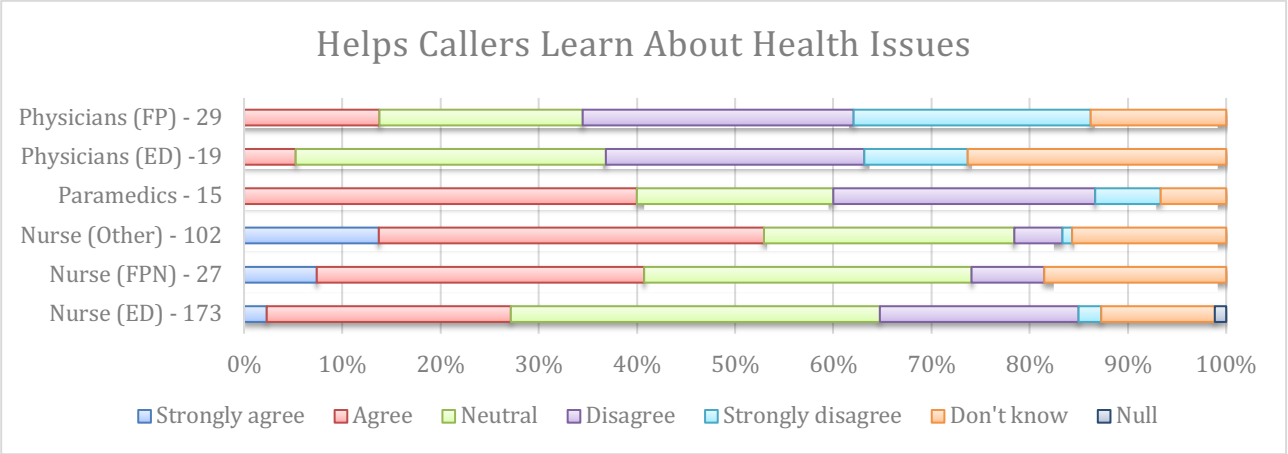


Figure 15. Practitioner responses to whether 811 helps callers learn about health issue.

- Whether they believe 811 helps Nova Scotians access accurate information (figure 16):
    - Physician responses were more likely to be negative and had the least positive responses;
    - Paramedics and ED nurses had slightly higher positive responses (approx. 33%) than and negative responses (approx. 24%); and,
    - Family practice and "other" nurses were much more likely to have positive responses than negative responses.

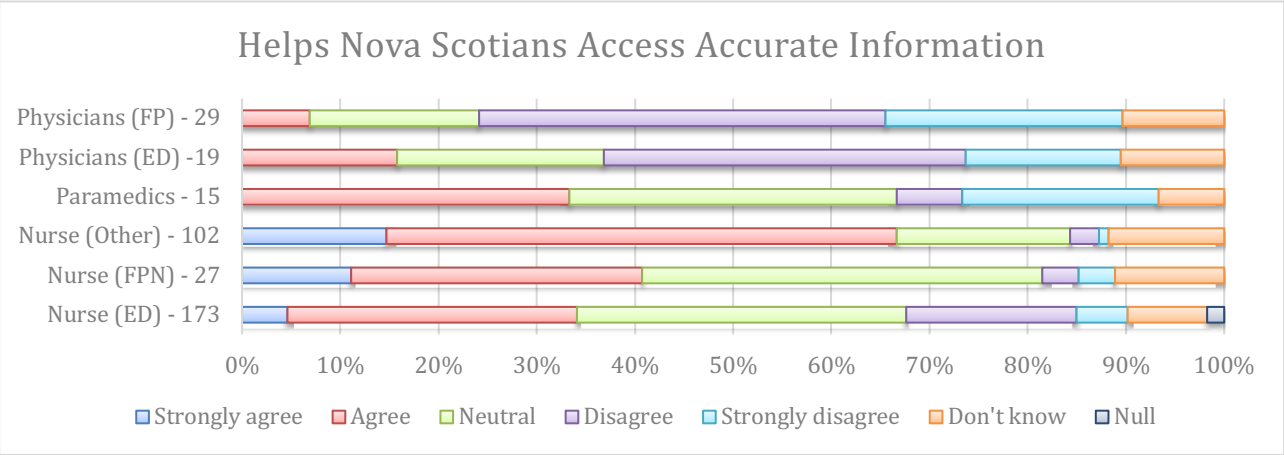


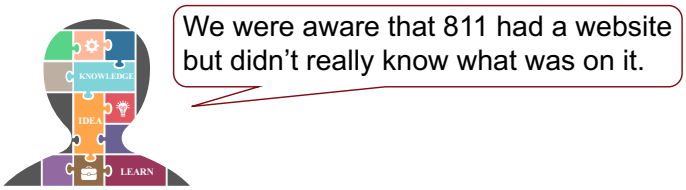
Figure 16. Practitioners responses to the statement about whether they believe that 811 helps Nova Scotians access accurate information.

Challenge: There is low awareness and use of 811's online content.

Data presented in section 2 highlighted the number of times the website was being accessed for health information was quite low. In order to understand that low utilization, survey participants were asked about their knowledge of the website and whether they use the website frequently (see Tables 18 and 19). Of the 414 survey respondents 241 (58.2%) indicated that they were unaware that 811 provides online health information. Furthermore, of the 171 (41.3%) that did know about it, 110 (64.3%) said that they had never used it.

***Table 18**. Were you aware that 811 provides online health information on common health concerns?*	*Count*	*Share*
Don't know	2	0.5%
No	241	58.2%
Yes	171	41.3%
Total	414	100%

Table 19. *How many times have you used the online content?*	*Count*	*Share*
Never	110	64.3%
Once	21	12.3%
Twice	14	8.2
Three to five times	16	9.3
More than five times	9	5.3
Don't know	1	0.6%
Total	171	100%



In addition to a caller's lack of awareness of the website as a source of health information, practitioners interviewed also had little awareness, with almost half (46%) of all practitioners having no or very little knowledge of the online services provided by 811. Comparatively, only 7.1% of respondents said they had no or very little knowledge of the telephone services (see figure 17).

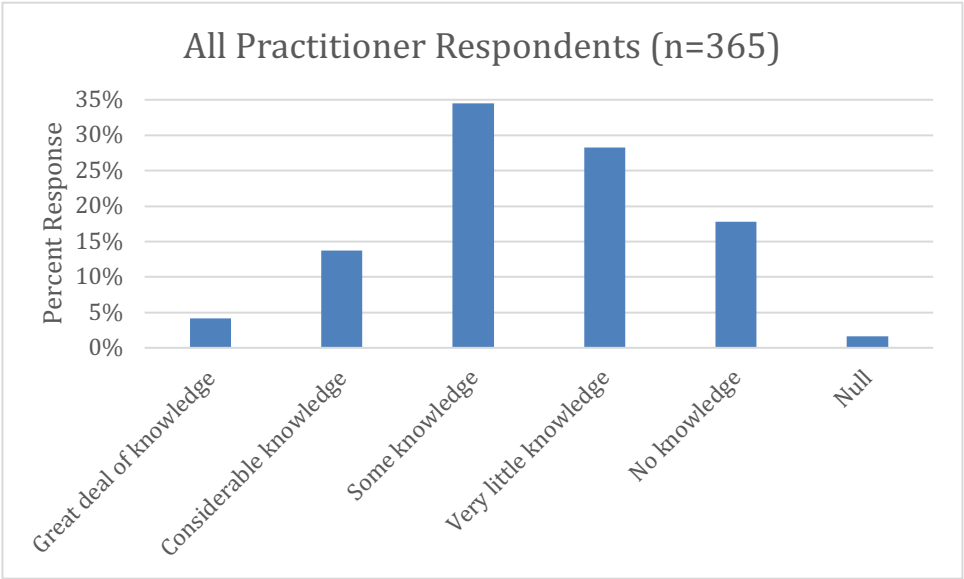


Figure 17. Practitioner survey results regarding their knowledge of the online services of 811.

Caller survey determination of appropriateness

Several questions on the caller survey were used to determine both 811 patient's perception of the appropriateness of care, the extent that they followed the advice provided by 811 (if applicable) and what happened to them after they followed 811's advice.

Strength: Callers believe that 811 is improving their ability to make decisions about their health care needs.

The 811 caller survey made three related statements to help determine if 811 was helping patients who received a recommendation (i.e. were triaged) to appropriately access the health system. The first statement determined if the caller understood the information that they received. This is vital in order to make any decision about what steps to take after the 811 encounter. Overwhelmingly, responses were positive, with more than 96% answering strongly agree or agree (see Table 20).

***Table 20**. I understood the advice provided by 811*	*Count*	*Share*
Strongly disagree	4	1.1%
Disagree	2	0.6%
Neither agree nor disagree	5	1.4%
Agree	50	14.2%
Strongly agree	290	82.4%
Don't know	1	0.3%
Responses from Triaged Patients Only	352	100%

The second statement determined that survey participants that received a recommendation from 811 believed that 811 provided them with the information they needed to make a decision. Approximately 91% agreed or strongly agreed with this statement (see Table 21).

***Table 21**. I received the information I needed to make an informed decision about my health concern*	*Count*	*Share*
Strongly disagree	9	2.6%
Disagree	5	1.4%
Neither agree nor disagree	16	4.5%
Agree	63	17.9%
Strongly agree	257	73.0%
Don't know	2	0.6%
Responses from Triaged Patients Only	352	100%

The third related statement determined the extent that 811 patients believed that they knew what course of action they should take after the 811 call. Approximately 92% of participants agreed or strongly agreed (see Table 22). Altogether, the responses to these three statements indicate that 811 patients that are triaged understand the advice that is given, they believe the information that is given is helping them make decisions and that the 811 encounter has helped them determine what to do once the call ended.

Table 22. *After the call, I knew what steps to take in relation to by health concern*	*Count*	*Share*
Strongly disagree	6	1.7%
Disagree	7	2.0%
Neither agree nor disagree	13	3.7%
Agree	55	15.6%
Strongly agree	269	76.2%
Don't know	3	0.8%
Responses from Triaged Patients Only	352	100%

Strength: 811 provides recommendations that are appropriate, based on patient reported actions and outcomes.

Challenge: There are a high percentage of visits to an ED or physician's office that did not need to be seen there, however, this does not necessarily mean the visits were inappropriate.

The caller survey addressed patient outcomes specifically by asking respondents about the result of their 811 recommended visit to an emergency department or physician office, and what happened to patients who were provided a recommendation of self-care. This analysis only considered those patients that were triaged and received a recommendation that they indicated they followed. Additionally, 39 survey participants chose not to respond to this question.

Based on these criteria, 192 survey participants (46% of all respondents) received a recommendation that would (1) lead to an ED visit, (2) lead to a primary health care provider visit, lead to (3) an ED visit or (4) primary health care provider visit only after first providing self-care AND indicated that they followed/somewhat followed. Of these, 6 patients could not recall what happened after the recommendation. The following tables (23-26) describe the outcomes associated with four types of recommendations:

Table 23. *Recommendation led directly an ED visit*	*Count*	*Share*
Hospitalized and/or required immediate surgery	25	25.0%
Required non-immediate surgery	3	3.0%
Recommended to a specialist	4	4.0%
Prescription given or recommended (PHCP visit required)	27	27.0%
Follow-up visit with a PHCP	4	4.0%
More thorough exam with a PHCP	10	10.0%
Recommended self-care	23	23.0%
No treatment was required	4	4.0%
Responses from Triaged Patients Only that Followed Advice	100	100%

Based on the above table, for those patients who are recommended to an ED at least 27% did not need to be seen there, from a health care perspective (i.e. No treatment, Self-Care,). However, from the patient's perspective they were not necessarily inappropriate.

***Table 24**. 1 Recommendation led directly to a PHCP visit*	*Count*	*Share*
Hospitalized and/or required immediate surgery	6	9.4%
Required non-immediate surgery	1	1.6%
Recommended to a specialist	7	10.9%
Prescription given or recommended (PHCP visit required)	17	26.5%
Follow-up visit with a PHCP	8	12.5%
More thorough exam with a PHCP	3	4.7%
Recommended self-care	11	17.2%
No treatment was required	11	17.2%
Responses from Triaged Patients Only that Followed Advice	64	100%

Based on the above table, for those patients who are recommended to a PHCP at least 34% of visits did not need to be seen there, from a health care perspective (i.e. No treatment, Self-Care,). However, from the patient's perspective they were not necessarily inappropriate.

***Table 25**. 1 Recommendation for self-care first and then an ED visit if needed*	*Count*	*Share*
Hospitalized and/or required immediate surgery	-	-
Required non-immediate surgery	-	-
Recommended to a specialist	-	-
Prescription given or recommended (PHCP visit required)	4	44.5%
Follow-up visit with a PHCP	-	-
More thorough exam with a PHCP	-	-
Recommended self-care	3	33.3%
No treatment was required	2	22.2%
Responses from Triaged Patients Only that Followed Advice	9	100%

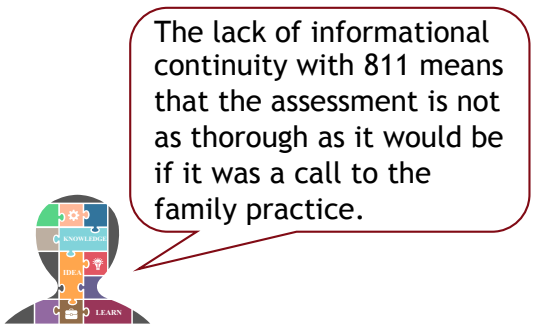


***Table 26**. 1 Recommendation for self-care first and then a PHCP visit if needed*	*Count*	*Share*
Hospitalized and/or required immediate surgery	-	-
Required non-immediate surgery	-	-
Recommended to a specialist	1	7.7%
Prescription given or recommended (PHCP visit required)	5	38.5%
Follow-up visit with a PHCP	1	7.7%
More thorough exam with a PHCP	-	-
Recommended self-care	6	46.1%
No treatment was required	-	-
Responses from Triaged Patients Only that Followed Advice	13	100%

The actions of triaged patients that were provided with a self-care recommendation (or disposition) were reported by 121 survey participants. They were categorized into four groups, including those that were just provided self-care, self-care and visit an emergency department if needed, self-care and visit a PHCP if needed and self-care and visit "other" if needed. The following tables (27-30) describe what happened after self-care was given.

***Table 27**. 1 Recommendation for self-care only*	*Count*	*Share*
Did not visit ED/PHCP	61	76.2%
Visited ED	8	10.0%
Visited PHCP	11	13.8%
Responses from Triaged Patients Only that Followed Advice	80	100%

***Table 28**. 1 Recommendation for self-care first and then an ED visit if needed*	*Count*	*Share*
Did not visit ED/PHCP	11	84.6%
Visited ED	2	15.4%
Visited PHCP	-	-
Responses from Triaged Patients Only that Followed Advice	13	100%

***Table 29**. 1 Recommendation for self-care first and then a PHCP visit if needed*	*Count*	*Share*
Did not visit ED/PHCP	14	66.7%
Visited ED	-	-
Visited PHCP	7	33.3%
Responses from Triaged Patients Only that Followed Advice	21	100%

Table 30*. 1 Recommendation for self-care first and an "Other" visit if needed*	*Count*	*Share*
Did not visit ED/PHCP	3	42.9%
Visited ED	4	57.1%
Visited PHCP	-	-
Responses from Triaged Patients Only that Followed Advice	7	100%

Across all of the above scenarios (Table 27-30) the symptoms related to the 811 encounter were also reported upon. Of the 121 self-care respondents:

- 66% reported that their symptoms went away;
- 17% reported that symptoms persisted;
- 7% indicated that the symptoms worsened, or new symptoms arose; and,
- 9% did not report.

In general, these data points suggest that the 811 patients that are provided self-care are done so appropriately, since 87/121 do not need to go visit an ED or PHCP and the majority reported their symptoms going away. Furthermore, patients could then determine whether to visit one of these sites after first providing self-care.

Challenge: There is a high degree of variability in practitioners' perspective on the appropriateness of 811's advice and how often they agree with it.

Categories of practitioners included paramedics (that work in emergency departments), emergency nurses, family practice nurses, other nurses (i.e. public health), emergency physicians and family practice physicians. Of the 365 health care professionals who responded to the survey, only 30% (112 individuals) strongly agreed or agreed that 811's recommendations were appropriate (see figure 17). Of those 112 healthcare professionals, only the nurses had respondents who strongly agreed with the statement. It can therefore be concluded that there is not a strong positive perception amongst healthcare professionals that appropriate recommendations are being made by 811.

Note: It is important to recognize that the physician survey response rate was extremely low, and paramedics were a small sample size in total. It is therefore difficult to determine how representative these perspectives are of the broader population:

- Physicians' and paramedics' responses were mostly negative (46-58%) and had very few positive responses (5-7%);
- ED nurses had similar negative responses to paramedics (approx. 43%), but paramedics had a high degree of strongly disagree responses and nurses were more likely to have positive response to the statement (25%); and,

- Family practice and "other" nurses were much more likely to have positive responses (37-53%) than negative responses (8-11%).

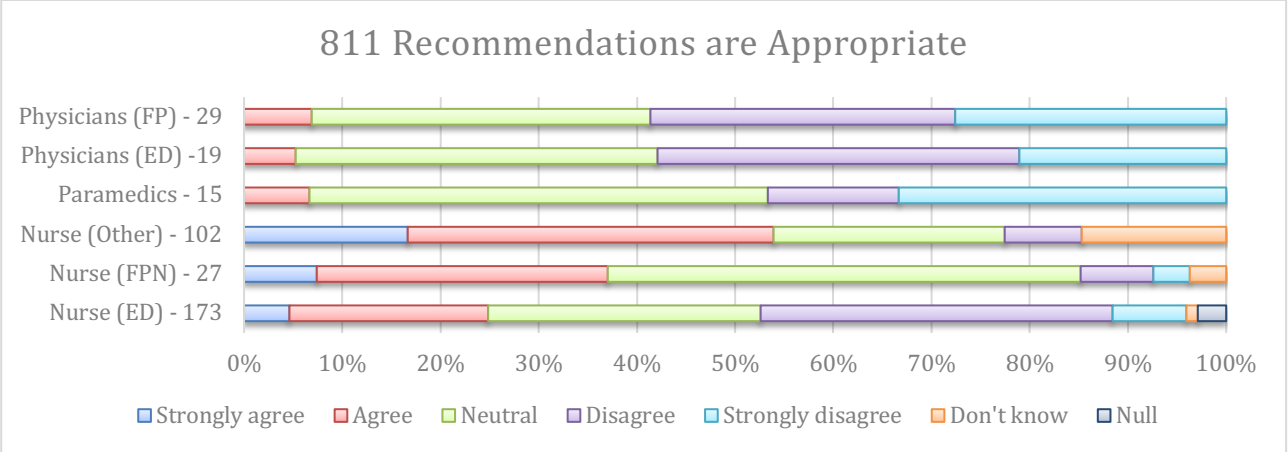
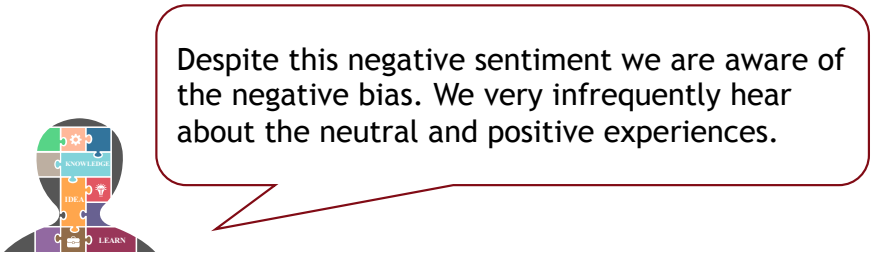


Figure 18. Practitioner survey responses regarding the appropriateness of 811 recommendations.

Of the 365 health care professionals who responded to the survey, only 6.57% always or very often agree with the recommendation made by 811 (see figure 18). Roughly 20% of respondents very rarely or never agree with the recommendation. It can be concluded that, more often than not, the healthcare professionals do not agree with the recommendations made by 811. Despite 811 patient's positive views of the advice from 811, the practitioners who see these patients after 811 do not share the same sentiment:

- Physicians and paramedics most frequently agreed with 811's recommendations "rarely" or "very rarely";
- All nurses were more frequent than other practitioners in agreeing with 811's recommendations; and,
- ED nurses also had a high degree "rarely" or "very rarely" responses.



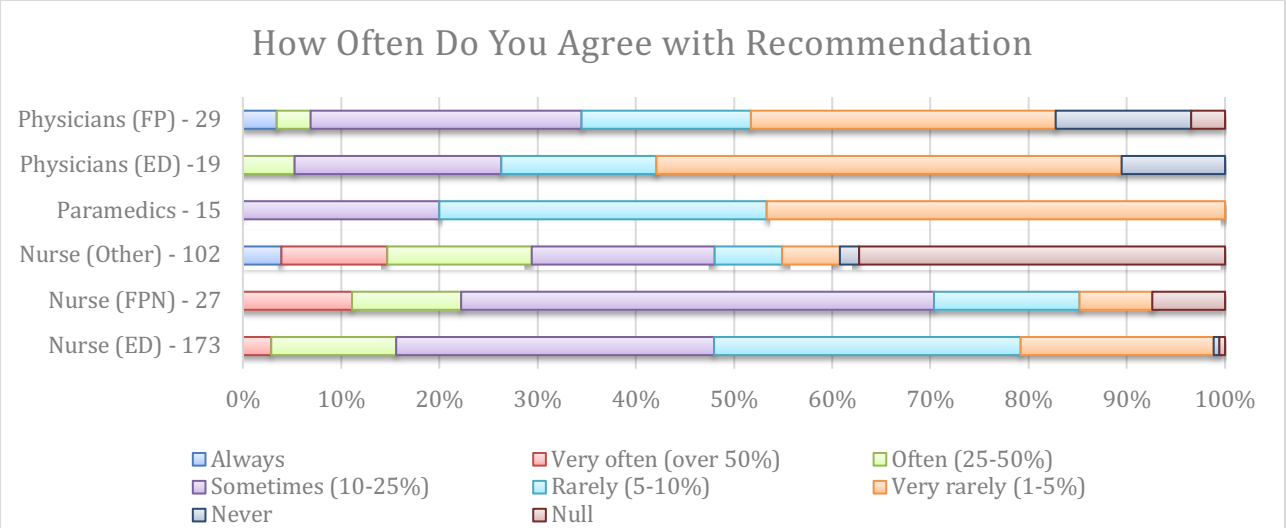


Figure 19. Practitioners responses to how often they agree with 811 recommendations.

3.2 Evaluation Question 2

Question: To what extent does 811 contribute to an integrated healthcare experience for Nova Scotians?

Context: The ability of 811 to contribute to an integrated health care experience first depends on how connected the system is as whole. Secondly, it depends on what components of the system are available and when they are available. Finally, 811 must be able to interface with the system in a complimentary manner. Integration considers 811's relationship to the primary and urgent care landscapes.

Primary Care

- 811 serves as a resource to register patients on the Need a Family Practice Registry (approximately 42,000 people as of Jan 2018).
- 811 advises about 40% of their users to seek care at a primary health care provider, the vast majority of which are primary care offices.

Urgent Care (same day/next day access to acute care that is not an emergency)

- Approximately 7% of 811 patients are provided with a referral, including to walk-in clinics.
- A pilot program with a group of physicians at Woodlawn Medical allows for same day next day booking via 811, based on the 811 recommendation.

Examples of integrated healthcare experience include:

- The highest volume of calls occurs in the evening when there is typically less access to primary health care and urgent care coverage.
    - Emergency department usage by time of day is different from 811 usage.

- In areas where emergency departments are closed overnight (planned), there is often an increase in the daily proportion of patient calls during the peak overnight call time (12:00 AM – 2:00 PM).
- Patient Perception (from the caller survey) indicates that 811 users believe that 811 helps them navigate the health system.
- 811 users also indicated that 811 makes it easier for them to know (1) what services to access, and (2) where to access them.
- Faxes to emergency departments from 811 to inform them of a patient who is likely to present as a result of the 811 encounter.
- The ability to provide a transfer to 911 and Poison Control.
    - All parties that responded to surveys/interviews/focus groups indicated this as a positive example of integration.
- Provider referrals to walk-in clinics, mental health supports, Need a Family Practice Registry (~7% of calls).

Strength: 811 allows access to health information and advice at times when other services are less likely to be available or have strained capacity.

Many family practices offer afterhours care for their patients, but the frequency and duration of afterhours coverage is difficult to determine. Furthermore, research from the Models and Access Atlas to Primary Care in Nova Scotia (MAAP-NS)[13] work suggests that roughly 50% of practitioner offices offer some afterhours access and 30-35% provide access on the weekends. Therefore, it is at these times during the week (i.e. weekday evenings and weekends) where patients must typically rely more heavily on other sources for medical information and advice. As highlighted in section 2 above, 811's highest volume of calls and patients occur during the evening hours (5:00 PM – 9:00 PM; see figure 7). From a daily volume perspective 811 is highest from Friday – Monday, inclusive (see figure 6).

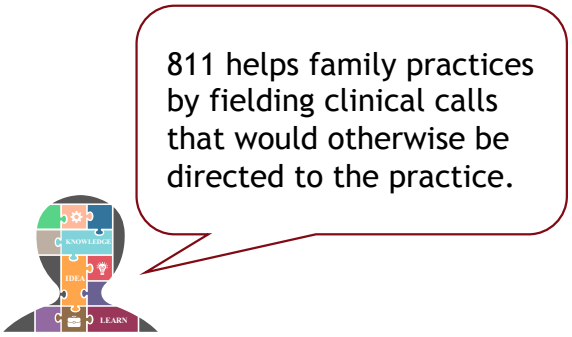
In addition to family practice offices, emergency departments are the other primary source of health information and advice for Nova Scotians. The majority of sites (32/38) maintain hours of operation 24/7 but with different staffing numbers/compliments depending on the time of day based on historical and anticipated volumes. Figure 19 compares emergency department visits by time of day for ED visits by non-811 patients, ED visits by 811 patients and 811 volume for all patients (indicative of when calls are placed).

On average, ED visits across the province from patients that have not used 811 in the previous 2 years have a peak volume that occurs in the morning (between 9:00 AM – 11:00 AM) and falls over the course of the day. A total of 403,299 visits in 2016 were used to determine this distribution. Only non-811 users and non-scheduled and non-referral-based visits (98.2% of non-811 user visits) are included in this analysis as comparison to how citizens would use the emergency system in the absence of 811.

[13] https://www.dal.ca/sites/maapstudy/research.html

Individually, sites across the province would have distinct volume patterns; however, this provides a reasonable representation of how emergency departments are being used by Nova Scotians.

In contrast, figure 20 shows the patient volume distribution of all 811 patients (101,487) and those identified as visiting a NS emergency department as a result of an 811 call that occurred on the same day (17,895). It is clear that patient volumes match closely between when 811 was used and when someone presented to the ED following their 811 call. Interestingly, the distribution curve for ED visits is staggered from the 811 usage curve by 1-2 hours later in the day.



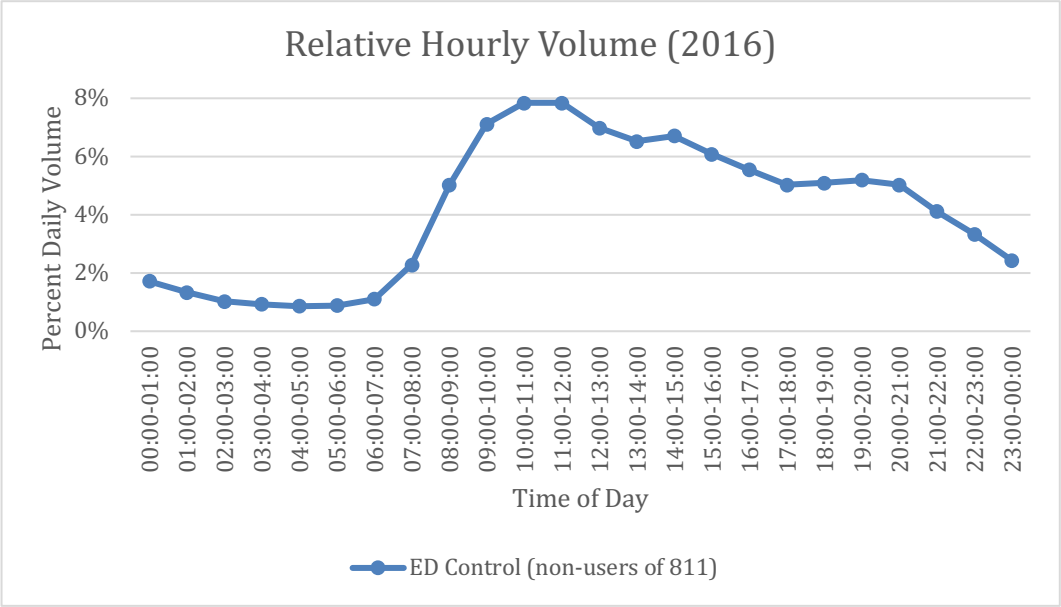


Figure 20. Hourly distribution of control emergency department visits not associated with 811.

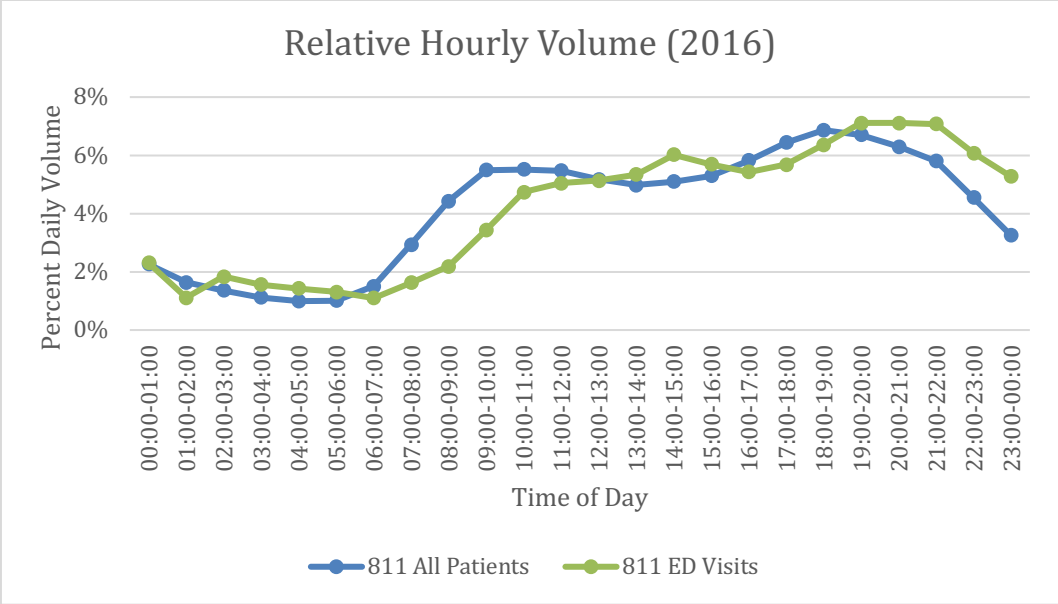


Figure 21. Hourly emergency department visits correlated with an 811 encounter.

To further determine how 811 was being used based on availability of other services, a comparison of 811 patient volumes versus when some emergency departments are known to be closed was performed. Based on availability of data and the volumes of calls by Forward Sortation Area (FSA, the first three values of a postal code), we looked at emergency department planned closures and compared whether 811 patient volumes were more or less than the Provincial average +/- 1 Standard Deviation (SD). Since 811 volumes can be quite low/year of individual FSA's we used all 811 FSA data from 2011 to Jan 2017. For similar reasons, we could not determine how unplanned emergency department closures affected call volumes.

Six (of 38 emergency departments in the Province) currently have planned closures overnight:

- Fisherman's Memorial (7:30 AM – 10:30 PM)
    - West Lunenburg County has a higher 811 than average patient volume at the 12:00 – 2:00 AM peak
    - 5.6% (NS average = 4.5%+/-1%)
- Cobequid Community Health Centre (7:00 – 12:00 AM)
    - Hants County is coded specifically in the 811 database and also has a higher than average call volume in the 12am-2am peak (5.7% of daily calls)
- New Waterford and North Sydney (planned closures have changed over time, both currently closed overnight)
    - Several FSA's around this area have experienced higher than normal patient volumes during the overnight peak from 12:00 – 2:00 AM
    - Sydney (5.6% of patients), Marion Bridge (5.8% of patients), Alder Point (10.2% of patients)

- Patients volumes are very low for Marion Bridge and Alder Point (1,100 and 2,100, respectively, since 2011)

Challenge: The use of 811 faxes to emergency departments do not add to an integrative health care experience because they are used infrequently and do not contain (nor do they need to) health information that will aid in patient care.

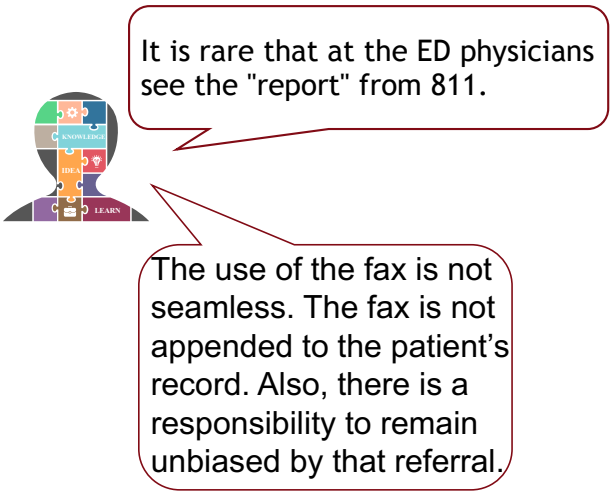
For each emergency department recommendation that 811 makes where the patient indicates that they will visit a specific location, a fax is sent to the ED so that staff are aware of the potential arrival of the patient. However, the extent that they are used is limited. For example, of all possible ED visits that were initiated due to 811 from Jan 2015 to Jan 2017, 1.8% were identified as referrals from 811 (see Table 31). Furthermore, of the 35,505 visits that were identified as positive matches initiated by 811, 2.7% were identified as 811 referrals.

In addition to a low volume of known 811 referrals (1.8 to 2.7% of possible 811 patient interactions leading to an ED visit), it was heard qualitatively during the interviews, focus groups and in open text responses to survey questions that there was low utility of the faxes that are sent from 811 to the ED that the patient was referred to.

Furthermore, of the positive anecdotes that we heard regarding 811 faxes, they were looked upon positively as a mechanism to alert staff that a patient would be coming and NOT because of relevant clinical information.

Table 31. Emergency department visit referral source

Referral Source	Percent of Visits
811 Referral	1.8%
Direct to consult	0.9%
Emergency presentation	43.0%
Admitted from home	1.6%
Null	47.8%
Own home/en route	0.9%
Referral from gp/clinic	0.3%
Return visit- planned	0.9%
Unknown admission source	2.8%
Grand total	**60,541**

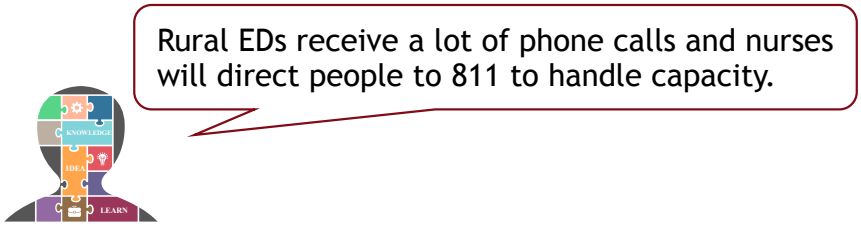


Strength: 811 Patients have a very positive perception about 811's integrative capacity.

The following survey responses (Table 32 and 33) demonstrate that 811 patients view the service as something that increases the efficiency with which they can access health information relevant to them, allows them to know what health services to access, and when they should access those health services. Altogether, these positive responses (90-93% agree or strongly agree) support a view that patients believe that 811 improves their ability to get health care information and navigate other health care services.

Table 32. *811 makes it easier for me to get the health information I need:*	*All Respondents*
Strongly disagree	1.0%
Disagree	1.4%
Neither agree nor disagree	2.4%
Agree	23.0%
Strongly agree	72.0%
Don't know	0.2%
Responses from all participants	414

Table 33. *811 makes it easier to know what health service to access and when to access them:*	*All Respondents*
Strongly disagree	0.5%
Disagree	1.2%
Neither agree nor disagree	6.5%
Agree	19.6%
Strongly agree	70.5%
Don't know	1.7%
Responses from all participants	**414**



Challenge: In general, practitioners and health care management did not provide a positive view of 811 from an integration lens.

Practitioner Perception

Four survey statements addressed practitioners' perceptions of integrations. These included a statement about (1) whether they would recommend citizens use the service as a way to navigate the health care system, and (2) statements about whether 811 improves decision regarding whether they should access care, where they should access care and when they should access care. Categories of practitioners included paramedics (who work in emergency departments), emergency nurses, family practice nurses, other nurses (i.e. public health), emergency physicians and family practice physicians.

It is important to recognize that physician survey response rate was extremely low, and paramedics were a small sample size in total (15, although this represented about 16% of pod 5 paramedics). It is therefore, difficult to determine how representative these perspectives are of the broader population.

(1) The extent that practitioners said that they would recommend 811 to patients as a way to identify the right health care services to access (see figure 21).

- Nearly 80% of both physician groups and 60% of paramedics disagreed or strongly disagreed with recommending it.
- 33-40% of paramedics, emergency nurses and family practice nurses agreed with the statement.
- 75% of "other" nurses agreed or strongly agreed with the statement.

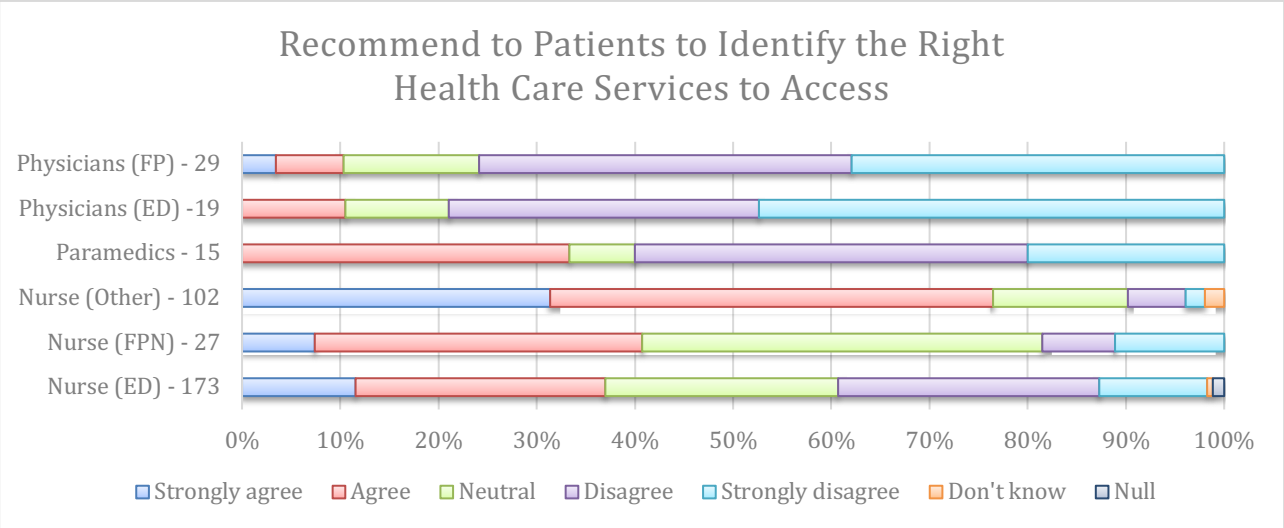


Figure 22. Practitioner responses to whether they would recommend 811 as a source for patients to determine the right health care services to access.

(2) The extent to which 811 improves decision making about which services the patient should access (see figure 22). Additional related survey statements regarding whether 811 improves decision making about when and where to access care can be found in the appendix and responses are similar to those below.

- Again, both physician groups and paramedics were more likely to disagree or strongly disagree with recommending it.
- Family practice and "other" nurses had predominantly positive responses to this statement.
- ED nurses had similar positive and negative responses.

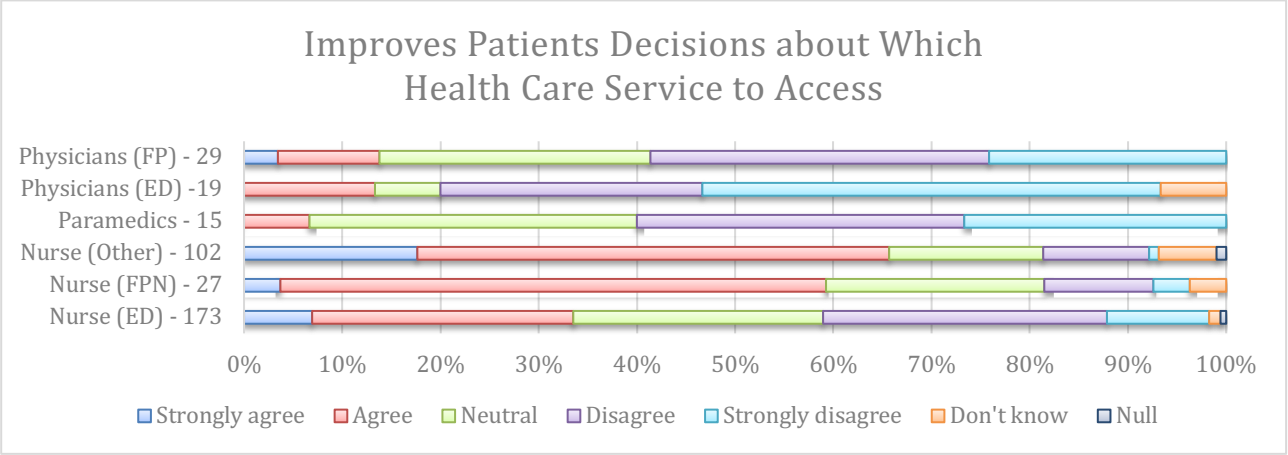
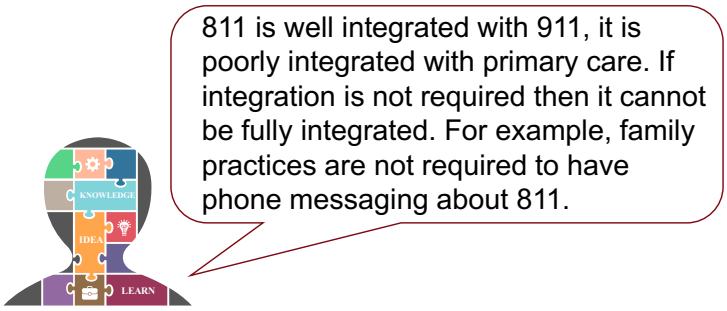


Figure 23. Practitioner responses regarding whether 811 improves patient's decision making about which health care service they should access.

In addition to responses to survey data statements, data from practitioners focus groups and open text responses in the survey highlight a few other issues that led to a lack of a positive perception of an 811 as improving integration to of the health care system including:

- Practitioners expressed the desire to know about the 811 calls because that could allow for better system planning. Currently, the data collected about caller usage and health information needed/requested is not shared outside of 811 and DHW.
- Patients who have been sent by 811 to the emergency department and to a primary health care provider have been reported to have heightened expectations that they will be prioritized.
- A lack of informational continuity with the primary care provider or other health systems reduces 811's integration.



Based on seven management interviews with eight individuals, a list of recurring themes was captured:

- The healthcare system in general could be better integrated, which limits 811's ability to integrate.
- 811 could be better integrated from a knowledge perspective, leveraging and working with local experts around health topics and guidelines.
- 811 could be better integrated from a planning perspective by using 811 calls to inform the healthcare system planning (ED, family practices, local agencies, etc.), and patient visits to inform 811 operations
- There is a lack of integration with family physicians. There is no communication to a caller's physician post-call. This is in part because there is no way to verify that a patient is actually rostered to who they have identified without return communication from that practitioner's office.
- Much of the planning work that is ongoing at NSHA, particularly with primary health care, considers how 811 can be a part of future solutions.
- 811 management and delivery are under different governance structures than the organization responsible for primary care, urgent care and continuing care, potentially creating a barrier to integration and creating an environment that could lead to a different standard for delivery service.

3.3 Evaluation Question 3

Question: To what extent does 811 provide value for money?

Context. In public sector services, government is often the source of funding and any potential economic savings associated with service delivery are not easily recognized. Additionally, value is not intrinsically tied to saving money but instead is about providing the right type of service to match the population needs. In this setting, it is the exchange of the taxes the public pays for a modern, well-functioning health system.

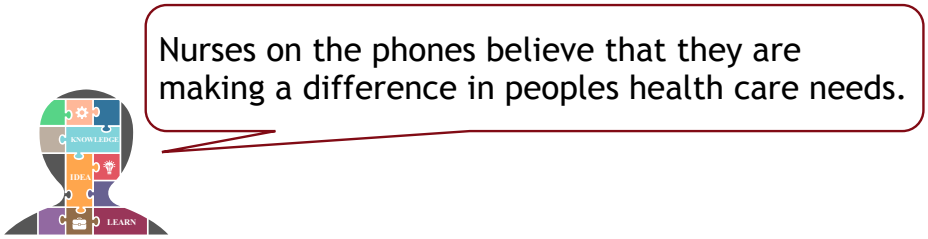
Therefore, determining value for money is more subjective as one seeks to understand if the service offered is meeting the needs of patients and Nova Scotians. It can be asserted that through this evaluation, among those who have used the service and those who were consulted, the service is meeting the needs of those who use it for access to 24/7 advice on what care to access and when, and for health information.

It is important to recognize that this question in particular is not mutually exclusive from the previous two evaluation questions. Therefore, there are data presented above that speak to the improved access and appropriateness of health advice and information and extent of integration with the health care system that also address the final question concerning value for money. As such, several references to data tables and figures already presented is necessary.

Strength: 811 patients that also present to the emergency department appear to have more severe health concerns than average non-811 user presentations, based on their acuity (CTAS Score).

When a patient presents to an emergency department, there is an initial triage that is performed to determine the immediacy with which their health concern should be addressed. This is an important mechanism that ensures that patients most in need are seen sooner than those who can wait, with low risk to their health. The Canadian Triage & Acuity Scale (CTAS) includes CTAS 1- resuscitation, CTAS 2-emergent, CTAS 3-urgent, CTAS 4-less urgent, CTAS 5-non-urgent, such that CTAS 1 is a high acuity patient who requires immediate attention and CTAS 5 is a low acuity patient who does not require immediate attention. When known patients of 811 vs. non-users of 811 who have been triaged at an emergency department are compared, at the aggregate level, there is a clear distinction between their acuity (see figures 24 to 26).

- CTAS 1 and 2 is nearly identical between groups.
- There is a greater proportion of 811 users classified at CTAS 3 (49% vs 38%).
- There is a smaller proportion of 811 users classified as CTAS 4 (34% vs 43%) and CTAS 5 (4% vs 7%).
- The percentage of CTAS 3 scores are even higher for those identified as an 811 referral.



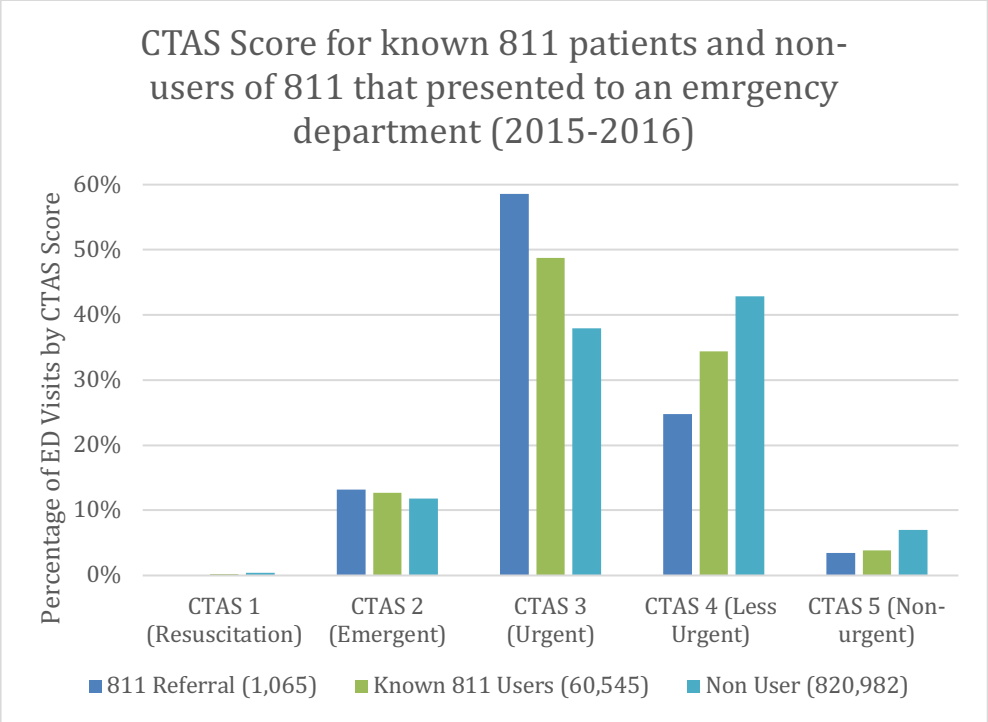


Figure 24. Comparison of emergency department provided CTAS scores between known 811 patients and non-users of 811.

811 patients were matched to determine whether their emergency department visit was likely related to the health situation that led to their 811 encounter. In addition, visits were classified based on health care users by determining how many ED visits a person had in the data period in question. Figures 25 and 26 summarize all of the patients who had 1 – 10 ED visits from April 2015 to January 2017, comparing non-users of 811 to matched 811 patients, respectively. For non-users, each plot is very similar regardless of how many visits patients have had. For example, regardless of whether a patient had one ED visit up to 10 ED visits in that time frame, in general they had a CTAS 3 score approx. 38% of the time and CTAS 4 approx. 42% of the time. However, for matched 811 patients, there is a change in the proportion of CTAS classifications based on how many times they visited the ED in that timeframe. As visit number increases, CTAS 3 proportion increases from 48% to 56% and CTAS 4 decrease 35% to 25%. This further supports the idea that 811 patients may have higher health concerns compared to the average ED presentation.

From a value perspective, this finding is important from the patient's perspective because they may have heightened health care needs and from the health system perspective because CTAS 3 is more "urgent' than CTAS 4 (less urgent)[14].

[14] The following article provides an excellent overview of the key differences between CTAS scores http://caep.ca/sites/caep.ca/files/caep/participant_manual_v2.5b_november_2013_0.pdf

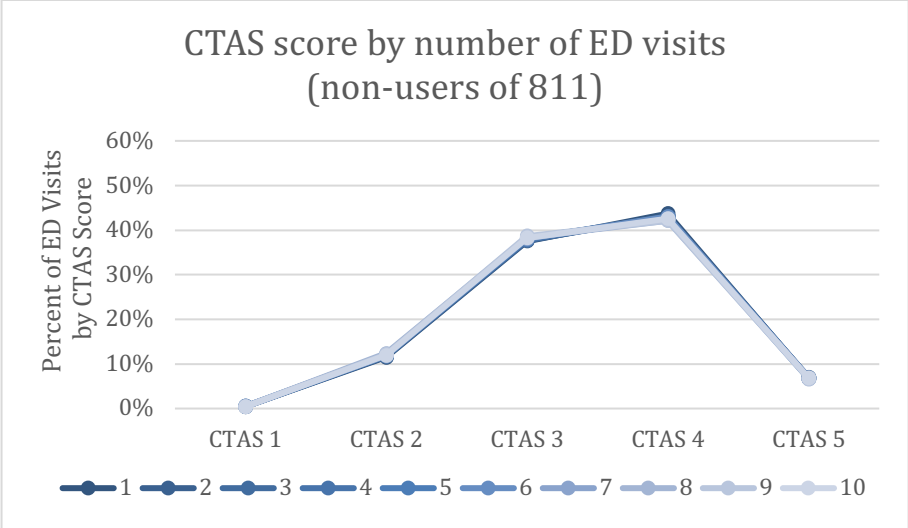


Figure 25. CTAS score for non-users of 811 plotted by how many times a patient presented to an emergency room. (1 visit, n = 168,662; 5 visits, n = 64,260; 10 visits, n = 16, 671).

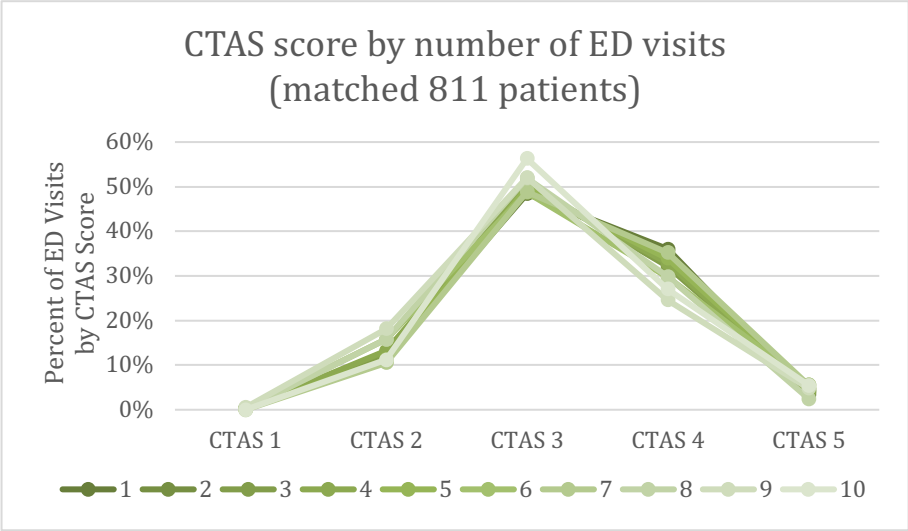


Figure 26. CTAS score for matched 811 patients plotted by how many times a patient presented to an emergency room. (1 visit, n = 27,247; 5 visits, n = 1,694; 10 visits, n = 366).

Strength: 811 patients see value because the 811 service provides access at times when access is reduced (i.e. afterhours for family practice offices).

- The majority of 811 patients access the service during the evening hours (with call volumes generally peaking from 5:00 –8:00 PM daily). This comes at a time when many primary health care offices are closing or closed and, for this reason, based on usage patterns, it is reasonable to suggest that patients

who call 811 see value in using the service to help them understand and obtain advice regarding their next best step in accessing care.

- Figures 19 and 20 highlight that the majority of daily 811 calls/patients served and patients visiting emergency departments because of 811 are doing so at a time when family practice offices are closed. Furthermore, this leads to a pattern of emergency department usage for 811 callers that is different than non-811 users. This suggests great value for 811 patients, since it allows them to access the system and receive accurate advice and information at times when these other services may be at capacity or have limited/no availability (e.g. closed office, reduced staff).
- The discussion on pages 36 and 37 highlight that in some regions with planned emergency department closures overnight, 811 usage is higher than normal during those periods. Again, this suggests that 811 is a valuable resource for Nova Scotians at a time when access to other health care professionals is reduced.

Strength: 811 patients see value in the service because they feel it provides them with high quality health information and advice which is interpretable, understandable and enables them to make better informed decisions about their health care and the care of their loved ones.

- Tables 14 – 17 confirmed this from overwhelmingly positive survey responses regarding the health information that they receive from 811.
- Similarly, Tables 32 and 33 indicate strong positive survey responses to statements that identify whether 811 makes it easier for patients to access health information and whether it enables them to know what services to access and when.
- 811 offers value because it removes the transactional search costs for patients who want trusted health information – and by virtue of calling this service, individuals do not have to search the internet, appraise the evidence and weigh the information themselves, nor worry about erring in their decision making. 811 alleviates this concern for patients because they can call and be assured that they are receiving evidence-based health information on numerous topics from a trusted source.
- As further evidence of this value, Table 34 shows that survey respondents have a reduced perceived seriousness of symptoms on average from their encounter with 811. In some instances, their perceived seriousness is escalated, and likely appropriately so. This demonstrates 811's ability to be a trusted source of advice for patients.
- 811 also offers value to Nova Scotian patients by saving them potentially unnecessary trips to a primary health care provider, walk-in clinic, and/or emergency department.

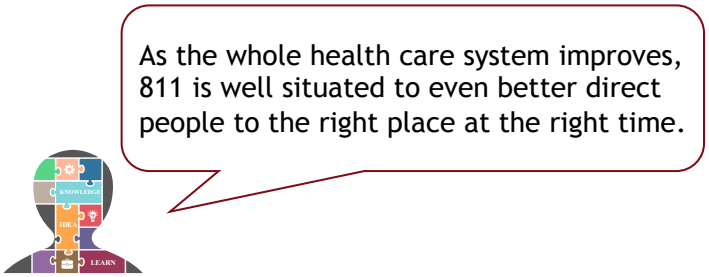


Table 34. Perceived seriousness of a health concern before calling 811 and after speaking with nurse

	Before 811		*After 811*		
	Total	%	Escalate	No Change	De-escalate
Not serious	34	9.6%	26.5%	73.5%	-
Somewhat serious	148	41.9%	23.6%	56.1%	20.3%
Serious	117	33.1%	12.8%	41.0%	46.2%
Very serious	50	14.1%	-	44.0%	56.0%
Don't know	4	1.1%	-	-	-

Challenge: Practitioners and management have mixed perspectives on the value of 811.

Based on survey responses, interviews and focus groups, it was clear that there was no consensus on the value of 811 from the groups engaged. The following highlight some of the representative key messages related to value that were heard during the consolations.

Direct quotes regarding of value for money:

"If 811 can redirect people from having to go elsewhere, it is providing a service to people that can lead to the redirection of health care costs."

"In addition to the health care system, it is saving some callers money and time while keeping them safe. This qualitative component should not be understated."

"It is difficult to determine value for money because the 811 service is "a bit of a black box". However, there is a belief that for the pediatric population (from the lens of patients that end up in the ED) that there is little or no value for money for that component."

"The greatest value is a case closure from a single telephone call. That is a person and their needs have been met by a single call, and do not need to access the healthcare system. Greatest value for Nova Scotians is treat [at home] and self-care. "

"In a system that is fractured, the perception is that there is no value for money. They are limited in their ability to be used effectively because they are essentially a referral system and require better system integration to function best."

"From a value perspective, it is difficult to determine without knowing the numbers. However, if some people are kept home than they are saving people's time."

From a practitioner's perspective, a key indicator of whether they value the 811 service or components thereof is if they would recommend it to patients. Based on the practitioner survey, the extent to which they would recommend various components of the 811 service was challenged. As many as 175 (47.9%) strongly agree or agree that they would recommend 811 as a source of accurate information. In contrast, 100 respondents (27.4%) disagree or strongly disagree with the statement. The majority of negative responses to these questions came from both physician groups, suggesting that physicians will be less likely to recommend 811 as a source of accurate information, as compared to the other health care professionals.

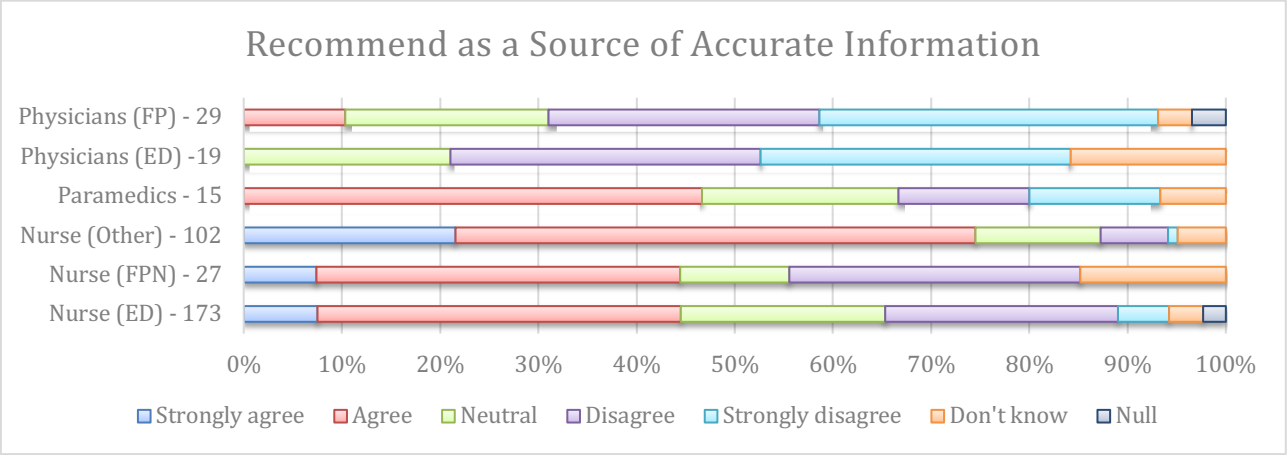


Figure 27. Practitioner responses to whether they would recommend 811 as a source of accurate health information for Nova Scotians.

Finally, the degree of satisfaction with 811 as a whole was determined via the practitioner survey (figure 27). Of the 365 practitioners that took part, 112 responded (30.7%) as very satisfied or satisfied with 811. Of the paramedics that respondent, none were very satisfied or satisfied with 811 and 129 (35.4%) were dissatisfied or very dissatisfied with 811.

Of those practitioners who were satisfied with 811 (112 practitioners total) the top reasons included:

- Rapid 24/7 access (21);
- Good, evidence-based information (15);
- People can avoid emergency or doctor office (11);
- Helps patient decide where to go (10); and,
- Reassurance (8).

Overall, many health care practitioners are not satisfied with the 811 tele-triage system, suggesting that they do not highly value the 811 service.

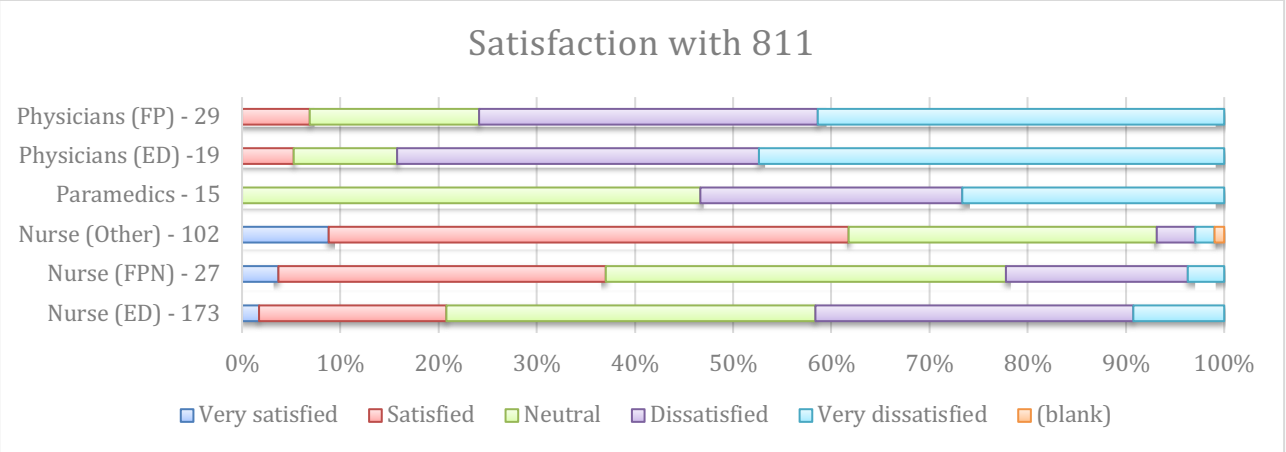


Figure 28. Practitioner responses to whether they would recommend 811 as a source of accurate health information for Nova Scotians.

When considering the survey responses in particular as they relate to the value of 811, it is important to recognize several items:

Firstly, there are no surveys of non-users of 811, and therefore no perspective included for the vast majority of Nova Scotians.

Secondly, the physician survey response rate was extremely low, and paramedics were a small sample size in total (15, although this represented about 16% of pod 5 paramedics[15]). Therefore, it is difficult to determine how representative these perspectives are of the broader population. However, the responses were relatively consistent with what was heard during the limited interviews and focus groups.

Third, while data from the caller survey suggest that there are many appropriate recommendations from 811, there are a significant amount of ED and PHCP presentations in this small data set that could have been treated with self-care or did not need any care (see Table 23 and 24). This data suggests that about 27% of those visits were possibly unnecessary from a health system perspective (i.e. not considering patient wants and needs). From a value perspective, one must ask if the 25% of patients who were recommended to go to the ED and were subsequently hospitalized and/or required immediate surgery balances out those who could have stayed home. From a patient's perspective, the visit may have been entirely appropriate. Again, with the small sample size associated with these responses, it would be irresponsible to extrapolate beyond the data set.

Finally, calls to 811 from patients peak at the same time during the day (5:00 – 8:00 PM) when emergency departments in NS are reaching capacity. Therefore, while those directed by 811 may

[15] Pod 5 paramedics are the advanced care paramedics responsible for minor injuries at the Halifax Infirmary.

generally have a higher acuity compared to non-811 patients, the likely arrival of 811 patients is probably aligning with some of the busiest times in the ED during the day. This might be contributing to the feeling among practitioners that it offers little value (despite whether it is appropriate for an individual to be there or not).

Consideration: Calculating value for Money.

Attaching a dollar value to cost savings, cost reallocation, and costs incurred, based on how 811 has influenced patients and the appropriateness of the recommendations that have been given, is a task fraught with many assumptions and unknowns. Furthermore, any savings or cost avoidance in the health care system is challenging to interpret. For instance, it is hard to estimate cost savings to an emergency department since it is operating regardless of whether 811 sends patients there or not. Based on the evaluation data available, while it is not possible to determine the true dollar value associated with the 811 service, it can be estimated how many people have been diverted from one system access point to another. (Note: In this scenario, 911 and Poison Control recommendations (transfers) have not been included because, while 811 is involved in helping patients get to 911 and Poison Control, there is less active decision making on the part of the patient based on 811's advice. Therefore, only 811 recommendations for "go to the emergency department", "contact a primary health care provider" and "self-care" were considered, and for the calendar year 2016.)

811 Recommendation: Visit an Emergency Department

- 15,431 patients were recommended, of whom 13,032 (84.5%) said they would go.
- 6,859 of the 13,032 (52.6%) were originally planning on doing something else and therefore redirected to the emergency department:
    - 321 of 6,859 (4.7%) redirected from calling 911;
    - 1,537 (22.4%) redirected from a PHCP;
    - 2,179 (31.8%) redirected from self-care;
    - 2,314 (33.7%) redirected from "other intention"; and,
    - 508 (7.4%) did not indicate their original intention.

811 Recommendation: Visit a Primary Health Care Provider

- 40,966 patients were recommended, of whom 33,652 (82.1%) said they would go to a PHCP.
- 22,229 of the 33,652 (66.1%) were originally planning on doing something else and therefore redirected to a PHCP:
    - 481 of 22,229 (2.2%) redirected from calling 911;
    - 8,700 (39.1%) redirected from an emergency department;
    - 5,767 (25.9%) redirected from self-care;
    - 6,543 (29.5%) redirected from "other intention"; and,
    - 732 (3.3%) did not indicate their original intention.

Self-Care Recommendation from 811

- 13,399 patients were recommended, of whom 12,379 (92.4%) said they would provide self-care.
- 9,135 of the 12,379 (73.8%) were originally planning on doing something else and therefore redirected toward Self-Care:
    - 106 of 9,135 (1.2%) redirected from calling 911;
    - 3,763 (41,2%) redirected from an emergency department;
    - 2,741 (30.0%) redirected from a PHCP;
    - 2,277 (24.9%) redirected from "other intention"; and,
    - 248 (2.7%) did not indicate original intention.

<u>In total:</u>

- 38,238 triaged 811 patients in 2016 for the above groups changed what they said they would do based on 811's advice. That is, 55% of the patients who said that they would go to an ED, a PHCP or administer self-care had their intentions influenced by 811:
    - 2.4% were redirected from calling 911;
    - 32.4% were redirected from an emergency department;
    - 11.2% were redirected from a PHCP;
    - 20.9% were redirected from self-care;
    - 29.2% were redirected from "other intention"; and,
    - 3.9% did not indicate their original intention.

Conceptually, the direct costs associated with the 811 callers' original intent, subtracted from the costs incurred from their new intention, would allow for cost avoidance (or spent depending on the balance) for these specific patients, but not necessarily for the system due to the sunk costs associated with normal operations. Additionally, the actual value depends on whether the 811 caller actually does what they say they would. From the caller survey, it was determined that patients said they followed the 811 advice about 86% of the time, which is consistent with the above data (59,063 of 69,796 patients or 84.5% said they would do what 811 recommended).

Considering what patients actually did, 8,053 of the 13,032 (62.6%) who said they were going to go to an ED were subsequently matched in an ED database meaning they actually visited the ED.

Interestingly, of the 21,969 ED visits that were matched to an 811 encounter (see Table 11 in Section 2), 30.8% (6,760) were from patients who said they would go to a primary care provider. Similarly, 15,155 of the 31,324 (48.4%) patients who said they would visit a PHCP were matched as having visited in the week after their 811 encounter. This suggests that although they indicated they would go to a primary care provider, approximately half did not (within the first week post call) and many ended up at an emergency department. On the other hand, of the 6,769 patients who said they would visit an ED but were matched in a physician's office, 86.5% (5,777) actually did visit an ED first.

This indicates that many patients who say they will go to an ED, actually do (62.6%). However, it appears that this is less likely for those who say they will visit a PHCP (48.4%). Furthermore, many patients who

say they will go to a PHCP instead present to an ED, suggesting that it is more difficult to access a PHCP after they call 811 than it is to access an ED.

When considering how 811 helps patients make decisions about where and when to seek care, the ability to access that service must be accounted for. Therefore, while it is indicated above that 32.4% of patients were redirected away from an ED visit based on pre-call and post-call intentions, it is probable that some of those directed to a primary health care provider instead presented to a ED. While a true dollar value associated with 811 has not been calculated, the key elements to be considered are outlined above.

3.4 Acknowledgments

There are several individuals and groups that we would like to thank for their contribution to this project including:

- Cheryl Purcell-Cotnam, Dana Mingo, Rayna Preston and Janet Ivory, from DHW, who have been invaluable in sharing their knowledge, perspectives and feedback, in addition to being involved in the development of an initial evaluation logic model.
- The Evaluation Working Group and Measurement Subcommittee for providing excellent input, particularly in the initial development of the evaluation framework and strategy.
- Doctors NS was integral in both inviting physicians to partake in the online practitioner survey and providing us with the means to engage physicians in a focus group discussion.
- The Family Practice Nurse Association for approaching their membership to partake in a focus group.
- EMCI 811 telehealth-associates for working above their regular duties to deliver the 811 caller survey. Their time and expertise was much appreciated.
- The DHW, NSHA and IWK data analytics representatives who provided us with the administrative data used for the evaluation.
- All of the physicians, nurses, and paramedics who volunteered to participate in focus groups and online surveys
- The 811 patients who volunteered their time to complete the caller survey
- Management representatives from DHW, NSHA, IWK, EMCI who participated in target interviews.
- Finally, we would like to thank our partner in this work, Blueprint, who developed the evaluation framework, evaluation strategy, the data collection tools, as well as provided overall project guidance and feedback.

4 STRATEGIC RECOMMENDATIONS

Recommendation #1: Explore opportunities to increase the utilization of 811.

The 811 service is available to all Nova Scotians at any time of day, every day of the year. The accessibility of 811, particularly during times when primary health care access is strained, make it a valuable health care resource for the public. Therefore, opportunities to increase 811 utilization should be explored including the following. (It should be noted that 811's use in Nova Scotia falls in the median range of population utilization for similar services across the country).

- Enhance public awareness and understanding of 811.

Continue to monitor 811 utilization trends over time and perform research where declines or increases in utilization are identified to better understand their occurrence. Engage in further research to determine why a significant proportion of the Nova Scotian population is not using the service more readily. Utilize the information from service use research to inform the planning and implementation of both general and targeted population awareness activities.

- Enhance health care provider outreach

Increased practitioner understanding of 811, in particular, may have a positive impact on how the service is used. By providing practitioners with a more robust understanding of how 811 is influencing peoples' behavior and increasing their understanding of the local Clinical Advisory Committee's role, it may be possible to enhance the sentiment that 811 is a "valuable" access point to health care and information.

- Identify vulnerable populations who could be better served by 811

Populations that are at risk of marginalization due to limited access to health care (e.g. location, transportation, citizens without a family practice) or understanding of the Nova Scotia system (e.g. newcomers) may be better served by using the 811 service.

- Enhance utilization of the 811 website as a health information resource

Currently, there is low utilization of the 811 website for health care information. The 811 database is an important resource that is referenced by 811 nurses during phone encounters, therefore the 811 website could be enhanced and promoted both in terms of information provided as well as its ability to help people navigate the health care system. It is critical to note that the health information provided on the 811 website has been customized for Nova Scotians making it potentially more relevant than similar health information sources that citizens can find on the internet.

Recommendation #2: Enhance 811's integration with the health system by leveraging the 811 infrastructure in ways that have not yet been used in Nova Scotia.

Efforts should be made to enhance integration with other health services (e.g. chronic disease management, supporting cancer patients with advice regarding oral chemotherapy, etc.). Additionally, reexamining the process that enables feedback from providers and enhancing providers awareness of opportunities for feedback would help to ensure that integration of 811 occurs effectively.

Recommendation #3: Create greater alignment between DHW and NSHA/IWK/EHS with respect to ongoing health system planning.

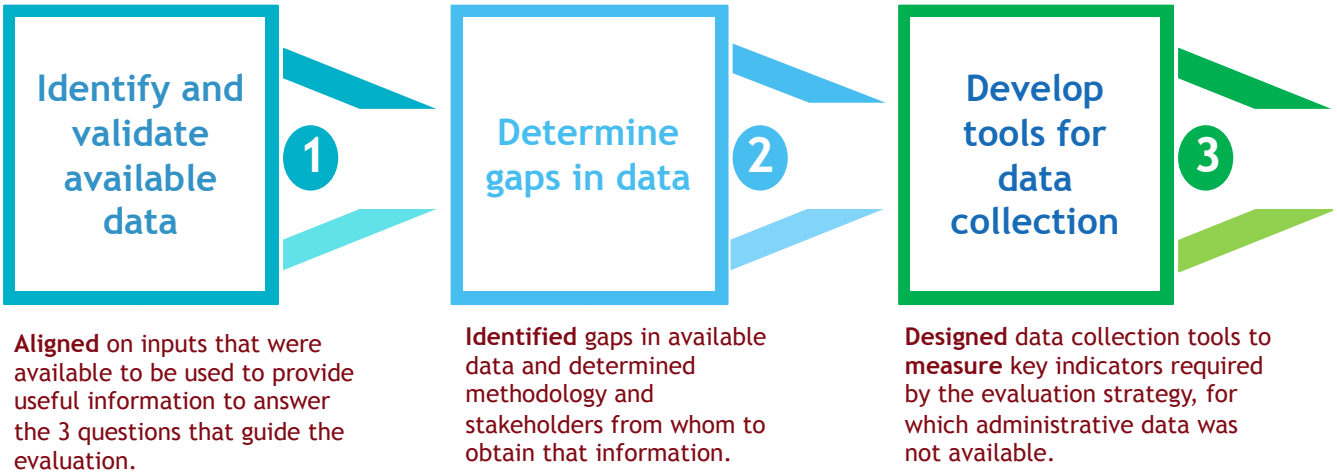
There is considerable provincial health services planning ongoing at NSHA that must consider how 811 can be used to provide better access to health care. There is an opportunity for DHW and EMCI to be involved in this planning to ensure that the 811 service is being used to its potential. From a planning perspective, knowledge of how Nova Scotians are using 811 and why they are calling 811 is very valuable. Therefore, mechanisms to share relevant 811 data with those involved in health systems planning should made available.

5 APPENDIX

5.1 Methodology

During the first phase of the evaluation, a strategy was developed that focused on ensuring that the evaluation would achieve its goals of assessing the contribution of 811 to healthcare access, healthcare integration and value for money, given the evaluation timelines and current data availability.

The evaluation strategy was built upon the existing evaluation framework for 811 that was designed by the DHW. The strategy focused on scoping key data requirements to address the guiding questions of the evaluation and identifying data gaps and potential sources to bridge these gaps. Having identified these gaps in knowledge, we developed four sets of data collection tools.



Key Data Collection Activities Completed:

- Confirmed data gaps and data collection requirements with the Evaluation Working Group and Measurement Subcommittee Group;
- Ensured that crucial indicators were measured to support the evaluation's goals;
- Developed targeted surveys of 811 users and healthcare practitioners identifying perceptions of the value of 811, and the degree to which they view it as having impacted health and health care-related activities and outcomes;
- Develop targeted interviews/focus groups for health care practitioners and service providers to obtain an in-depth assessment of practitioner views of the strengths, weaknesses, and opportunities associated with the 811 system;
- Developed data collection tools, protocols and an engagement strategy for each set of respondents and ensure feedback was incorporated from key stakeholders; and,
- Analysis of administrative data and findings from collection tools.

5.2 Description of Data Collection Tools

Four data collection tools were developed to capture specific data outlined in the Evaluation Framework and Strategy:

- 811 callers' experiences and perspectives were captured through the use of a caller survey delivered over the phone. Callers were selected in order qualify the quantitative 811 administrative data that was analyzed.
- Physicians, nurses and pod 5 paramedics were invited to participate in an online survey to capture their perspectives on 811. This was important because it covered a breadth of practitioners that interact with 811 patients, typically following their 811 encounter. Additionally, there were a high proportion of nurses focused on community work (i.e. public health) who are less likely to see 811 patients as a result of the 811 encounter.
- Each of these groups were also invited to participate in focus groups to have more open-ended discussion about relevant topics.
- The final data tool was a management interview tool used to gather the perspectives of management across health care system entities that have a stake in the outcomes of 811.

Data collection tools were developed to capture the following:

1. 811 Caller Perspectives
    a. User perceptions of the value of 811, and the degree to which they view it as having impacted health and health care-related activities and outcomes.
    b. Computer-assisted telephone survey of 811 callers. Interviewed 811 callers at random.
2. Practitioner Perspectives
    a. Practitioner perceptions of the value of 811, and the degree to which they view it as impacting health and health care-related activities and outcomes.
    b. Online surveys and interviews/focus groups of health care practitioners, in primary, urgent and continuing care settings.
3. Management Perspectives
    a. Assessments of management views (EMCI, DHW, NSHA, IWK) of the strengths, weaknesses, and opportunities associated with the 811 system.
    b. Interviews with primary health care delivery management.

Indicators captured by caller survey	
Caller's perception that they know how, when and where to access care for themselves or others as needed following interaction with 811	Caller's confidence that they understood their symptoms
Caller's perception that they received the information they needed	Caller's confidence that they understood 811 recommendation

Caller's level of confidence on how, when and where to access the care they need	Whether caller ultimately followed recommendation
Caller's confidence that they understood health information received	Why did caller follow or not follow recommendation
Caller's perception that 811 recommendation to contact/visit PHCP was appropriate	Caller's perception that 811 improves their access to health information
Callers' perception that urgent care recommendation was appropriate	Caller's perception that 811 improves their access to other health services
Indicators collected through practitioner surveys and focus groups	
Primary health care practitioners' (PHCP) perception that 811 recommendations to contact/visit them or not are appropriate based on symptoms	Practitioner perceptions of the value of 811 in providing health information to Nova Scotians
Urgent care practitioners' perception that 811-recommended patients at emergency departments have symptoms that warrant an ED visit	Practitioner perceptions of the value of 811 in providing information and recommendations on accessing healthcare to Nova Scotians
Practitioner perceptions of the value of 811 in improving healthcare system integration	
Indicators collected through management interviews	
Primary health care management's perception on the governance of 811 and how it relates to integration with the health care system	Primary health care management's perception on the service delivery of 811 and how it relates to integration into the health care system
Primary health care management's perception on the governance of 811 and how it creates value in the health care system	Primary health care management's perception on the service delivery of 811 and how it creates value in the health care system

5.3 Data Considerations

Caller survey data:
The caller survey data used in this report considered all participants' responses at face value. However, it is possible for a variety of reasons (i.e. saliency of events, multiple events occurring, poor memory, aversion to criticism) that the responses given do not reflect the true occurrence of events. Where possible the caller survey responses were matched with the administrative data by comparing the de-identified patient identifier, age range, and the reason they called. Responses were not included if there was an obvious mismatch between symptoms and guidelines used (e.g., survey says patient called because of a broken finger and the guideline used was related to a cardiac event).

Practitioner survey response rate:
Appendix Table 1 shows the survey response rates for all surveys, the timeframe in which they were collected and how the data was collected. Physician survey response rate was extremely low, and paramedics were a small sample size in total (15, although this represented about 16% of pod 5

paramedics). It is therefore, difficult to determine how representative these perspectives are of the broader population.

Appendix Table 1. Survey distribution data

Surveys Group	***Attempts***	***Completed***	***Used (%)***	***Collection Period***	***Method***
Callers	1596	437	414 (25.9%)	Nov 1 to Dec 6, 2017	Telephone (EMCI)
Paramedics	95	15	15 (15.8%)	Oct 1 to Dec 8, 2017	Online
Nurses	1421	334	302 (21.3%)	Nov 3 to Dec 5, 2017	Online
Physicians	3719	57	48 (1.3%)	Sep 18 to Dec 6, 2017	Online

Interviews and focus group samples:

Management interviews (Appendix Table 2) and practitioner focus groups (Appendix Table 3) were performed to sample their perspectives on 811; however, the information that was collected does not necessarily reflect average sentiment of the larger groups that they are a part of. The participants selected were those with good knowledge of 811 and/or the health care system in Nova Scotia in general, or had direct experiences with 811 patients (e.g. practitioners). Only two focus groups were completed due to a low interest and/or availability to participate from practitioners. Coupled with other interviews and survey responses the themes captured from these events were consistent and we believe representative of other practitioner's views. In all cases there was an acknowledgement from the group or individual that these were their opinions and perspectives based on their experiences and understanding of 811.

Appendix Table 2. Management interviews.

Management Interview	*Number of Interviews*	*Collection Period**
DHW	2	Sep 19 & Nov 24, 2017
EMCI	2	Oct 2 & Nov 9, 2017
IWK	2	Oct 3, 2017
NSHA	1	Dec 15, 2017
EHS	1	Oct 5, 2017

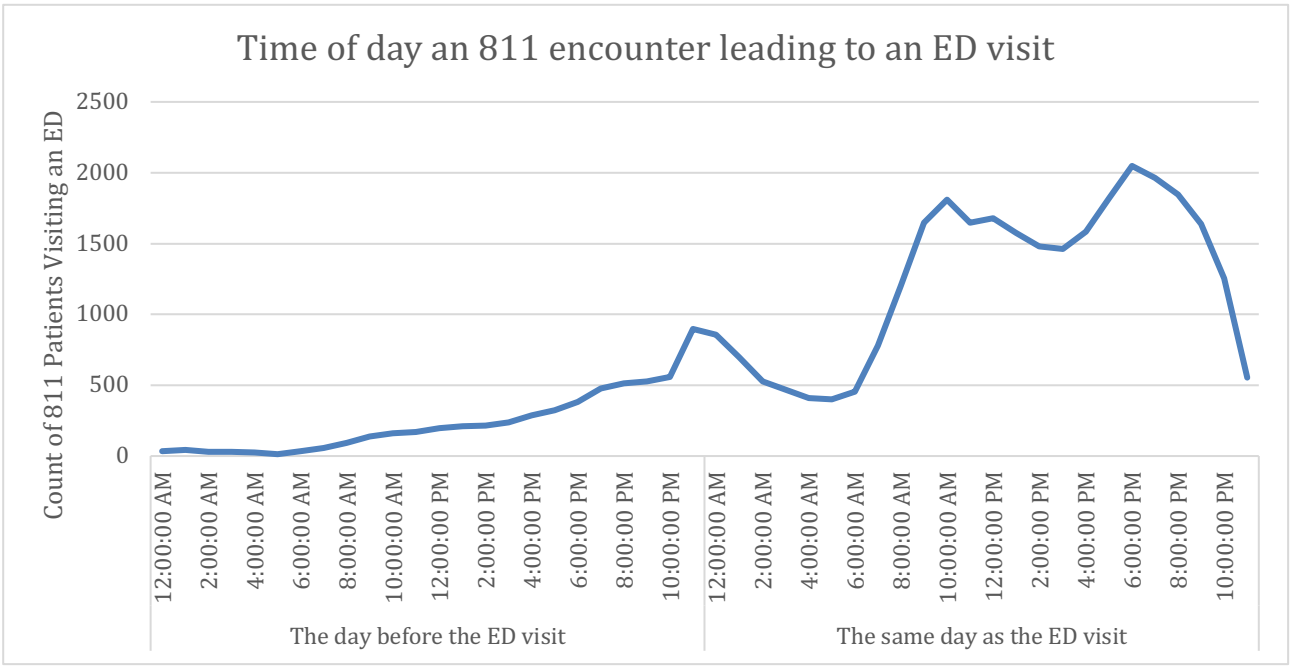
**All management interviews were conducted in-person*

Appendix Table 3. Focus Groups.

Focus Group	*Attendees*	*Collection Period*	*Method*
Family Practice Nurses	4	Nov 24, 2017	Teleconference
Physicians	15	Nov 25, 2017	In person

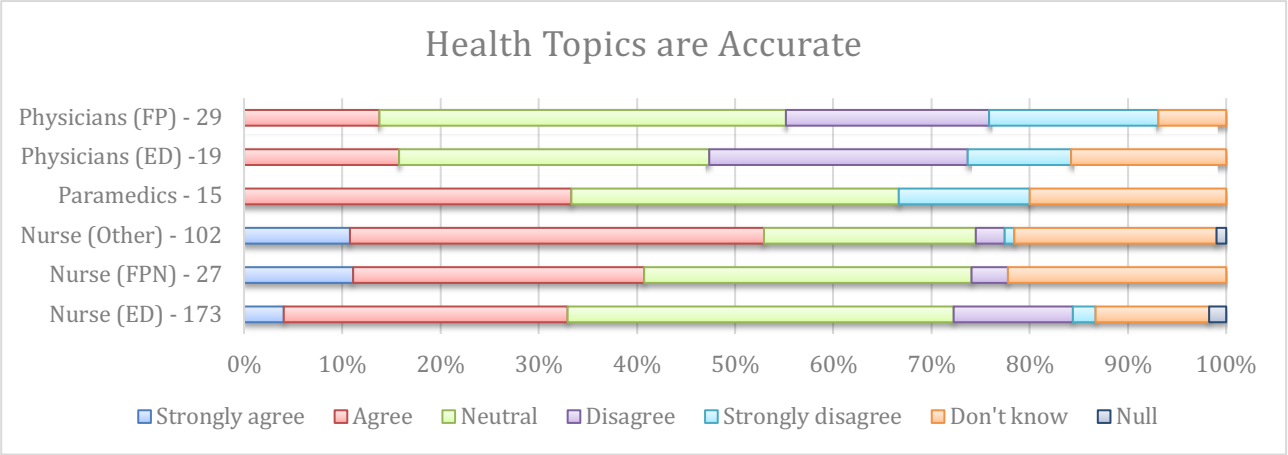
Administrative dataset:
The datasets available to the evaluators only contained data up to January 2017. Since a fiscal year 2016/2017 could not be completed, calendar years were used to analyze all of the data. However, where indicated, partial 2017 (and 2011) were used.

Matching 811 administrative data to MSI Billing Data and Emergency Department:
In all datasets a control group of patients that never used 811 during the data frame (April 2015 to March 2017) was compared to all known 811 patients that were also captured in either the ED database or the MSI database. MSI billing data was matched internally by DHW. The dataset provided to the evaluation team included an 811 patient call and their capture in MSI data subsequent to the call (up to 7 days). For these individuals only the most immediate post-call visit was captured (if multiple records occurred). ED data for all NSHA emergency departments was combined with IWK ED visits for control (non-811 patients) and 811 patients that visited a site up to seven days after their 811 encounter. Patients were matched as an encounter leading to an ED visit based on the time of their 811 call and an ED visit happening after the call on the same day or the following day. If an ED visit occurred more than one day following the 811 encounter, it was determined to be unlikely that the particular 811 call and the health situation that it no longer applied. The Appendix Figure 1 below demonstrates that when an ED visit occurs, the time of the 811 call occurs most often on the same day (with a similar hourly distribution to 811 volumes). If the call occurs on the preceding day of an ED visit, the probability of occurrence increases over the course of that previous day.

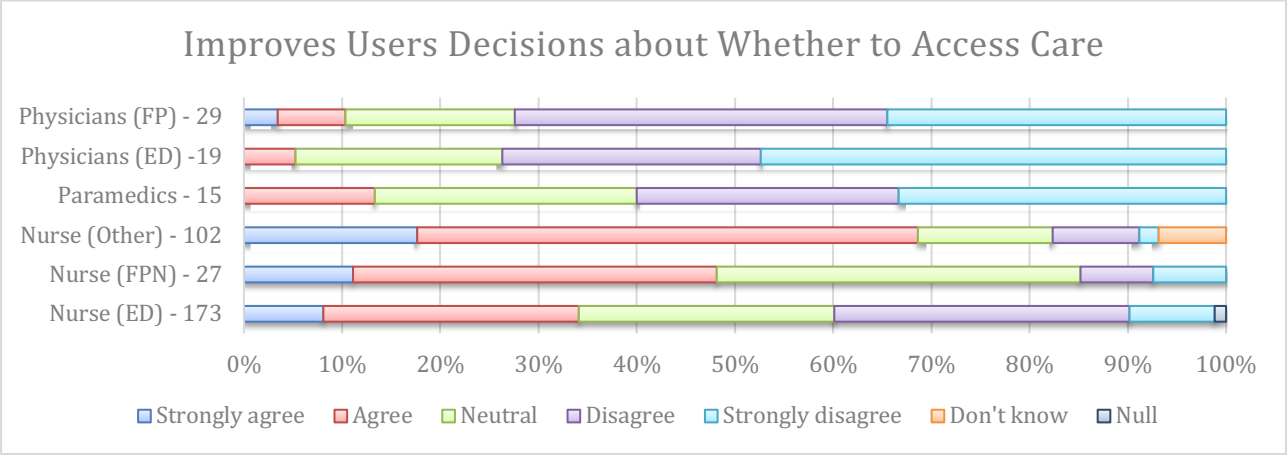


Appendix Figure 1. Time of day that an 811 call is placed the day before and the day of an associated emergency department visit.

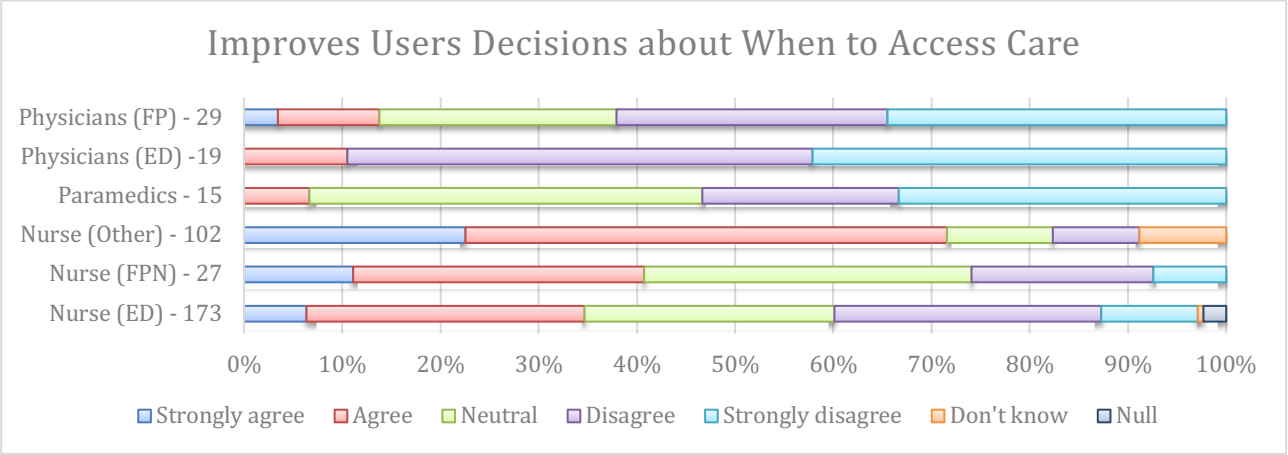
5.4 Additional Practitioner Survey Responses



Appendix Figure 2. Practitioners' responses to the statement about whether they believe the 811 health topics are accurate



Appendix Figure 3. Practitioners' responses to the statement about whether they believe the 811 health topics are accurate



Appendix Figure 4. Practitioners' responses to the statement about whether they believe the 811 health topics are accurate

5.5 Data Collection Tools

5.5.1 The 811 Tele-Triage Caller Survey

Channel, sample and duration

Survey Mode — This will be a computer-assisted telephone interview.

Sampling — Random sample of callers who used 811 in the reference month. Specific dates of reference month TBD based on data availability but should be targeted to individuals who called 811 between 14 and 21 days earlier.

While most callers receive recommendations through 811, it may be worthwhile to stratify sampling to ensure that a large number of respondents are reached who received recommendations. Further stratification may be needed, based on characteristics such as region and time of access, but should be balanced against potential impacts on sample.

Sample should be as large as is feasible given the delivery channel. This may be dependent on EMCI's contractual obligations.

Sample file should be cleaned before survey delivery to omit callers with the following characteristics from the survey sample:

- Callers with complex needs who are actively case managed

- Callers with heavy repeat usage of 811
- Callers where wellness checks were carried out regarding potential self-harm
- Callers where potential mental health issues were identified
- Callers where a death or serious injury may have been associated with the case
- Any other identified cases where survey risks resurfacing trauma on part of caller

Duration — ~10 minutes

General considerations

1. The survey introduction will be dependent on whether EMCI has existing protocols in place for phone surveying. An example introduction can be included, but before it can be incorporated into the survey design the implementation approach should be finalized.
2. Current survey is designed using language assuming that the caller is the patient. Once we've confirmed the content, alternate language can be produced for the case where the caller is calling on behalf of another, and a switch can be implemented in the survey that selects the correct set of prompts based on that data.
3. While linking survey data to 811 administrative data after surveys are completed may be a topic for further discussion, this survey does assume that some caller data can be linked before the fact to guide the telephone surveyor – particularly, whether the caller received a recommendation during their call.

Map of questionnaire

The questionnaire covers up to 21 questions, covering the following topics in this order (some will be skipped depending on response pattern). On average, we estimate the survey will take ten minutes to complete.

The call, and outcomes of the call

1. Information on caller-patient relationship
2. Information on number of patients when caller is not patient
3. Reason for call
4. Perceived urgency of health concern
5. Perceived seriousness of health concern
6. Opinions about usefulness and clarity of the call (calls with recommendations)
7. Opinions about usefulness and clarity of health information (calls without recommendations)
8. Reasons for any difficulty understanding recommendation/health information
9. 811 nurse's recommendation
10. Whether the nurse's recommendation was followed
11. The post-call course of action
12. Why the recommendation was not followed
13. What happened at ED/PHCP
14. The results of self-care

General perception of 811

15. Perception of the appropriateness of the recommendation
16. Perception of why recommendation was not appropriate
17. Perception of overall value of 811
18. Awareness and value of online content
19. Caller's education
20. Caller's household income (open ended)
21. Caller's household income (close ended, for those refusing to answer open ended)

1. Information on caller–patient relationship

Rationale — Necessary to track who caller was calling on behalf of, and ensure that they answer the remaining questions for the same patient.
Source — New question
Universe — Respondents who received a recommendation
Indicators — None
Format — Open ended with immediate coding (single answer)

Q. Were you calling for your own health concern or were you calling for someone else?

- Calling for self *[Skip to 3]*
- Calling for self and someone else *[Interviewer read "When responding to the rest of the questions about the call, respond only about the recommendations and information provided for yourself", and skip to 3]*
- Calling for someone else

2. Information on number of patients when caller is not patient

Rationale — Necessary to tell the caller which person to provide information for if they were calling for multiple people.
Source — New question
Universe — Respondents who received a recommendation and were calling on behalf of others
Indicators — None
Format — Open ended with immediate coding (single answer)

Q. How many other people were you calling on behalf of?

- One patient
- More than one patient *[Interviewer read: "When responding to the rest of the questions about the call, respond only about the recommendations and information provided for the oldest/youngest person you were calling on behalf of", with "oldest" and "youngest" randomized between respondents]*

3. Reason for call

Rationale — (1) If survey data is not linked to 811 administrative data, this information is needed to examine if the reason for the call is related to caller characteristics, following recommendations, and so on. (2) If the survey data and admin data are linked it is useful to know if they correctly recall for later sensitivity analysis (e.g., do the results change when we limit the sample to those who correctly recall the call?). In addition, this ensures that the respondent has a clear reference point for the call that further questions will refer to.
Source — Existing caller surveys (most contain this question)
Universe — All respondents
Indicators — None
Format — Open ended with immediate coding (single answer)

Q. Could you briefly describe the health concern that led you to call 811, so that we can verify our records?

4. Perceived urgency of health concern

Rationale — (1) Urgency is not recorded in the most recent administrative data and urgency may be an important determinant of the rate at which recommendations are followed. (2) Change in perceived urgency can reflect whether the call changed the caller's perception of the health issue, and may be a secondary indicator of receiving useful health information.
Source — New question
Universe — Respondents who received a recommendation
Indicators — None
Format — Close ended (single answer)

Q. Before you made the call to 811, how urgent did you think the health concern was on a 4-point scale where 1 is not urgent; 2 is somewhat urgent, 3 is urgent; and 4 is very urgent?

- 1 = Not urgent
- 2 = Somewhat urgent
- 3 = Urgent
- 4 = Very urgent

Q. <u>After</u> speaking with 811 and receiving the recommendation, how urgent did you think the health concern was on the same 4-point scale?

- 1 = Not urgent
- 2 = Somewhat urgent
- 3 = Urgent
- 4 = Very urgent

5. Perceived seriousness of health concern

Rationale — (1) Seriousness not recorded in the most recent administrative data and urgency may be an important determinant of the rate at which recommendations are followed. (2) Seriousness in perceived urgency can reflect whether the call changed the caller's perception of the health issue, and may be a secondary indicator of receiving useful health information.
Source — New question
Universe — Respondents who received a recommendation
Indicators — None
Format — Close ended (single answer)

Q. Before you made the call, how serious did you think the health concern was on a 4-point scale where 1 is not serious; 2 is somewhat serious; 3 is serious; and 4 is very serious?

- 1 = Not serious
- 2 = Somewhat serious
- 3 = Serious
- 4 = Very serious

Q. After speaking with 811 and receiving the recommendation, how serious did you think the health concern was on the same 4-point scale?

- 1 = Not serious
- 2 = Somewhat serious
- 3 = Serious
- 4 = Very serious

6. Opinions about usefulness and clarity of the call

Rationale — Captures range of indicators about caller experience for callers who received a recommendation
Source — Existing caller surveys
Universe — Respondents who received a recommendation
Indicators — (1) Caller's confidence that they understood 811 recommendation; (2) Caller perception that they received the information they needed; (3) Caller perception that they knew what steps to take to access care for themselves or others as needed following interaction with 811.
Format — Close ended (single answer)
Instructions — Questions should be rotated between respondents

Q. Next I am going to read three statements about your last 811 call. After each statement, I would like you to tell me how much you agree with it on a scale of 1 to 5, where higher numbers represent greater agreement: 1 is strongly disagree; 2 is disagree; 3 is neither agree nor disagree; 4 is agree; and 5 is strongly agree.

	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
I understood the advice provided by 811					
I received the information I needed to make an informed decision about my health concern					
After the call, I knew what steps to take in relation to by health concern					

7. Opinions about usefulness and clarity of health information

Rationale — Captures range of indicators about caller experience for callers who **did not** receive a recommendation, and may have been calling for general health information

Source — Existing caller surveys

Universe — Respondents who received a recommendation

Indicators — (1) Caller perception that they received the information they needed; (2) Caller's confidence that they understood the information they received; (3) Caller perception that they had a better understanding of the health topic they originally called about after the call.

Format — Close ended (single answer)

Instructions — Questions should be rotated between respondents

Q. I am going to read a series of statements about your last 811 call. After each statement, I would like you to tell me how much you agree with the statement on a scale of 1 to 5, where higher numbers represent greater agreement: 1 is strongly disagree; 2 is disagree; 3 is neither agree nor disagree; 4 is agree; and 5 is strongly agree.

	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
I received the information I needed during the call					
I understood the health information I received					
After the call, I had a better understanding of the health topic I originally called about					

8. Reasons for difficulty understanding recommendation/health information

Rationale — Understanding *why* a recommendation was difficult to understand should affect the steps taken to improve the understandability of recommendations.
Source — New question
Universe — Respondents who selected "Disagree" or "Strongly disagree" to Q6 or Q7 item about understanding the recommendation/information.
Indicator — None
Format — Open response with immediate coding (multiple answers)

Q. What made it difficult to understand the advice provided by 811?

- *Instructions too complicated*
- *Medical jargon*
- *Caller has difficulty understanding English/French (F/ESL caller served in English/French)*
- *Volume too low*
- *Cell phone reception poor*
- *Sound quality*
- *Ambient noise on caller's end*
- *Ambient noise on 811's end*
- *Recommendation didn't make sense given the type of symptoms I had*
- *Recommendation didn't make sense given the intensity of symptoms I had*
- *Other (interviewer enters text)*

9. 811 nurse's recommendation

Rationale — To determine if people remember the nurse's recommendation in order to frame further questions.
Source — Existing caller surveys (greatly expanded the number of response alternatives to get a better sense of what the recommendation was)
Universe — Respondents who received a recommendation
Indicator — None
Format — Open ended with immediate coding (multiple answers)

Q. What advice were you given after you explained your health concern on the 811 call? *(Interviewer: if necessary: and when did they recommend you should do it?)*

CONTACT LOCAL AGENCY (e.g., Alzheimer Society)
- Immediately
- Within 12 hours
- Within 24 hours
- Within >24 hours

DENTIST/ORAL SURGEON
Contact
- Within 12 hours
- Within 24 hours
- Within >24 hours

See
- Within 12 hours
- Within 24 hours
- Within >24 hours

SELF-CARE
- Provide Home/Self Care

911 / POISON CONTROL
- Call 911 (or patched through)
- Call Poison Control (or patched through)

VISIT EMERGENCY DEPARTMENT
- Immediately (within an hour of calling)
- Within 12 hours (but over 1 hour)
- Within 24 hours (but over 12 hours)
- Within longer than 24 hours

PRIMARY HEALTHCARE PROVIDER
See
- Immediately (less than 8 hours)
- Within 8 hours
- Within 12 hours
- Within 24 hours
- Within 48 hours
- Within 72 hours
- Within 1 week

- When office is open

Contact
- Immediately (less than 8 hours)
- Within 8 hours
- Within 12 hours
- Within 24 hours
- Within 48 hours
- Within 72 hours
- Within 1 week
- When office is open

UNSURE / OTHER
- Cannot remember/Unsure
- Other (specify) _____

10. Whether the nurse's recommendation was followed

Rationale — Determine if caller followed the 811 nurse's recommendation, both to supplement data on what happened to the caller, and frame further questions.
Source — Existing caller surveys
Universe — Respondents who received a recommendation
Indicator — Whether caller ultimately followed recommendation
Format — Open ended with immediate coding (single answer)

Q. Did you follow the advice you received from 811?
- Yes
- No
- Somewhat
- Unsure

11. The post-call course of action

Rationale — Determine callers' post-call behavior when it was not what the nurse recommended.
Source — Existing caller surveys.
Universe — Respondents who did not follow nurses' recommendations or who followed them "somewhat", according to Q10.
Indicator — None
Format — Open ended with immediate coding (multiple answers)

Q. What did you end up doing?

CONTACT LOCAL AGENCY (e.g., Alzheimer Society)
- Immediately
- Within 12 hours
- Within 24 hours
- Within >24 hours

DENTIST/ORAL SURGEON
Contact
- Within 12 hours
- Within 24 hours
- Within >24 hours

See
- Within 12 hours
- Within 24 hours
- Within >24 hours

SELF-CARE
- Provide Home/Self Care

911 / POISON CONTROL
- Call 911 (or patched through)
- Call Poison Control (or patched through)

GO TO EMERGENCY DEPARTMENT
- Immediately (within an hour of calling)
- Within 12 hours (but over 1 hour)
- Within 24 hours (but over 12 hours)
- Within longer than 24 hours

PRIMARY HEALTHCARE PROVIDER
See
- Immediately (less than 8 hours)
- Within 8 hours
- Within 12 hours
- Within 24 hours
- Within 48 hours
- Within 72 hours
- Within 1 week
- When office is open

Contact

- Immediately (less than 8 hours)
- Within 8 hours
- Within 12 hours
- Within 24 hours
- Within 48 hours
- Within 72 hours
- Within 1 week
- When office is open

UNSURE / OTHER

- Cannot remember/Unsure
- Other (specify) _____

12. Why the recommendation was not followed

Rationale — Indicates why caller did not follow nurse's recommendation, and acts as a proxy for perceptions of appropriateness.
Source — Existing caller surveys (with more detailed response alternatives added)
Universe — Respondents who did not follow nurse's recommendations or who followed them "somewhat", according to Q10
Indicator — (1) Why did caller follow or not follow recommendation, (2) Caller's perception that 811-recommendation to contact/visit PHCP was appropriate
Format — Open ended with immediate coding (multiple answers)

Q. What were your reasons for not following the advice from 811?

- Did not understand recommendation/instructions provided
- Symptoms worsened
- Symptoms persisted
- Symptoms subsided or lessened
- New symptoms developed
- Disagreed with recommendation
- Someone else told me I should not follow the recommendation
- Unable to access suggested service/No transportation
- Recently saw PHCP and did not want to go again
- Paramedics came to house (instead of caller went to emergency department)
- Other (specify) _____

13. What happened at ED/PHCP

Rationale — This question tries to indirectly measure ED/PHCP practitioners' thoughts about the caller's visit to the ED/PHCP. This should give us a sense of whether or not practitioners agree with the 811 nurse's recommendation without directly asking them. It can also be used as a measure of the appropriateness of the recommendation.
Source — New question
Universe — Respondents who visited an ED/PHCP, including people who initially did not visit and ED/PHCP and then eventually did within the follow-up period, based either on Q9 (for people who followed the recommendation, according to Q10) or Q11 (for people who did not follow the recommendation).
Indicator — Caller's perception that 811-recommendation to contact/visit PHCP was appropriate
Format — Open ended with immediate coding (multiple answers)
Instructions – Repeat healthcare service type based on the response to Q9 and Q10 (if they followed the recommendation), or Q11 (if they did not).

Q. What did the staff at the *[emergency department/doctor's office/clinic/other]* tell you or recommend that you do when you visited the *[emergency department/doctor's office/clinic/other]*?

- No treatment needed
- Self-care
- Gave me a prescription or told me to get prescription from PHCP
- Told me to go to PHCP for more thorough examination
- Admitted me to hospital
- Recommended immediate surgery
- Recommended non-immediate surgery
- Recommended a follow-up visit with PHCP
- Recommended that I see a specialist

14. The results of self-care

Rationale — Record callers' self-care outcomes as an indicator of recommendation appropriateness
Source — New question
Universe — Respondents who pursued self-care, according to Q9 or Q11
Indicator — Caller's perception that 811-recommendation to contact/visit PHCP was appropriate
Format — Open ended with immediate coding (multiple answers)

Q. What was the outcome of your self-care? What happened to your symptoms, and did you end up going to a healthcare practitioner or emergency department because of the illness or injury you originally called 811 about?

Symptoms (select one)

- Symptoms went away
- Symptoms persisted
- Symptoms worsened, or new symptoms developed

Visit to healthcare practitioner (select one)

- Has not gone to PCHP/ED
- Has gone to PCHP
- Has gone to ED

15. Perception of the appropriateness of the recommendation

Rationale — Measures indicators of appropriateness of recommendations.
Source — Existing caller surveys.
Universe — Respondents who received a recommendation.
Indicator — Caller's perception that 811-recommendation was appropriate
Format — Close ended (single answer)

Q. Looking back, how appropriate do you think that 811's advice was on a scale of 1 to 5, where 1 is not at all appropriate; 2 is not appropriate; 3 is somewhat appropriate; 4 is appropriate; and 5 is very appropriate? *(Interviewer: do not read "Not sure" aloud, but accept it if it is offered as an answer)*

- 1 Not at all appropriate
- 2 Not appropriate
- 3 Somewhat appropriate
- 4 Appropriate
- 5 Very appropriate
- Not sure

16. Perception of why recommendation was not appropriate

Rationale — Determines why a recommendation was thought to be not appropriate.
Source — New question
Universe — Respondents who reported that the recommendation was not appropriate.
Indicator — Caller's perception that 811-recommendation was appropriate
Format — Open ended with immediate coding (multiple answers)

Q. Why do you think it was not appropriate?

- I was advised to visit PHCP/ED, but I ended up not needing to
- I was advised **not** to visit PHCP/ED, but I ended up needing to
- I was advised to visit PHCP/ED within a given length of time, but I could have waited longer
- I was advised to visit PHCP/ED within a given length of time, but I should have gone sooner
- 811 didn't give me important information that I needed
- Other (specify): _____

17. Perception of overall value of 811

Rationale — Measures perceived access improvement indicator
Source — New question
Universe — All respondents
Indicator — Caller's perception that 811 improves their access to other health services
Format — Close ended (single answer)
Instructions – Questions should be rotated between respondents

Q. So far, I've have asked you about your last 811 call. Now I want you to think about the value of 811 overall, not just in relation to your last call. How much do you agree with the following statements about the usefulness of 811 on the same 1 to 5 we have used before, where 1 is strongly disagree; 2 is disagree; 3 is neither agree nor disagree; 4 is agree; and 5 is strongly agree.

	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
811 makes it easier for me to know what health services to access and when to access them					
811 makes it easier for me to get the health information I need					

18. Awareness and value of online content

Rationale — Collects information about online content
Source — New question
Universe — All respondents
Indicators — None
Format — Close ended (single response)

Now we want to ask you a few questions about online content associated with 811.

Q. Were you aware that 811 provides online health information on common health concerns?
- Yes
- No [*Skip to Q19*]

Q. How many times have you used the online content? Never, once, twice, 3–5 times, or more than 5 times?
- Never [*Skip to Q19*]
- Once
- Twice
- 3–5 times
- More than 5 times

Q. How often did you find the information you wanted on a 5-point scale where 1 is never, 2 is rarely, 3 is sometimes, 4 is often, and 5 is always?
- Never [*Skip to Q19*]
- Rarely
- Sometimes
- Often
- Always

Q. Overall, how easy do you find the online information to understand on a 5-point scale where 1 is very difficult; 2 is difficult; 3 is neither difficult nor easy; 4 is easy; and 5 is very easy?
- Very difficult
- Difficult
- Neutral
- Easy
- Very easy

19. Caller's education

Rationale — Demographics
Source — Existing surveys
Universe — All respondents
Indicators — None
Format — Open ended with immediate coding (single answer)

Finally, we have two questions to help us understand who uses 811. First, what is the highest level of education you have completed?

- Less than high school
- High school
- College
- Bachelor's degree
- Graduate degree
- Professional degree

20. Caller's household income—Report value

Rationale — Demographics
Source — New question
Universe — All respondents
Indicators — None
Format — Open ended with immediate coding (single answer)

Second, what is your best estimate of your total, household income last year from all sources, before taxes and deductions? *(Interviewer: when the respondent called for someone else (Q1=) tell the caller to report* their *household income if they ask)*

21. Caller's household income

Rationale — Demographics
Source — New question
Universe — Respondents who did not answer the previous question
Indicators — None
Format — Close ended (single answer)

Can you tell me which of the following ranges your total household income was in? Was it less than $25,000; $25,000 to less than $50,000; $50,000 to less than $75,000; $75,000 to less than $100,000; $100,000 or more?

- Less than $25,000
- $25,000 to <$50,000
- $50,000 to <$75,000
- $75,000 to <$100,000
- $100,000 or more

5.5.2 The 811 Tele-Triage Practitioner Survey

Mode, Sample, and Duration

Survey Mode — Online questionnaire

Duration — Less than 5 minutes

Sampling — The questionnaire should be sent to all practitioners for which email addresses can be obtained. Marginal delivery cost is essentially $0 so the marginal costs are due to the coding of Q5 responses and "Other (specify)" responses for Q8. Given the low cost of administering additional surveys, and the potential for low response rates from practitioners, as broad a sample as is possible is crucial to obtaining sufficient responses.

Responses should be drawn from the following practitioner groups:

- Primary healthcare doctors and nurses
- Emergency department doctors and nurses
- Continuing care doctors and nurses

Map of questionnaire

The questionnaire consists of nine questions, covering three main areas:

Overall practitioner perspectives of the value of 811

22. Self-assessed knowledge of 811
23. Opinions about value of 811 in providing healthcare access recommendations
24. Opinions about value of 811 in providing health information
25. Overall satisfaction with 811
26. Reasons for satisfaction/dissatisfaction

Practitioner experiences working with patients who have used 811, and perceptions of the appropriateness of recommendations

27. Proportion of patients who call 811 first
28. Appropriateness of 811 recommendations
29. Reasons for inappropriate 811 recommendations

Invitation to interview

30. Invitation to interview

Introduction

Thank you for taking the time to complete this survey of healthcare practitioners, as part of the evaluation of the 811 Telecare service. The purpose of this survey is to support an analysis of both the telephone and online components of the 811 service, by learning about your impressions of and experiences with the service. Your feedback will help us to better understand the strengths and weaknesses of 811 and whether it adds value for both practitioners and patients.

This survey is delivered by Davis Pier in partnership with Blueprint ADE, as independent evaluators of the 811 program. Blueprint and Davis Pier will keep your responses completely confidential, and will not share your individual responses with any other organization, including government partners. All survey data will only be reported in aggregate form, and will only be used for the purposes of measuring the effectiveness and value of the 811 Telecare program.

This survey is voluntary, and you may choose to withdraw your participation at any time by exiting the survey in your browser. If you consent to participate, please click the "begin survey" button below.

If you have any questions about this survey, please contact XX at XX.

The survey should take less than 5 minutes to complete. Each response is important for us to understand practitioner perspectives on the 811 service – thank you again for taking the time to fill the survey out.

1. Self-assessed knowledge of 811

Rationale — Measures self-assessed knowledge of 811. Can be used to screen out practitioners with no knowledge of 811, who are unable to generally provide opinions about it.
Source — New question
Indicators — None
Universe — All respondents

How much knowledge do you have about these aspects of 811?

	None 1	Very little 2	Some 3	A considerable amount 4	A great deal 5
The services 811 provides in general	Skip to end of survey				
The services 811 delivers over the telephone					
811's online services					
The goals and objectives of 811					

2. Opinions about value of 811 in providing healthcare access recommendations

Rationale — Measures evaluation indicators on overall practitioner perspectives of 811's contribution to healthcare access and integration
Source — Partially new questions, partially adapted from Alberta evaluation
Indicators — (1) Practitioner perceptions of the value of 811 in providing information and recommendations on accessing healthcare to Nova Scotians (2) Practitioner perceptions of the value of 811 in improving healthcare system integration
Universe — Respondents who responded 3+ on the knowledge of 811's services in general in Q1
Instructions – Questions should be rotated between respondents

811 provides recommendations to callers about which healthcare services to access, based on their symptoms. Based on your knowledge of 811, how much do you agree with the following statements about 811 and the healthcare recommendations it makes to callers?

	Don't know	Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5
The recommendations provided by 811 to callers are appropriate						
I would recommend 811 to patients to help them identify the right healthcare services to access						
Overall, 811 improves users' decisions about whether or not to access healthcare services in a given situation						
811 improves users' decisions about which healthcare services to access						
811 improves users' decisions about when to access the healthcare services they use						

3. Opinions about value of 811 in providing health information

Rationale — Measures evaluation indicators on overall practitioner perspectives of 811's value in providing health information to callers
Source — Partially new questions, partially adapted from Alberta evaluation
Indicators — Practitioner perceptions of the value of 811 in providing health information to Nova Scotians
Universe — Respondents who responded 3+ on the knowledge of 811's services in general in Q1
Instructions – Questions should be rotated between respondents

811 also provides general information on health topics to callers, rather than specific recommendations. How much do you agree with these statements about the health information 811 provides over the phone?

	Don't know	Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5
811 helps callers learn about health issues						
The information on health topics provided by 811 to callers is accurate						
Overall, 811 improves Nova Scotians' ability to easily access accurate information on health topics						
I would recommend 811 to patients as a resource if they have an immediate need for information on health topics						

4. Overall satisfaction with 811

Rationale — Understand the practitioner's overall view of 811. Though it is not part of the framework, this item allows us to better identify which areas may be "priority" areas for practitioners in analysis, by identifying the characteristics that align with high levels of satisfaction or dissatisfaction.
Source — New question
Indicators — None
Universe — All respondents 3+ on either online information or telephone services in Q1

How satisfied are you overall with 811?

- Very dissatisfied
- Dissatisfied
- Neutral
- Satisfied
- Very satisfied

5. Reason for satisfaction/dissatisfaction

Rationale — Understand the key drivers behind satisfaction or dissatisfaction with 811 in the eyes of practitioners – may surface key issues to explore in interviews.
Source — New question
Indicators — None
Universe — All respondents who answered 1, 2, 4, or 5 on prior question

What is the main reason you are satisfied/dissatisfied with 811? (Please use the space below to enter your answer.)

6. Proportion of patients who call 811 first

Rationale — Provides metric of the level of exposure the practitioner actually has to 811 callers, and frames the following questions (by priming respondents to consider only those patients they know use 811)
Source — New question
Universe — All respondents
Indicators — None

How often do your conversations with patients lead you to believe that they called 811 teletriage about their health issue before coming to see you?

- Never (0% of the time)
- Very rarely (around 1% – 5% of the time)
- Rarely (around 5% – 10% of the time)
- Sometimes (around 10% – 25% of the time)
- Fairly often (around 25% – 50% of the time)
- Very often (Over 50% of the time)
- Don't know

7. Appropriateness of 811 recommendations

Rationale — Directly quantifies proportion of recommendations practitioner views as appropriate
Source — New question
Universe — All respondents
Indicators — (1) Primary health care practitioner's (PHCP) perception that 811 recommendations to contact/visit them are appropriate based on symptoms (2) Urgent care practitioners' perception that 811-recommended patients at EDs have symptoms that warrant an ED visit (3) Continuing-care practitioners' perception that 811 recommendations in relation to continuing care are appropriate

When a patient received an 811 recommendation before visiting you and <u>you know the recommendation</u>, how often do you agree with the 811 recommendation?

- Very rarely (0% – 20% of the time)
- Rarely (20% – 40% of the time)
- Sometimes (40% - 60% of the time)
- Often (60% – 80% of the time)
- Very often (80% – 100% of the time)

8. Reasons for inappropriate 811 recommendations

Rationale — Provides understanding of reasons why practitioners view some recommendations to be inappropriate
Source — New question
Universe — Respondents who did not respond "Always" to question 7
Indicators — (1) Primary health care practitioner's (PHCP) perception that 811-recommendations to contact/visit them or not are appropriate based on symptoms (2) Urgent care practitioners' perception that 811-recommended patients at EDs have symptoms that warrant an ED visit (3) Continuing-care practitioners' perception that 811 recommendations in relation to continuing care are appropriate

When you disagree with 811 recommendations, what are the most common reasons that you disagree?
Select all that apply

- Health concern should have been addressed with self-care
- Patient should have been referred to primary healthcare practitioner
- Patient should have been referred to an emergency department
- Patient should have accessed healthcare sooner
- Patient did not need to visit us as immediately as was recommended
- Patient should have waited and monitored symptoms before accessing healthcare
- 811 misinterpreted patient's described symptoms
- 811 did not have important information regarding the patient's existing conditions
- Patient seemed to incorrectly remember or convey the 811 recommendation
- Other (*specify*): _____

9. Invitation to interviews

Rationale — Invites practitioners to participate in interviews
Source — New question
Universe — All respondents
Indicators — None

FOLLOW-UP INTERVIEWS

This study is also conducting interviews with practitioners. If you would be willing to participate in an interview to help us to more fully understand practitioners' attitudes towards 811 and to help improve 811 and the services it offers, please indicate so below. If you agree to participate in the follow-up, we may contact you at this email address in the near future to schedule an interview either in-person or over the phone.

- Yes, I am willing to participate in a phone interview

5.5.3 The 811 Management Interview Protocol

General considerations

This interview is designed to obtain the opinions of management in NS healthcare that have a stake in the success of 811, and their perceptions of its integration into and its value to the NS healthcare system.

The protocol consists of seven sets of questions. These questions should be considered guides – while they cover the key areas aligned with the interview's objectives, they do not need to be followed exactly, and should be modified as needed in the interview to better support soliciting unique opinions and perceptions from management.

Introduction

Thank you for agreeing to talk to us about your experiences with and perspectives about the 811 telecare service. The purpose of this interview is to support an evaluation of both the telephone and online components of the 811 service, by learning about your impressions of its **service delivery** and **governance/management**. Your feedback will help us to better understand the strengths and weaknesses of 811, whether it adds value for both practitioners and patients and how well it is integrated into the NS healthcare system. We also want to identify ways to improve 811 based on the information that we collect about its delivery.

Blueprint and Davis Pier prioritize the privacy and confidentiality of all information provided to us, and we treat all interview responses with a high level of sensitivity. We will not identify any specific individual as the source of a particular piece of information, and your responses will always remain completely anonymous in any reporting or communications.

This conversation is optional. If at any time you would like to end the interview, please let me know. After the interview we will provide you with a copy of the notes we have taken, and are happy to discuss any questions or concerns you have about how this information will be used.

Are you comfortable with this and can we proceed with the interview?

1. Please describe your role as it relates to the delivery of healthcare to Nova Scotians. What do you consider your area of expertise as it pertains to the healthcare system?
2. What do you see 811's role as in the delivery of healthcare to Nova Scotians? What are 811's strengths in delivery of healthcare? How could it be improved?
3. Please explain how 811 is (or is not) integrated with other services that deliver healthcare to Nova Scotians? (Probe as needed: What are its strengths in doing so? How could it be improved?)
4. To what extent does 811 allow Nova Scotians to access health information and services? (Probe as needed: What are its strengths in doing so? How could it be improved?)
5. In your opinion does the 811 service provide value for the money invested in it? If so, how does it provide this value? How can 811 be used to provide the greatest value for Nova Scotians?
6. Thinking about other health system work you are involved in, how does the governance of 811 compare? What are the strengths of the current approach? Where do you feel the parties involved in governing 811 can improve?
7. Can you think of anything that we have not discussed that would be helpful for me to fully understand 811 and how it contributes to healthcare delivery?

5.5.4 The 811 Practitioner Focus Group Protocol

Introduction

Thank you for agreeing to talk to us about your experiences and perspectives about the 811 Telecare service. The purpose of this focus group is to support an evaluation of both the telephone and online components of the 811 service, by learning about your impressions of and experiences with the service. Your feedback will help us to better understand the strengths and weaknesses of 811 and whether it adds value for both practitioners and patients. We also want to identify ways to improve 811 based on your experiences with the service to date.

Blueprint and Davis Pier prioritize the privacy and confidentiality of all information provided to us, and we treat all interview responses with a high level of sensitivity. We will not identify any specific individual as the source of a particular piece of information, and your responses will always remain completely anonymous in any reporting or communications.

This conversation is optional. If at any time you would like to withdraw your participation from this focus group, please let me know. After the focus group we will provide you with a copy of the notes we have taken, and are happy to discuss any questions or concerns you have about how this information will be used.

Are you comfortable with this and can we go ahead with the focus group?

1. Can you briefly describe your practice, where you work, and the patients you serve?
2. How would you describe the relevance of 811 and your awareness of it in your day-to-day practice?
    a. How familiar would you say you are with 811, and from where do you get information about 811? *(patients, other practitioners, professional networks, direct contact or materials from 811)*
    b. Do you think that you have a clear understanding of whether patients have called 811 before visiting you? Do you have a sense of how often this happens?
3. How does 811 impact your day-to-day work? Does it influence how patients access your services, or the information they have when they visit you?
4. Are there things that work well with 811? If so, what? *[PROBE: Are these things related to the recommendations people get, the health information they get, or both?]*
5. Are there things that work less well? If so, what? *[PROBE: Are these things related to the recommendations people get, the health information they get, or both?]*

6. Overall, do you think 811 meets a need or adds value in Nova Scotia's healthcare system? If so, how? If it doesn't add value, are there any changes that could be made to ensure it adds value?

7. Beyond your own practice, do you think that there are other parts of the Nova Scotia healthcare landscape that 811 might complement particularly well, or where there are particular points of tension?

8. If there is one thing that you could change with the design and delivery of 811 to make it more effective, what would you change?