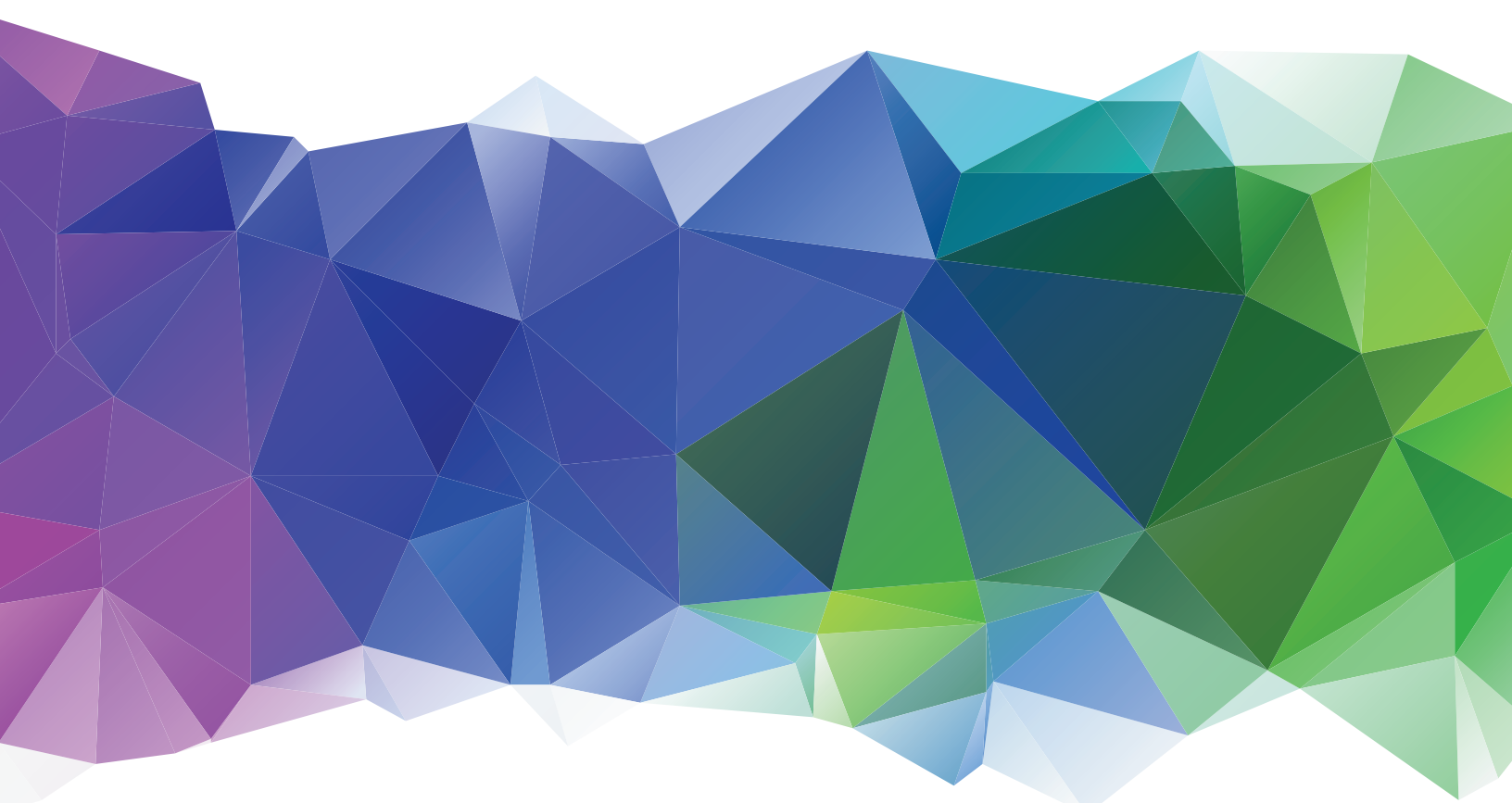


CareRightNow

Evaluating the
Collaborative Emergency Centre Experience
in Nova Scotia



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CEC EVALUATION SYNOPSIS

In 2011, the first Collaborative Emergency Centre (CEC) opened in Parrsboro, Nova Scotia. This new model of care was introduced mainly in response to concern about how often small rural hospitals had to close their emergency department, usually because there was no doctor available to cover the shift. Commonly, there were family doctors working in the community, but it was becoming very difficult for them to tend to their regular family practice patients in their clinic as well as provide emergency care at the hospital.

If a doctor was on call overnight, they generally didn't book appointments for at least part of the following day so they could catch up on sleep. Having a frequent on-call schedule also made it very difficult to recruit doctors to the community because many new doctors want a better work/life balance. All this contributed to unpredictable access to emergency services and, very often, long waits for patients to get an appointment for primary health care services.

A CEC is intended to make access to emergency care a seamless part of primary health care. It provides enhanced access to high quality comprehensive primary health care and is also capable of dealing with unexpected illness or injury in a timely fashion. A CEC has three essential, formally linked components: [1] a primary health care team, [2] urgent care capacity, and [3] a plan/protocol for emergency care in collaboration with Emergency Health Services (EHS) and the District Health Authorities (DHAs). The structure, design and staffing of CECs varies from site to site and is based on best practice and community need.

There are plans to open 14 CECs in total and currently CECs are open in 8 communities including: Parrsboro, Springhill, Tatamagouche, Annapolis Royal, Pugwash, Musquodoboit Harbour, Musquodoboit Valley and New Waterford¹. In order to inform this work, the Nova Scotia Department of Health and Wellness (DHW) commissioned an evaluation of the CECs to understand the strengths and weaknesses of the model, impact on patients' access to primary and emergency care and impact on providers working in the CEC. A framework for the evaluation of CECs was developed in partnership with stakeholders, and then an external consultant (Stylus Consulting Inc.) was hired to collect and analyse data, report findings and make recommendations.

¹ Because New Waterford is such a new CEC site, it is not included in the data analysis although a focus group was held there to talk about their experience so far.

The evaluation team had access to data and documents from the DHW, the DHAs and Emergency Medical Care (EMC) based on the data sources identified in the evaluation framework. In addition to this information, focus groups were held at each CEC site (one for providers, and another one for managers) as well as with site managers and the CEC Provincial Advisory Team. An on-line survey was also open to everyone who had been invited to a focus group (whether or not they had been able to attend) as well as to all health care providers working at a CEC.

The evaluation framework was designed with an extensive list of questions, data sources and indicators to guide the assessment of strengths and weaknesses of the CEC model. These are all spoken to in detail in the body of the evaluation report. On a high level, there are four main areas that readers need to know about to understand the impact of the CEC model to date.

The CEC model's greatest benefit appears to have been improved access to primary health care. Eighty-two percent (82%) of survey respondents agree or strongly agree that the CEC model has resulted in community members having access to daytime primary health care service that is as good as or better than it was before.

1. Has the CEC model improved access to primary health care?

Yes. At all CEC sites, patients have better access to primary health care services. This is because all sites are able to offer more hours of service to the community with extended evening hours and weekend appointments (usually 12 hours a day/7 days a week). Most sites have also been able to achieve the goal of having same day and next day appointments available for patients who need them. One way to evaluate this is to look at the change in the number of patients who are triaged as a CTAS 4 or 5 (which means they have a health concern that could be managed appropriately in a non-Emergency Department setting) before and after the CEC was established. Overnight, all CECs have seen a decrease in CTAS 4-5 presentations. This means that those patients were most likely able to get an appointment with their primary health care provider for their health concern during the extended daytime hours at the CEC.

While it's still too early to say for sure, many providers expect that better access to primary health care will result in improved chronic disease management and health outcomes. Patients with chronic illness are able to get in to see their primary health care provider in a timely way, preventing complications of their disease or, at least, catching them early. As important, patients can avoid having to use the emergency department for primary health care concerns because their family practice is available and open when an appointment is needed.

All sites have seen a decrease in CTAS 4-5 presentations overnight ranging from a 37% to 74% decrease in average number of visits per quarter since the implementation of the CEC model.

Better access to primary health care may be the most significant benefit of the CEC model. Essentially, it has shifted the hours of family doctors' work to the time of day that they are most needed. Involving a nurse practitioner or family practice nurse in the team enhances the ability of the practice to expand the range of services it offers to patients and families.

Ironically, primary health care component of the CEC model may become a victim of its own success. As people from surrounding communities learn that they can get an appointment to see a primary care provider in a fraction of the time they would need to wait for their own doctor, it would appear that more and more patients are traveling to CECs for their primary health care needs. While the size of this issue needs to be measured, it suggests that achieving 'same day/next day' access to primary health care services for all Nova Scotians should be the ultimate goal.

2. Has the CEC model improved access to high-quality emergency care appropriate for the needs of the community?

Yes. Since the CEC model was implemented, there has been a dramatic decrease in unplanned closures of local emergency departments. This has been due to the availability of registered nurses and paramedics at each site, supported by an emergency medicine doctor they can reach by telephone for advice managing a patient. More public education is needed so that community members don't expect to see a physician at the CEC during the overnight.

While it is widely agreed that access to emergency care has been improved, it is also observed that very few people have actually needed this service. On average, fewer than two people per night visit a CEC and up to 44% of the time, there are no patients at all. One consequence of such low rates of use – particularly of emergency services - is that clinicians have little opportunity to practice their skills. Providers at the CECs did observe that they are trained in some procedures that they have never had to perform, and that the standards should be reviewed to match with real need.

A key finding of this evaluation is that a wiser investment of resources would be in 'shoring up' 12 hour/day-7 day/week primary health care services (which is when the vast majority of people need access to this care) rather than continuing to fund the overnight hours (which is often not used at all).

On the matter of overnight emergency service, use of paramedics who can provide more services to patients without having to transfer them to hospital would address the need for timely response to a medical emergency as well as the concern about fees for ambulance trips when treatment can be provided within the community. In the model this evaluation suggests, treatment would actually be provided right in the patient's home. If this recommendation is implemented, it is strongly advised that the same careful attention to communication and planning that went into the introduction of the CEC model in each community be central to any change in service delivery approach.

All sites have seen a dramatic reduction in the # of hours of unplanned overnight closures, ranging from a 90-100% reduction.

Very few people go to the CEC for emergency care overnight. Based on a three-month average, about 1 patient per night visits the CEC for care. Often there are no patients seeking care at the CEC over night at all.

A key theme in focus group feedback (and the story told in the utilization data) is that the CEC model makes health services available in the community during more hours, when most people need them.

3. Has the CEC model demonstrated a patient-centered approach to care coordination and integration across the continuum?

Yes. The evaluation found that patients are far more likely to have access to the right provider, at the right time, in the right place than they did before the CEC was introduced. This is mainly because of the extended hours of primary health care services that are available to patients, and the team approach to care in addressing their needs.

The CEC model has made same-day and next-day appointments more available. Patients don't have to wait weeks to see their doctor or long hours in emergency waiting rooms for concerns that are non-urgent. Each CEC has taken a somewhat different approach to the pathway to care for patients. Some sites triage all patients who arrive, which means that a patient needs to be "discharged" from the CEC Emergency pathway to the Primary Health Care stream. At present, only a doctor can authorize this discharge and this can involve an unnecessary wait for the patient. The nurse-led discharge policy that will soon be implemented will solve this problem.

Other sites have the patient decide which pathway is right for them. Now that there is a good deal of experience with different patient pathway approaches, the CECs should get together and develop a best practice that will be used consistently across the province. All sites stressed the need for more public education about the role of the CEC, the types of services that are available, and when.

The "what" and "when" can vary from site to site due to the fact that each CEC built on the strengths and assets of the community health system prior to launch. One of the things that was grand-fathered into each local CEC model was the availability of laboratory and x-ray services (which at no site had staffing for the extended hours of the CEC). The lack of available laboratory and x-ray services during all the hours that the CEC is open means that the level of care a patient can expect on-site varies depending on what time they come for service.

While the transfer of care between the daytime and overnight CEC teams generally works well, providers reported that the lack of one integrated health information system creates inefficiency and potential risk when they need to enter data twice and in different forms. The hospital information systems do not 'talk' to the family practice Electronic Medical Record – and neither of those 'speak' to the electronic chart created by EHS. The 'one patient, one record' solution would resolve this issue.

There was feedback from providers that some patients have expressed concern about not always being able to see their own family doctor for a primary health care need. While it is felt that the ability to get an appointment sooner, either with another family doctor in the practice or with a nurse practitioner, is regarded to be a reasonable trade-off, a patient satisfaction survey will really be the most reliable measure of that opinion. This is part of the phase 2 evaluation plan.

4. What has been the experience of providers in the CEC model?

Ninety-two percent (92%) of providers at CECs responding to the evaluation survey agree or strongly agree that the team approach to care is working well in the daytime shift. Sixty-nine percent (69%) of respondents said that they are satisfied or very satisfied with the overnight shift. The lower overnight rating is likely explained by the frustration expressed by nurses that paramedics were unable to help them care for inpatients as well as the dual workflow with patient records and registration (ePCR and Meditech/STAR).

An extremely high number of providers (98%) said that they believe their CEC provides quality care to patients. Overall, providers rate their professional satisfaction working with the CEC model favourably; 76% of providers rated the CEC as a “good” or “very good” place to work. That said, providers and management alike said that the staffing model (small teams, specialized skills, rural setting) is very fragile. Sick days, vacation or retirement is a weak link in the sustainability and predictability of services.

Generally, nurses felt more confident working with paramedics with longer years of experience. At most sites, nurses in particular acknowledged some initial misgivings about the collaborative model with paramedics, but generally reported support for the team after experiencing how it worked. It is generally felt that once the nurse/paramedic team has been given time to gel, both professional groups come to value each other’s clinical skills and approach to care.

Family doctors generally reported that they like practicing at the CEC with 6 out of 8 rating it as a “good” or “very good” place to work. In the online survey, there were no doctors who said they did not like working at the CEC. While it was generally felt that the daytime team is usually quite busy, feedback in focus groups was that family doctors no longer having to cover the emergency department overnight makes it possible to provide extended daytime and weekend hours. Many also believe that this will make it easier to recruit doctors into rural communities.

The key take away for policy makers is that CECs have achieved what they set out to do. Before expanding the model to new sites on the rollout list, there are lessons to be learned from the first phase of implementation about how second-generation CEC models should develop.

Providers told us that the team approach to care is working well. The daytime shift received higher ratings (92%) than the overnight shift (69%).

Providers give the model extremely high marks, with 98% reporting that they believe their CEC provides quality care to patients.

1.0 INTRODUCTION

A Collaborative Emergency Centre (CEC) is a new model of care that is intended to make access to emergency care a seamless part of primary health care. It provides enhanced access to high quality comprehensive primary health care and is also capable of dealing with unexpected illness or injury in a timely fashion. A CEC has three essential, formally linked components: [1] a primary health care team, [2] urgent care capacity, and [3] a plan/protocol for emergency care in collaboration with Emergency Health Services (EHS) and the District Health Authorities.

The structure, design and staffing of CECs varies from site to site and is based on best practice and community need. The needs of the population are determined by population health planning methodology and community engagement. The model design is also informed by an analysis of the existing assets within the communities including but not limited to: existing collaborative practices, unique cultural and population assets, number of physicians and other health professionals in the community, distance from a regional hospital, and availability of space that can be equipped and used for urgent care, etc.

The CEC model is in place in the following communities (as of summer 2014):

- Annapolis Royal;
- Musquodoboit Harbour;
- Musquodoboit Valley;
- New Waterford;
- Parrsboro;
- Pugwash;
- Springhill; and
- Tatamagouche.

The expected benefits of a fully implemented CEC model in the short term were:

- a. improved access to primary health care;
- b. reduced emergency department (ED) closures;
- c. increased patient satisfaction;
- d. increased provider satisfaction; and
- e. reduced CEC night visits.

The Nova Scotia Department of Health and Wellness (DHW) commissioned the development of an evaluation framework to guide the assessment of the CEC model's performance as it related to the expected benefits. The first phase of evaluation, which this report addresses, focuses the strengths and weaknesses of the model with a view to informing future policy decisions about further rollout.

Section 2 of this report presents the data collected from a variety of streams including utilization reports, site-based focus groups (providers and administrators), an online survey and a document review of sources laid out in the evaluation framework.

Section 3 provides analysis of the data and is organized by question, as identified in the evaluation design.

The final section summarizes themes, key findings and recommendations.

2.0 DATA COLLECTION

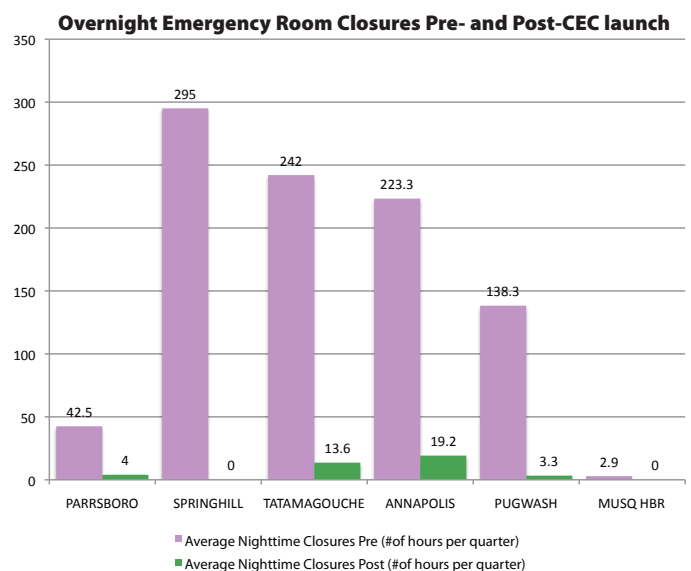
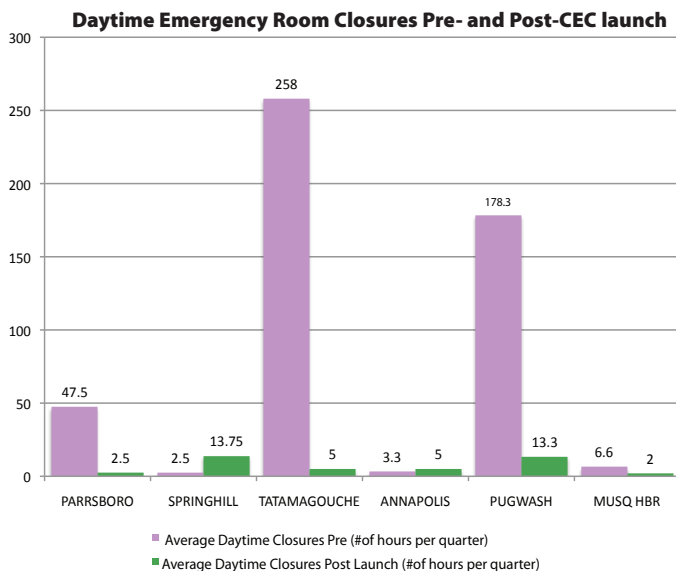
The evaluation used a mixed-methods approach, combining a series of qualitative and quantitative tools from a variety of sources as detailed below. Special consideration regarding limitations are noted where relevant in each section.

2.1 UTILIZATION DATA

Information presented in the following utilization data was collected from a number of information sources made available to the evaluation team by the Provincial CEC office. This includes data from Meditech, STAR, ePCR and NACRS. It was not possible to access information from the Nightingale EMR system.

ED Closures Pre- and post-CEC launch, by site

Data covers period from Q1- 2011-12 (April 1, 2011) to Q4 - 2013-14 (March 31, 2014). A limitation in data is that each CEC had a different opening date within this data capture period. It should also be noted that at some sites, the number of hours of service in question is very small, which results in a less meaningful pre- and post-launch measurement of change. NOTE: Musquodoboit Valley had regularly scheduled overnight closures prior to launching the CEC model and no unscheduled daytime closures pre or post CEC implementation.



Overnight utilization Pre- and post-CEC launch, by site

Data covers period from Q1- 2011-12 (April 1, 2011) to Q4 - 2013-14 (March 31, 2014). Note each CEC has a different opening date within this period.

SITE (Date of Opening)	PARRSBORO (Jul 27, 2011)	SPRINGHILL (Mar 28, 2012)	TATAMAGOUCHE (Jul 10, 2012)	ANNAPOLIS (Sep 17, 2012)	PUGWASH (Sep 19, 2012)	MUSQ HBR (Nov 20, 2012)
Nights with 0 Visits per quarter	Steady increase since launch.	Steady increase since launch; 3 to 36.	Trend towards increase nights with no visits.	Significant increase in nights with no visits; 6x increase – less than 10 to 54.	Steady increase in nights with no visits.	Slight increase in nights with no visits.
% 0 Nights per quarter	Steady increase of night with no visits; as high as 60% per quarter. Never less than 33% since opening.	Steady increase; 3% to 40% increase 32%	41%	Steady increase peaking at 60% - 44%	Steady increase; 48%	Slight increase 36%
Average # Patients/night per quarter	0.67	1.34	1.08	0.89	0.87	1.1
Volumes per quarter						
1-3 Visits	Consistent	Almost doubled from 33 to 69	Consistent	Trending towards increase	Consistent	Slight increase
4-5 Visits	Slight decrease since launch	Significant decrease since launch; 31 to 3	Steady Decrease	Significant decrease	Significant decrease	Trend in decrease
6-10 Visits	None since launch	Significant decrease; 22 to 0	Significant decrease; 0 since launch	Significant decrease; 0 since launch	Significant decrease; 0 since launch	Trend in decrease
10+ Visits	0	Some nights prior to launch; none since launch	Significant decrease; 0 since launch	Significant decrease; 0 since launch	0 since launch – not many prior	Trend in decrease

NOTE: Musquodoboit Valley has regularly scheduled closures at night.

Overnight Disposition Pre- and post-CEC launch, by site

Data covers period from Q1- 2011-12 (April 1, 2011) to Q4 - 2013-14 (March 31, 2014). Note each CEC has a different opening date within this period.

SITE (Date of Opening)	PARRSBORO (Jul 27, 2011)	SPRINGHILL (Mar 28, 2012)	TATAMAGOUCHE (Jul 10, 2012)	ANNAPOLIS (Sep 17, 2012)	PUGWASH (Sep 19, 2012)	MUSQ HBR (Nov 20, 2012)
Treat and Transfer (% of patients per quarter)	18%	17%	22%	21%	15%	21%
	Peaked post CEC and trending down	Increase post launch, trending down	Consistent, trending downward last quarter	Consistent, slight trend upward	Increasing with significant jump in last 2 quarters	Increase upon implementation that has remained steady
Treat with Follow Up (% of patients per quarter)	56%	53%	56%	44%	58%	45%
	Almost doubled over time	Consistent	Increasing steadily over time	Decreased by half over time	Steady decrease over time	Trending in decrease
Treat and Release (% of patients per quarter)	26%	30%	22%	35%	27%	34%
	Significantly decrease over time	Consistent	Consistent with decrease blip first quarter in 13/14	Steady increase over time	Decreasing with significant decline in last 2 quarters	Trending in increase

Note: Musquodoboit Valley has scheduled closures at night.

CTAS Volumes Pre- and post-CEC launch, by site

Data covers period from Q1- 2011-12 (April 1, 2011) to Q4 - 2013-14 (March 31, 2014). Note each CEC has a different opening date within this period.

SITE (Date of Opening)	PARRSBORO (Jul 27, 2011)	SPRINGHILL (Mar 28, 2012)	TATAMAGOUCHE (Jul 10, 2012)	ANNAPOLIS (Sep 17, 2012)	PUGWASH (Sep 19, 2012)	MUSQ HBR (Nov 20, 2012)
Average CTAS 4-5 Day Pre (per quarter)	587.5	1814.3	933.3	1625	1196.7	305.7
Average CTAS 4-5 Day Post (per quarter)	307.5	1150	1200	429.2	1205	185
Percent Decrease (per quarter)	47.7	36.6	22.2 (increase)	73.6	0.7 (increase)	39.5
Average CTAS 4-5 Night Pre (per quarter)	100	212.2	165	100	175	58.6
Average CTAS 4-5 Night Post (per quarter)	63	65.6	55.8	25.8	54.2	35
Percent Decrease	37	69.1	66.2	74.2	69	57.3
Average CTAS 1-3 Day Pre (per quarter)	62.5	668.8	217.5	505.8	169.1	102.8
Average CTAS 1-3 Day Post (per quarter)	63.5	759.4	244.2	485	333.3	131
Percent Decrease (per quarter)	1.6 (increase)	11.9 (increase)	10.9 (increase)	4.1	49.3 (increase)	21.5 (increase)
Average CTAS 1-3 Night Pre (per quarter)	30	125	66.7	100	25	36.4
Average CTAS 1-3 Night Post (per quarter)	16.5	53.1	29.2	25.8	25.5	46
Percent Decrease (per quarter)	45	57.5	56.2	74.2	0	9.8 (increase)

Note: Musquodoboit Valley has seen a significant decrease in daytime CTAS 4-5 presentations and has remained consistent with CTAS 1-3 (slight increase).

2.2 FOCUS GROUPS (CLINICAL PROVIDERS)

Seven semi-structured provider focus groups were held throughout the month of May 2014 – one at each CEC site across the province. The evaluation team provided invitation text (via the Provincial CEC office) to site leadership for distribution once local scheduling details had been confirmed.

The focus groups were based on open-ended facilitated discussion. For continuity, the same facilitator (who has a clinical background herself) was engaged to conduct all sessions with this subgroup. Focus group notes were recorded by the facilitator and consolidated by question/theme using a scissor-and-sort technique to summarize the discussions.

A total of 69 people attended. To minimize the limitation of participant availability, focus groups were scheduled in collaboration with site leadership and at least three weeks notice was given regarding the event. Meetings were scheduled during the time of day expected to be least disruptive to clinical care.

The professional facilitator advised the participants in advance of the purpose of the discussion, how the information would be used and that no individuals would be personally identified in the reporting due to aggregation of notes. The following is a summary of feedback to the focus group data collection instrument.

Focus Group Question: HAS ACCESS TO EMERGENCY & URGENT CARE IMPROVED?

- Before the CEC (except for a period during which another delivery model was implemented), there were frequent emergency room closures due to a lack of available physicians for many shifts, resulting in inconsistent, unreliable emergency services, and frustration for clients needing this service.
- Since this overnight CEC does not have lab and x-ray capacity, patients in this geographical area travel farther for this care.
- People sometimes find themselves being discharged from the regional hospital during the night hours, and have to call an elderly family member to come and get them. Transportation is a problem for many people living in rural communities.
- The wait-times during the day emergency are shorter, because of the triage sending non-urgent patients to the primary care clinic instead.
- Especially urgent care access is better. The community finds it easier to get an appointment to see a physician for urgent care during the day. A higher population is now being given same day access to urgent care. (They come here instead of trying to get in to see their physician in the city.) It is felt that emergency care at night was always good.
- The numbers are down during the night. This is thought to be because patients are being treated during the day.
- During the day, providing care is timelier because the physicians do not have to run between their offices and the hospital (at some sites).
- Although the community generally understands the services provided during the night, periodic explanation given through the media is necessary. Some people still question whether the emergency is open at night. The information government has provided is too generic. It has to be adapted to the specific CEC.
- When physicians had to work during the night, it affected their productivity during the day.
- The CEC has allowed us to re-organize the emergency physical space, a strength that has enhanced the ability to provide patient care.
- Although there were some people in the community that were 'dismayed' at the emergency closing at night, the benefits far outweigh the loss. The community soon realized that being able to get a same-day appointment at the clinic met most of their needs.
- We were able to alleviate the pressures on the regional hospital emergency department by handling less critical patients.

- Some days are very busy because people have started coming from a larger area (because of the timely care at the CEC), rather than waiting for longer periods at the regional hospital emergency (which is closer to these people).
- There are few casual RN's available. Now we often have to use the RN that is scheduled for the in-patient beds, leaving the LPN alone there.
- There are fewer referrals from 811. It is felt that people go to the clinic instead of calling 811.
- Emergency services are now reliable and provided with minimal wait-time. Before the CEC, the emergency department was frequently accessed for primary care, resulting in increased wait-times.
- Increased use of technology for consults with physicians could be explored, such as webcasting.
- Before the CEC, there were frequent closures (day and night). Access has definitely improved. Community is relieved that they have overnight emergency services and are fearful that they will lose them.
- Ideally there would be lab and x-ray services when the physician is on duty (12 hours). Now the nurse has to interrupt her care with the patient to draw blood, put in machine and wait (after 3:30pm). The lack of x-rays compromises access to care. If an x-ray is required, they need to keep on going to the regional hospital. From EHS's point of view, each CEC has different hours for these services, so they need to clarify who offers what and when before they decide where to take a patient.
- Some people in the community still do not understand what services are offered during the night. Possible solution: Regular communication explaining specifically how the CEC works (what services are available and how to access them).
- Before the CEC, there were few emergency room closures. But when there was, the public understood that it was due to a lack of available physicians. It is felt that now the public is aware that there are no physicians after 8pm, but they do

not understand that they can still get care (through RN's and physician telephone consult). Possible solution: A communication 'blitz', through radio and TV, explaining specifically how the CEC works (what services are available and how to access them).

- There would be benefit to being able to keep patients at the CEC emergency for longer than the present two hours for treatment.
- Many people call emergency for medical advice, instead of calling 811. Possible solution: Add this information to communication 'blitz'.
- The building does not allow for a centralized area of care. There is a physical distance between primary care and emergency. Time is lost while the physician moves from one area to the other. The physician may deliver a treatment and then need to stay to monitor its effectiveness, rather than go see another patient 'in the next room'. The lack of centralization also means that patients in the waiting room are not observed as much by nurses and physicians.
- Two separate registration areas results in increased workload and time, however, this is seen as necessary because of the lack of integration of health information systems (Nightingale and Meditech).

Focus Group Question: HAS ACCESS TO PRIMARY HEALTH CARE IMPROVED?

- We provide same or next day access to care. Wait times for primary care have been reduced, especially for those without a physician. But also, physicians are now able to see their own patients much sooner as well.
- Those requiring primary care the next day (after being seen in night emergency) are given a specific time for their return appointment.
- Physician office hours have also increased, because of not having to work during the night. When physicians had to work during the night, it affected their productivity during the day.
- Human resources are still a weak link in the chain of service delivery. During times of physician shortages,

it becomes hard for the physicians to offer primary care at their offices, because they have to staff the CEC more frequently. The physicians are still too busy to provide the required teaching, etc. for better chronic disease management.

- It is difficult to recruit experienced emergency RN's.
- The public needs education about the types of care needs that are appropriate for primary, urgent and emergency care, as well as what wait times are to be expected and considered appropriate. Some still think it is a walk-in-clinic.
- Same day access is provided, and appreciated by the community.
- (at one site ...) The use of self-triage by patients (with some help with guided questions when applicable) to determine if emergency or primary care is required is working.
- (at another site ...) All patients are triaged through emergency at this site. Then they may move to primary care, and then back to emergency for x-rays, causing confusion as well as time lost. (Patients sometimes need healthcare provider help with mobility.)
- (at another site ...) The lack of a nurse to triage (take patient history, medications, etc.), increases the workload and time required by physician with each patient.
- Physicians are able to keep more reliable hours because of not working at night.
- Some people would like to be able to book ahead, instead of the same day. Since appointments cannot be booked until 8:30am (when the physicians' offices open), some people may go to work, not knowing what time they can get in (which might be first thing in am).
- The numbers of people accessing the emergency services has dropped significantly, leading to the conclusion that primary care needs are being met during the primary care clinic hours instead. This includes chronic disease management. For

example, worsening symptoms due to asthma are dealt with during the clinic hours, avoiding a breathing emergency during the night.

- Continuity of care is threatened by patients repeatedly accessing care from the different providers at the CEC clinic, instead of their family physician.
- Although it works well for episodic care, patients with chronic care do not have continuity of care, unless they remember to book another appointment. (They wait too long before making a needed appointment with their regular practitioner.)
- There are more providers now, but access (at one site) has historically been good. They offer same or next day access to care, as long as the patient is willing to see any provider.
- Some people will come for procedures not related to acute illness, for example, pap tests and ear syringing. (The ear syringing is provided here free, while their physician will charge a fee.)
- EHS sometimes gets 'flack' because they bring patients to a CEC too late in the day shift (not just at this site).
- Many in the community are still without a family doc. Primary care at the CEC is really urgent care; more primary care access is required.
- There is a need for a sexual health clinic. (It was hoped that the CEC would include this.)
- The patients have less flexibility with this model. Before, the doctors on call would see patients during the late evening if necessary (though they weren't emergencies).

Focus Group Question: ARE YOU SATISFIED WITH CEC MODEL AS A PROFESSIONAL?

- We feel proud of the care that we provide at this CEC. It was important to be allowed to influence and guide the developments and changes from the onset.
- Maintaining your skill set for emergency care is challenging (due to limited use).

- The documentation system used at night is designed for paramedics. The RN's find it cumbersome and time-consuming.
- (at one site ...) The paramedics have much 'down-time' during the night, leading some paramedics not wanting this role.
- (at another site ...) The CEC is a great location for a paramedic who wants a less physically demanding shift than on the ambulance.
- It's frustrating that paramedics can't help with some tasks on the in-patient unit during the overnight shift. An RN/RN model would solve this, unless union issues and professional boundaries could be overcome.
- Shift changes could be smoother (from night to day and day to night) with better planning about the disposition of patients in advance of the transfer of care. In some cases, EHS seems to be slow in responding to requests for transfer of patients to the regional hospital, which puts additional burden on CEC staff in the interim. This sometimes accounts for the RN's being kept in emergency after 8pm, leading to staffing problems on the inpatient unit.
- There is frustration over the wait-time for a transfer to a regional emergency during the overnight CEC, causing anxiety.
- The RN and paramedic work well together on nights. They feel that having been given education together prior to opening the CEC played an important role towards their building a positive relationship.
- The RN's feel able to provide quality care using the CEC model. They find the work interesting, manageable and diverse.
- (at one site ...) The physicians' days are busy and there isn't enough time to provide comprehensive care.
- (at another site ...) The physicians are not so tired. Everybody feels the workload is usually manageable.
- Although the physicians use nightingale, the rest of the CEC documentation is done on paper.
- The documentation system used at night is designed for paramedics. The RN's find it cumbersome and time-consuming and state that it does not easily reflect their professional work processes.
- The registration and documentation systems are time-consuming. Patients are registered in both emergency and primary care. In emergency they have to document on their triage sheet, their nurse's notes and the ePCR.
- The mix of professionals (Registered Nurse(s), Nurse Practitioner, Paramedic(s) and Medical Doctor(s)) works collaboratively together as a team.
- Emergency care is provided without the need to multi-task.
- There is a sense of insecurity over the continued funding for education and skill acquisition/maintenance.
- The RN and paramedic have always agreed on the best 'course of action' and work well together.
- Retaining casual experienced RN's and paramedics is seen as challenging in rural communities. They do not want to move there unless a permanent position is available.
- There was concern at this site over 'grey areas' that need to be clarified for the RN (legalities over protocols, policies and procedures, and having to discharge from emergency without a physician order).
- The level of stress for RN's can be high. They are required to multi-task, doing duties such as scheduling and lab work (also impacting recruitment difficulties).
- Some RN's experience anxiety over having to consult with a physician by telephone (having and including all the pertinent information), rather than in person.
- The protocols now in place are 'EHS-driven'. The RN's would like RN protocols.
- Some physicians want more control over their working hours.
- Before the CEC, during physician shortages, physicians

frequently had to work long hours. Would prefer to have adequate physicians and continue to be 'on call'.

- There is less possible collaboration between the nurse practitioner and the physician. The physician may get 'stuck' in emergency, leaving the nurse practitioner to handle primary care.
- Physicians feel that the model has to be a 'hybrid blend' that allows flexibility when setting shadow billing thresholds. They do not want to book a full day of appointments, because of the unpredictability of the numbers of outpatients coming through.

Focus Group Question: IS THERE GOOD COORDINATION BETWEEN CEC AND THE CLOSEST 24-HR ED?

- The wait-time for EHS to respond to the need for transport is long. EHS ambulances can have long wait times at hospitals (3-6 hrs), producing a backlog of requests for services. It is also felt that another reason for this is that all the CEC's in the area make decisions about the need to transport at approximately the same time.
- Generally good. Some new emergency physicians at the regional hospital may question the reason for a patient to be transferred, but this is happening less often.
- The regional emergency physicians are sometimes not contacted by the physician sending the patient over.
- The regional emergency does not understand the services that the CEC provides (have unrealistic expectations re care and resources, or want to transfer them back).
- It is felt that unnecessary time is spent on the phone with the 24-hr. ED validating the need to send somebody over to them.

Focus Group Question: IS THERE GOOD COORDINATION BETWEEN THE SHIFTS AT THE CEC?

- The use of the overnight documentation system presents potential communication and liability issues. For the providers at the clinic the next day, finding the necessary information in it is time-consuming.
- Having primary care and emergency services in the same building contributes to success.
- Once the paramedics respond to a overnight call, they may recommend that they stay home and call the CEC the next day for a follow-up appointment. Their office sends a report to the CEC when the paramedic makes this recommendation. Concern was expressed that patients don't always follow up.
- The shifts do not over-lap, resulting in a lack of communication and continuity.
- Separate buildings present a physical barrier to communication.
- The 7-8pm hour is often chaotic and confusing. Clarity is needed about when the physicians stop seeing patients, and how to deal with end-of-shift arrivals.
- There is 'tension' over the expectation of having everything 'cleaned up' by 8pm, i.e., assessing all the patient needs, arranging transport if needed, and having that transportation often delayed.
- Some felt that it is too much to expect patients to come in at night for treatment to be started, and then to have to make another appointment to see somebody else the next day. And then this care provider may change the treatment choice, causing the patient to 'not like this'. Possible solution: An expanded RN scope of practice that would allow RN's to finish treatment rather than just start it.

2.3 FOCUS GROUPS (MANAGEMENT/ADMIN)

Seven semi-structured focus groups were held with local CEC management staff throughout the month of May 2014 – one at each CEC site across the province. The evaluation team provided invitation text (via the Provincial CEC office) to site leadership for distribution once local scheduling details had been confirmed.

The focus groups were based on open-ended facilitated discussion. For continuity, the same facilitator (who has a health management background herself) was engaged to conduct all sessions with this subgroup. Focus group notes were recorded by the facilitator and consolidated by question/theme using a scissor-and-sort technique to summarize the discussions.

A total of 37 people attended. To minimize the limitation of participant availability, focus groups were scheduled in collaboration with site leadership and at least three weeks notice was given regarding the event. Meetings were scheduled during work hours to make it easier for all levels of administration to participate.

The following is a summary of feedback, by area of investigation. The professional facilitator advised the participants in advance of the purpose of the discussion, how the information would be used and that no individuals would be personally identified in the reporting due to aggregation of notes.

Focus Group Question: WHAT ARE THE STRENGTHS OF THE CEC MODEL?

- Facilitates recruitment of professionals
- Physicians are drawn to the collaborative teamwork, and the balance of private/work life (don't need to stay overnight at hospital).
- Extended hours evenings and weekends.
- Patients say that "we don't have to go to the ED and wait for the doctor to come in ... someone will be waiting for me".
- Consolidation of physician funded hours into the daytime, which is when 99% of patients want to see them.
- Coordinated care e.g. with diabetes education centre
- Family physicians not having to provide overnight on-call (when there is low demand) has helped with recruitment and retention in rural setting and put more hours into primary health care access daytime/evening/weekend, (when there is high demand).
- Provincial locum program has been a great resource, although some sites note that it is becoming increasingly difficult to secure physician services.
- Previously put all resources into ED. Now shifting resources to more disease prevention/management.
- More resources to time of day when population needs access to care.
- Same day next day access improved.
- Patients coming from outside catchment now have primary care access.
- Strong collaborative team and working environment – EHS came into the team atmosphere.
- Patients getting into appropriate care (stream) when/where they need to be.
- Consolidation of physician funded hours into the daytime, which is when most patients want to see them.
- Group APP creates more opportunities for monitoring and evaluation of performance.
- Providers are being "pushed to scope", which is a good thing as they find it rewarding and makes good use of their skills.
- Reduction in closures
- Predictability of access to emergency services.
- 24 hour access to care

- ED closure problem has largely been resolved
- More predictable access, more predictable hours
- Perception that community members feel more confident in the local health system
- The clinical environment of the CEC is less physically demanding on paramedics than they would otherwise experience in the field. For a cohort of this profession, a CEC-based practice has particular appeal as a career choice.
- Better access to family physicians.
- More stable family physician resource (prior to CEC there were several vacancies and it was very hard to recruit).
- It is perceived that the competencies of all team members are strengthened because of the exposure to other providers and their skills that the collaborative environment creates.
- Paramedics believe that they benefit professionally from exposure to different clinical environments. Also a less physically demanding role than what they would be required to fulfill in the field.
- Working in a CEC helps paramedics better understand hospital processes and patient flow.
- A key to the CEC's success was that there has historically been a high level of interprofessional respect and collegiality.
- Ambulance response time for patient transfer (e.g. of 4 hour wait).
- EMC only has term position for paramedics in CEC. Permanent staffing only likely when long-term commitment to model is expressed by DHW.
- Physical layout of facility dictates staffing needs in terms of patient flow (between primary care / physician offices and ED). Everything under one roof is far more efficient but not always possible.
- Staffing complement is fragile – no flex / no extras - limited ability to backfill if staff member is sick or on vacation. This is mostly due to having small sites with small rural HR pools on which to draw (professional availability with right skill set / training for CEC role). HR vulnerability extends beyond MD capacity and is increasingly an issue with nursing and lab. Partial mitigation strategy is to decommission overnight hours and reinvest resources into more robust daytime service.
- Limited access to lab/DI in daytime creates different levels of care / capacity for treatment without transfer depending on what time of day the patient presents.
- Patient flow to primary care after triage/registration in the ED is administratively and clinically inefficient. This will be resolved with the implementation of the nurse-led discharge release model.
- NP's and RN's need to be able to discharge patients from emergency to primary care (CRNNS is working on this)
- Finding experienced staff (RN's and paramedics) to replace when necessary.
- Maintaining staff competencies in procedures that are rarely, if ever, performed at the CEC.
- Lack of a unified electronic documentation system.
- Sometimes uncertain when to decide to hold a patient beyond the protocol period because staff feel patient transfer could be avoided with extended local support.

Focus Group Question: WHAT ARE THE CHALLENGES OF THE CEC MODEL? HOW CAN THEY BE ADDRESSED?

- The emergency CEC (nights) receives few patients; Might be better to have 'emergency clients' call 911, with paramedic responding at their home. If transport to hospital emergency is warranted, cover the cost of the ambulance.
- Ambulance fees and people's reluctance to call for that service as this will be a personal cost (not good public understanding of the fee structure, either).

- Shift change transition times (day to night and night to day) are not always smooth and can have bottlenecks. Staggered shift changes may be a solution. An integrated health information system certainly would help.
- Paramedics are used to the Medical Oversight Physician (MOP) model but RNs have not had this experience and felt some anxiety. At a sites with an paramedic/RN overnight, there was shorter confidence building curve with the RN in relation to the MOP aspect of the model.
- Fragmented health information systems – we're stuck with what we've got and can't think passed it (also noted that every site has found work-arounds that are more or less effective but far from ideal).
- Concern about model sustainability due to the fact that a CEC nurse works completely differently than a nurse in other settings (therefore harder to replace/ smaller pool from which to draw/backfill) – small pool of providers who are trained and ready.
- High rotation turnover of paramedics at site can interrupt the progress of relationship building (acknowledging the necessity to maintain paramedic competency beyond CEC environment).
- Closures are now due to RN staff shortages rather than physician shortages.
- 90% of nurses at one site are close to retirement with concern that recruitment may be challenging.
- Sustainability of human resources over time is concerning. While nursing staff complement is presently stable, if 1 or 2 leave recruitment is expected to be challenging.
- High turnover of paramedics on team makes it difficult to team build.
- Communication of policies and processes between EHS and DHAs can break down and collaborative team members may not detect a clash in policy until "rub" is experienced.
- Different technology platforms between EHS and

DHAs can make patient care management inefficient (e.g. 12 lead ECG overnight).

- ePCR charting (nurses hate it).
- Physical plant less efficient due to the model spanning 2 buildings.
- Same day / next day appointment not always available.
- Paramedics do not always feel welcomed although the teams continue to strengthen as they have more experience together.
- Some stakeholders at one site perceived the CEC model to be imposed, which has resulted in continued resistance
- Incompatible / non-integrated health information systems create inefficiencies and potential risk. The example of different medication doses being inputted into the ePCR and Meditech was cited. Although, in that particular situation the patient was at no risk, this drew to light the potential quality issues of having separate health records documenting a single clinical event.
- ePCR and Meditech or Star double charting creates room for error and workflow redundancy.
- Challenge containing a 12-hour shift within 12 hours. Consistent need reported across sites to manage patient expectation around walk-in arrival at end of shift.
- Locum positions are not a turn key administrative operation. There is a need for more central coordination of this management support.

Focus Group Question: ARE THERE ELEMENTS OF THE CEC MODEL NEGATIVELY AFFECTING QUALITY OF CARE?

None specifically identified. There is an overall high confidence in the quality of care provided. A potential issue, however, is the loss of clinical skills at sites where patient acuity presentations are lower and the frequency of "real" emergencies is rare.

Focus Group Question: IS THE MODEL OF CARE MEETING THE COMMUNITY'S NEEDS FOR EMERGENCY CARE? IF SO, HOW?

- The problem of unplanned closures of the ED has almost completely been solved with the CEC model, which has made access to service predictable in the community. There is increased access; care is provided in a timely manner.
- It is believed that there is increased acuity at the ED because CTAS 4s and 5s are appropriately addressed in CEC.
- CEC model has addressed ED closure issue which is believed to have resulted in greater confidence by public in predictable access to emergency services.

Focus Group Question: FOR PATIENTS TRANSFERRED FROM THE CEC TO THE CLOSEST 24 HOUR ED, HAS THERE BEEN GOOD COORDINATION BETWEEN CECs AND EDs? IF SO, WHAT HAS HELPED? IF NOT, WHAT HAVE BEEN THE CHALLENGES? WHAT WOULD HELP?

- Generally coordination has been good.
- (at some sites ...) Regional hospital ED physicians need education re: CEC capacity and limitations.
- (at other sites ...) The relationship between CEC physicians and regional hospital ED staff has been strengthened with this model.
- Patients transferred to regional ED may lack transportation to get home.
- Inconsistent discharge planning between regional ED and CEC if patient requires follow-up appointment locally.

Focus Group Question: HAS ACCESS TO EMERGENCY AND URGENT CARE IMPROVED? IF SO, HOW? WHAT HAS HELPED? WHAT HAVE BEEN THE BARRIERS? HOW OFTEN IS THIS AN ISSUE? IF NOT, WHY NOT?

- Before CEC, there were frequent closures.
- Ambulance fees are a barrier to patients using that

service, either because they are concerned about the out of pocket expense and/or because there is seemingly poor understanding about the fee structure.

- Prior to CEC, patients had to wait for the on-call physician to come in to the site to see them. Now, when the patient arrives, a clinical team is already there and ready. This results in less time for patients to wait for care.

Focus Group Question: HAS ACCESS TO PRIMARY HEALTH CARE IMPROVED? IF SO, HOW? WHAT HAS HELPED? WHAT HAVE BEEN THE BARRIERS? HOW OFTEN IS THIS AN ISSUE? IF NOT, WHY NOT?

- There is increased access, including evenings and weekends; care is provided in a timely manner; chronic illness is better controlled (decreased presentations in emergency).
- Most sites are able to achieve same-day/next-day appointments most of the time. Improved access when all providers are present – business model has to reflect that minimum 3 physicians is required to assure open access.
- Challenge when one provider leaves or is sick - even planned absence can mean significant disruption to workflow and capacity.
- (at one site) Phone access has increased from 4 hours/day to 12 hours/day.

Focus Group Question: HAS CARE BEEN WELL COORDINATED WITHIN THE CEC? WHAT HAS HELPED? WHAT HAVE BEEN THE CHALLENGES? WHAT WOULD HELP?

- Collaboration and coordination between team members has been great.
- Role clarity has been there from the beginning.
- Physician support is great.

- Collaboration on nights working well.
- CEC night staff use Meditech or Star to register a patient and can only provide patients with a paper-based appointment instruction for a next-day follow-up visit to the daytime clinicians at the CEC. An integrated information system where patients' follow-up appointment can be booked and confirmed by the night shift before sending the patient home would be preferred.

Focus Group Question: HAVE THERE BEEN ANY UNINTENDED OUTCOMES FROM THE IMPLEMENTATION OF THE CEC MODEL? IF SO, WHAT ARE THEY?

- Impression that EDs are seeing patients with increased acuity (because the less urgent patients have been dealt with in primary care).
- There has been a decrease in 'no-shows'.
- Better access to primary health care by patients outside the catchment area but concern that this may strain local resources.
- Probably providing better chronic disease management because of easier access to primary health care and would be interested in finding out if this is proven through next phase evaluation.
- The relationship between local family physicians and their regional ED counterparts has improved.
- Nurses on the night shift feel a high level of physical security with a uniformed paramedic presence on site.
- The workload changed, but it didn't increase.
- Unexpected outcome that it works as well as it does.

Focus Group Question: WHAT LESSONS HAVE BEEN LEARNED REGARDING THE CEC IMPLEMENTATIONS TO DATE? HOW CAN THESE LEARNINGS BE USED IN THE DEVELOPMENT OF NEW CECs AND IN OTHER SETTINGS?

- Rely on your champions to send positive messages and communications.

- Have one manager for both the primary care and emergency care of the CEC, avoiding the 'we' against 'them' mentality.
- Try to avoid having two buildings on site, since this necessitates increased staffing, such as clerical support, which is not funded.
- Have early physician to physician communications re: CEC in order to get buy-in.
- Engage all stakeholders at the earliest possible time that implementation is being considered (public, colleges, unions, etc.).
- Need ongoing community education/awareness re: CEC role/model – cannot assume that the public understands. A pie chart to show proportion of patients who are treated and released versus transferred to a different facility would be a useful patient education tool.
- Worst case clinical scenarios will be a source of high anxiety in the early stages of team development, which are only allayed through time and direct local experience.
- Must have people who can make decisions on the operations committee and advisory group so that planning/implementation can happen in real time.
- Emergency standards are generally believed to exceed clinical need based on patient presentations and these should be reviewed (e.g. needle decompression). Excessive standards make staffing and competency maintenance more difficult.
- Paramedics and RNs are trained/oriented for very different patient assessment approaches/processes. While this can create tension in the early phase of professional collaboration, it is widely reported that both professions come to value the skill set of the other and feel that resulting patient care is actually improved.
- All MOPs were hand-chosen. Attention to this chemistry appears to have been as important as the focus on site-based team building.

- In implementing a new site, be realistic with lead time from planning to launch, with a fixed deadline to go-live. Don't open a CEC in the summer. Don't open a CEC over Christmas.
- Important to give communications collateral to receptionists (such as FAQ) to support community education with consistent messaging about model, how to access it, etc.
- In early phase of launch (first 6 months), don't advertise the bar too high. Manage expectation e.g. same day/next day access until processes become smooth. "The public won't remember the 10 times it does work, they will remember the 1 time it doesn't."
- Health records / admin are key to change management as front end enablers of collaboration.
- RN/RN model is operationally easier (because the district has management control over this human resource) but on balance is not preferred. This is because nurse recruitment can be difficult and it is generally felt that the paramedic (particularly ACP) brings a strength to the team.
- Site managers must be good at knowing how to troubleshoot/team-build/remove barriers for clinical staff to be most effective. Knowing how to lead from behind is important.
- Reception staff are literally the front line of patient/public education about the CEC model and how it is appropriately used. They must be supported by scripts to ensure they present consistent pathways and information to patients seeking service.
- The implementation of the CEC model in and of itself will not be the catalyst for the creation of a collaborative environment. Either a high degree of stakeholder readiness and/or intensive change management supports are necessary preconditions to the model's success. If stakeholder tensions existed before, a CEC model is not a remedy.
- Having an Operations Committee throughout implementation is very important.
- Support by DHW provided by the Provincial and

Medical Oversight lead was invaluable.

- There is often down-time on the night shift. A productive use of this time could be a mobile simulation training program, which would build/maintain competency and contribute to team building as well.
- Provider satisfaction in the model is a critical success factor ("soft stuff matters").
- Weekly team meetings are important to establish communication as routine rather than only in crisis.
- Patients will choose primary care over the ED if primary care is easily accessible.

An additional focus group was held in New Waterford (11 participants) where clinical and administrative staff were asked to share overall impressions of their experience to date. This CEC model is still not fully operational and is unique in the province. Care is provided by a mobile team comprised of a nurse and paramedic, who are deployed to respond to patients' homes to deliver service, either by referral from the daytime primary health care team or by direct patient request.

Close professional networks have been an historical strength in this community and all professional groups credited a collaborative approach to problem-solving as key to adapting the CEC approach to their local context. The challenge of dual registration and charting systems noted at other sites was echoed here.

Rates of referrals to this service have been very low. One reason may be that the initial promotion of the service was to instruct community members to access the mobile team by calling 911. The combination of public misconception that this would result in out-of-pocket costs for ambulance fees, and a cultural predisposition to avoid calling 911 for anything short of a life and limb medical crisis may have suppressed service uptake. To address this, the public was redirected to call 811 instead. The continued low referral rate may be due to a lag in public awareness about the new pathway or could be because there

is simply no demand for this service. This will be known following a separate evaluation of the site's experience.

2.4 ONLINE SURVEY

An online survey was administered in June/July 2014 using the Nova Scotia Government SurveySelect online platform.

The survey was designed to customize question pathways based on whether a participant self-identified as "clinical" or "management", only revealing questions that are relevant to that particular data source. For example, a set of questions about provider satisfaction were included in the pathway of those who selected their primary role with the CEC as being "clinical". Additional filters were set for those working in the daytime and overnight hours.

The survey included a mix of single-option multiple choice (Likert scale) and open-ended (open field comments box). For Likert scale questions, respondents were able to select a "cannot rate" option in order to offset any potential inflation or deflation of results. In cases where participants provided a negative response ("strongly disagree" or "disagree"; "very bad" or "bad") they were encouraged to provide narrative for a deeper understanding.

Survey results were analyzed using the SurveySelect filters function. In addition, results were downloaded into Microsoft Excel for further analysis and data presentation. Responses to quantitative survey questions have been anonymized.

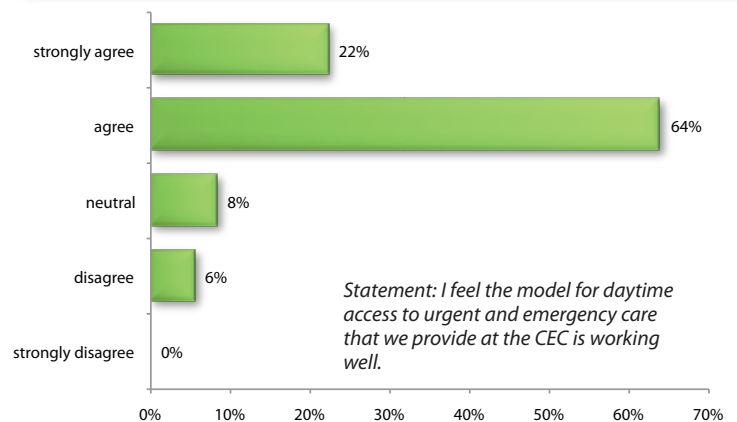
Some questions were analysed using filters to undertake comparative group analysis. For example, in the provider satisfaction questions, the evaluators analysed the results in aggregate as well as by professional cohort to determine if there were differences in response patterns.

The following presents the results from that data collection. Percent values are rounded to the nearest whole number. All instances of "cannot rate" cleaned from the aggregate values presented in these results.

There was a total of 98 participants in the online survey, of which 80% of respondents were clinical providers and 20% were management/administration staff. The results present participant feedback from all CEC sites across Nova Scotia.

Two data limitations are that [1] the total potential pool of respondents is unknown, although it can be confirmed that there was some representation from all sites and that all professional groups represented in the sample; and [2] for many questions, no baseline data is available to compare pre- and post- CEC experience. Furthermore, for such domains as provider satisfaction, no comparative data is available outside of the CEC setting.

Survey response results to the statement "I feel the model for daytime access to urgent and emergency care that we provide at the CEC is working well.": 86% agreed or strongly agreed, 8% were neutral and 6% disagreed (none strongly).



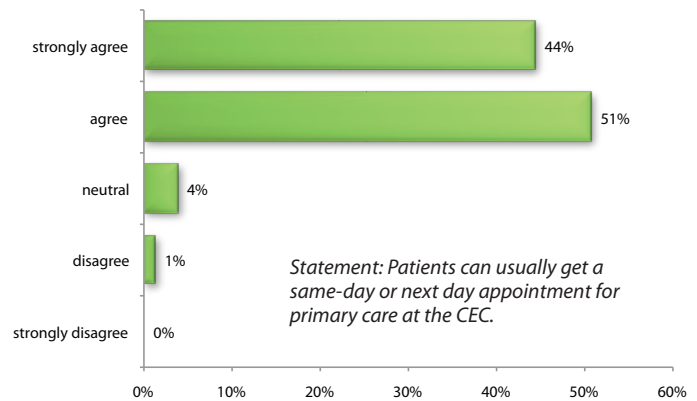
All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- EHS cannot transport any patients that are a CTAS 1 or 2, all 3s need to be discussed with the doctor that is working to determine if they are

appropriate or not for the facility. This has left room for picking and choosing patients some that are felt not appropriate could have had care started there at least. Due to the decrease in acuity at the site is has left staff very worried that they are losing skills and will not be able to perform when they do have an acute patient. The fact that not all lab tests can be performed on site and no x-ray after 4 and on weekends does not allow the doctors to practice the way they used to.

- Patients are quickly moved after-hours or brought back for assessment the following day.
- The public doesn't understand the model and that they can call and make appointments ahead of time. It is time consuming for doctors to walk up and down the hall.
- It occasionally gets confusing when we send patients to primary health after triage in the ED and then have them sent back to the hospital area for treatments or labs.
- The physical layout of the facility creates an ongoing challenge for patient flow.
- Physician staff need to remember that they are responsible for all patients for the entire shift, right up to the end of the shift.
- It works alright, but could be improved with more radiology services - 12 hr coverage 7 days per week, not just Monday to Friday 8-4. Wait times to transfer patients from the CEC to the regional hospital can be frustrating as well.

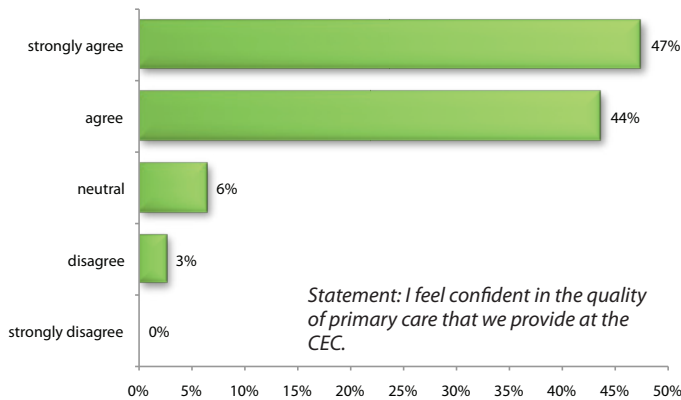
Survey response results to the statement "Patients can usually get a same-day or next day appointment for primary care at the CEC.": 95% agreed or strongly agreed, 4% were neutral and 1% disagreed (none strongly).



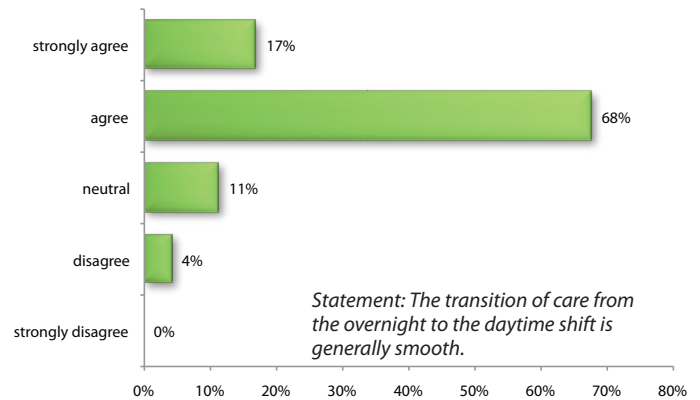
All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- True for same day appointments but booking ahead for next day appointments has not been initiated for full utilization at the CEC.
- All patients are seen when they present and often return for follow up. Unfortunately it breaks the thread of family physician care. Some patients have no family physician. I do get concerned about patients coming for drugs.

Survey response results to the statement “I feel confident in the quality of primary care that we provide at the CEC.”: 91% agreed or strongly agreed, 6% were neutral and 3% disagreed (none strongly).



Survey response results to the statement “The transition of care from the overnight to the daytime shift is generally smooth.”: 85% agreed or strongly agreed, 11% were neutral and 4% disagreed (none strongly).



All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- Excellent nursing staff and outside consultants.
- (I am not comfortable) not having a MD on-site to physically assess and treat patients.
- We did not have the opportunity to try suturing. I would not be comfortable suturing someone now.

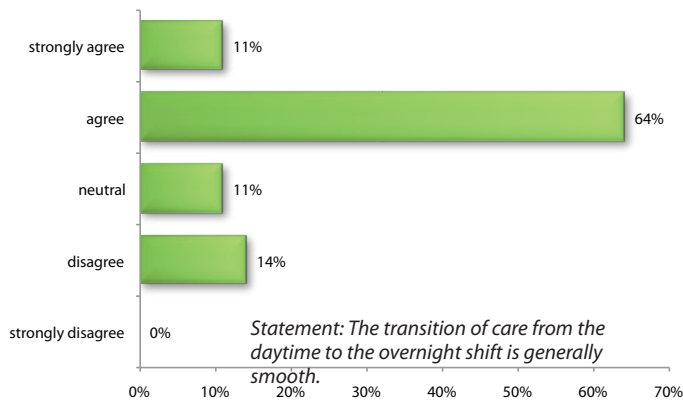
All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- There does not seem to be communication between MOP and doctor coming on, there have been times when patient arrives within the last hour paramedic believes the patient is stable enough to wait for on coming physician and does not complete ePCR or call MOP when lab and x-ray could have been ordered to help the incoming physician more quickly assess and treat.
- Most times it is okay but there are some instances if the patient is complicated and shows up after 0600 that we are expected to keep them until 0800 when the ER doctor comes in and that can cause some problems.
- Rarely are there any issues. One topic that has come up was the fact that, if there is a transfer of care, the oversight physician doesn't always communicate directly with the ER physician starting in the morning.
- There is some confusion at times about when the incoming staff and physician will actually take over.

- The night RN staff go home at 0700, leaving 2 new daytime staff to work with the CEC medic until 0830 when the Daytime CEC doctor comes in.

the 8pm hand-off by physician difficult. Physicians try to clear the ED prior to leaving at 8pm but has been difficult at times.

Survey response results to the statement "The transition of care from the daytime to the overnight shift is generally smooth.": 75% agreed or strongly agreed, 11% were neutral and 14% disagreed (none strongly).

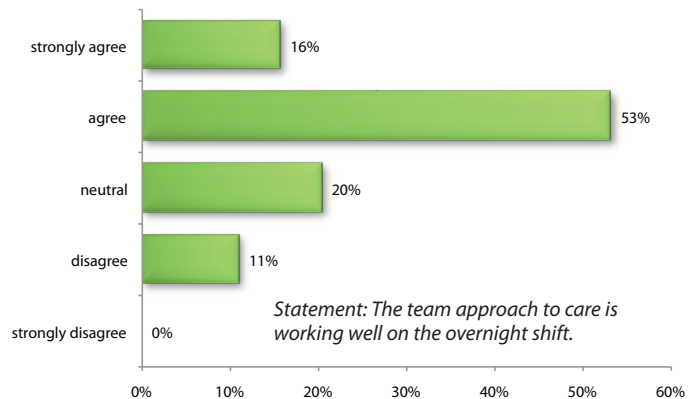


All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- MOP will sometimes comment and ask questions if the patient has arrived before 2000 why they have not been seen by the daytime doctor.
- Due to the difference in shifts between nursing and Paramedic/MD coverage, there is often a period in the evening 1900-2000 where the night-shift nurse is working as one; to provide the services of the daytime CEC, which for the other 11 hours, is provided by 2 nurses. This is often a problem as it is difficult to do POCT, triage and provide nursing care between that 1900-2000 time frame alone. Also, still confusion as to what time the MD sees patients until some will see patients until 1930, 1915 etc.
- there are challenges with patients presenting at or after supper time which loads the ED and makes

- Always seems to be issues with who is going to see those patients that present after 1930, whether it be the on-call doctor or if they will be handed over to the online doctor. Doesn't seem to be consistent with all the doctors.
- We are continuing to work on improving this process because it becomes a grey area for us. Especially for those that may need a repeat blood work in a few hours and because of this they may have to go to another ER to wait because at this time we can not keep overnight observations.
- Multiple charting for each patient is very cumbersome and information can be missed.
- Shift changes for Paramedics and Nurses should be at the same time so all information is transferred to all staff.
- This can be very challenging when we have patients that continue to be looked after by the daytime doctor and then night patients arrive. The RN has to be split between the doctor, the paramedic partner and the care of the inpatients.

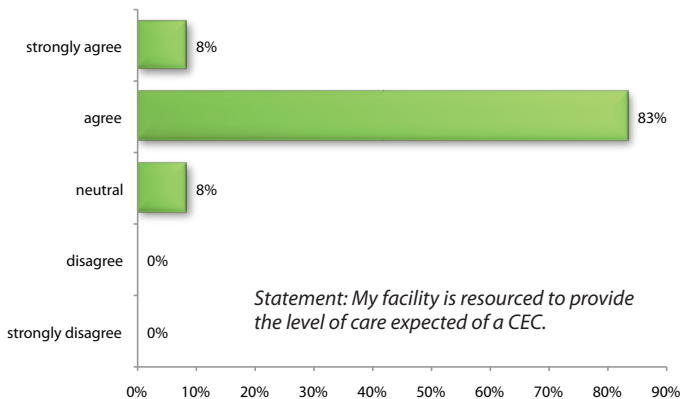
Survey response results to the statement "The team approach to care is working well on the overnight shift.": 69% agreed or strongly agreed, 20% were neutral and 11% disagreed (none strongly).



All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- The team approach is a good idea but more work needs to be done on building strong relationships between the RN, paramedic and MOP. The collaboration between RN and paramedic is sometimes strained - unsure if it is due to different scopes or trust issues between the disciplines. I think it makes sense to explore this a little further with a goal to strengthen these relationships.
- Paramedics not able to help with inpatients.
- The RNs do not feel that they have good back up support with some PCPs.
- There needs to be consultation between EHS and district health authorities as per the scope of practices of paramedics and nurses.
- This doesn't always work well, depending on some of the staff. It seems as though some of the providers are still not aware of each other's scope.

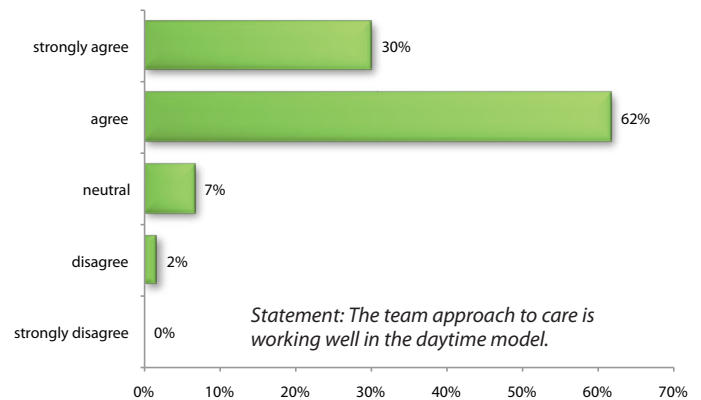
Survey response results to the statement "My facility is resourced to provide the level of care expected of a CEC.": 92% agreed or strongly agreed, 8% were neutral and none disagreed.



All participants were invited to provide additional feedback to this field of investigation (survey question was programmed for management staff). The following comments included:

- For the most part yes, but concerned if more duties are added to RNs.

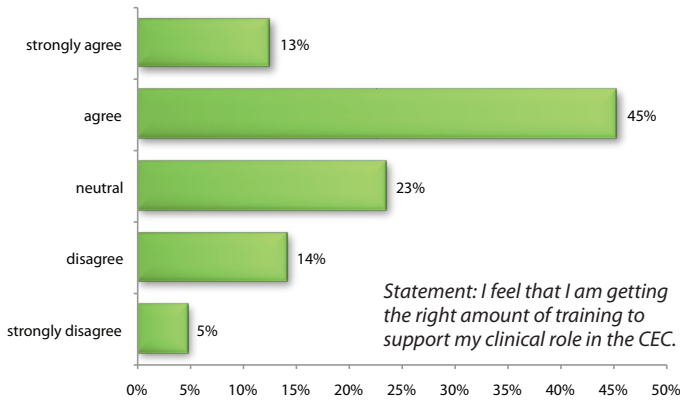
Survey response results to the statement "The team approach to care is working well in the daytime model.": 92% agreed or strongly agreed, 7% were neutral and 2% disagreed (none strongly).



All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- We need additional use of NP. Lab services and X- Ray services, all these providers are part of the daytime service but are not offered during the whole 12 hours of the CEC, and should be. It can be difficult to provide care when you do not have the tools or resources that are needed.

Survey response results to the statement “I feel that I am getting the right amount of training to support my clinical role in the CEC.”: 58% agreed or strongly agreed, 23% were neutral and 19% disagreed or strongly disagreed.

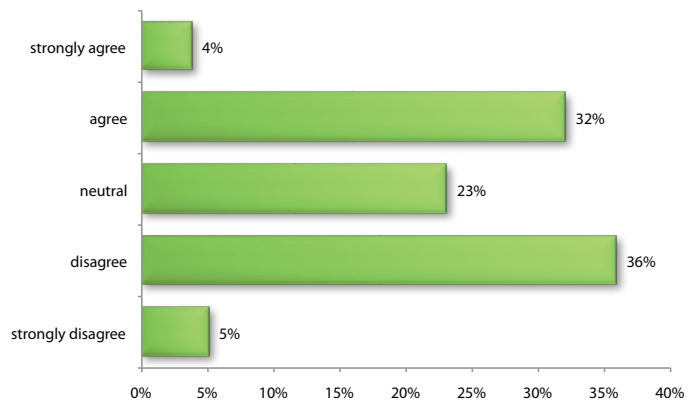


All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- Not enough proper training as a casual employee with Nightingale software.
- There has been no CEC specific training since the initial orientation.
- All staff members should be knowledgeable of the scope of practices of each other and should be able to help each other attain skills and goals for patient care regardless of employer.
- Not everyone has had training with the charting of the overnight hours.
- It is difficult to maintain high level of skills for rare emergencies. The volume of true emergencies is very low and training does not happen frequently enough to enable skill development and practice for those high level emergency situation.

- I feel the paramedics are not getting proper orientation and are not being trained with the nurses are causing inconsistencies.
- I was taught suturing when I first took my training but have not had a chance to use it yet not sure of my skill level.
- I only received the initial training, education days have been too far away for me to attend. I believe more of those sessions would be valuable.
- There should have been some time given to us to work in an emergency room doing sutures to keep our skills up.
- Regarding the night model we still have not been able to obtain TNCC due to not enough participants to take the course and therefore it is cancelled or I could not be provided with time off and coverage so that I could go. Traveling to a course four to six hours away is not possible for me personally.

Survey response results to the statement “The public understands the role of the CEC and what services are available here.”: 36% agreed or strongly agreed, 23% were neutral and 41% disagreed or strongly disagreed.



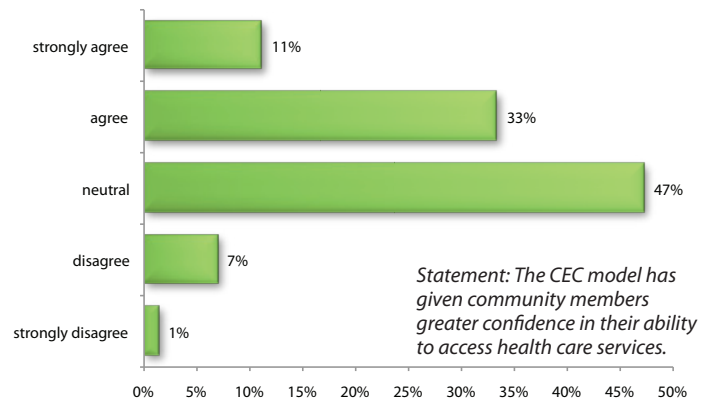
Statement: The public understands the role of the CEC and what services are available here.

All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- Not enough education was provided to the public they are still confused.
- Some seem to have caught on to the new delivery of care but still a lot of education needed to public.
- People are still unaware there is no MD present overnight.
- It is improving as time goes on but I find there still needs a lot of educating to public what a CEC means & how care is delivered a bit differently...
- Continually have to explain to the public what services are here and when. Most patients who arrive at night do not realize that there is no physician on site.
- It appears that public is not aware of the services offered. I would strongly recommend a community information blitz be planned about 6 months after a CEC opens.
- People are still learning. People to come across it will learn about it and appreciate it.
- There is a hugh rush in the door from 7-8 PM often creating a 13 or 14 hour day and departure delay.
- People still come in after hours and expect to see a doctor, don't know that they can make appointments during the day.
- A lot of the cases we see are minor that could be dealt with in the morning at the clinic. Very few true emergencies attend the CEC.
- I feel that there needs to be an ongoing public education program in place, as many people still arrive at the CEC after 2000hrs, and do not realize that they will not be seen by a physician at night.

- I have to explain it to every patient I encounter. We need more adverts in these communities.
- There are still people who do not know we do not have a physician on site at night...ongoing education continues.
- There are still a couple of phone calls every shift asking if there is a doc on.
- People are still learning. Summer is hard due to the increased tourism and the hospital signs are misleading when they don't know what a CEC is.

Survey response results to the statement "The CEC model has given community members greater confidence in their ability to access health care services.": 44% agreed or strongly agreed, 47% were neutral and 8% disagreed or strongly disagreed.



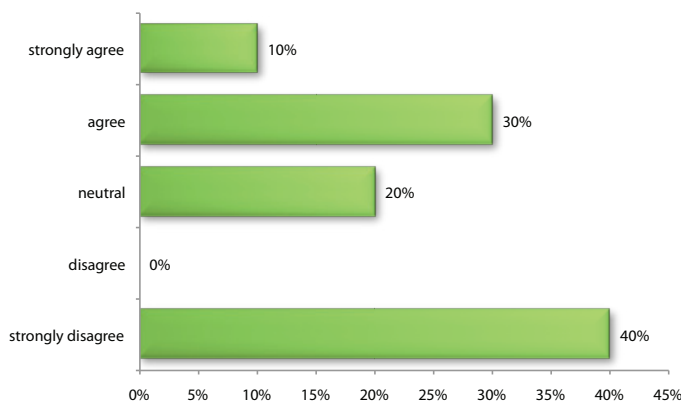
All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The following comments included:

- Community still lacks confidence without presence of physician on-site overnight. Wait times to be seen for non-urgent OPD or PHC issues are still perceived to be too long or inconvenient if patients have to leave, return later to be seen & pay for parking twice. Availability to call & book

same day / next day PHC appointments might help alleviate this issue.

- The model we had previously was pretty much 24 hour care but this model appears to be functioning well, and people realize for the most part that we do not have a physician on call overnight. On rare occasions someone shows up at the ER door but mostly they call first so we can redirect them.
- Access to health care yes, but has compromised the ability of physicians to make proper clinical assessment. This is due to lack of Diagnostic and Lab support.
- Much better access to primary health care and same day appointments.
- Better for daytime care needed, not for the overnight 12 hrs.

Survey response results to the statement "Providing access to urgent/emergency care service overnight at the CEC is an effective use of healthcare resources.": 40% agreed or strongly agreed, 20% were neutral and 40% strongly disagreed.



All participants were invited to provide additional feedback to this field of investigation (survey question was programmed for management staff). The following comments included:

- Not sure if the presentation statistics at this site justify the resources but I think the access is required because when it is needed, it is available.
- An examination of utilization vs cost should be completed on all sites in light of proximity to other sites with Emergency Services.
- To have a RN and a PCP there for very few to no patients a night is not a good use of resources especially when you hear at times that a EHS ambulance has shut down in the community to provide coverage to the CEC. I as a community member would rather have them on the ambulance responding to 911 calls and being available to transport other sick patients out of community hospitals to regional hospitals.
- If the community had more education about what the CEC can do and what EHS can do I think that more would chose EHS. However it is a cost issue as people can not afford EHS and so come to CEC to be transported free of charge.
- We currently have a 44% non utilization rate in the overnight hours. The people in the community have learned when to access service therefore the model for primary health care is working. However, we are no longer an emergency department and therefore keeping the CEC (E) in the title and having it open is misleading. Emergencies bypass with EHS. I feel this is a health centre and not an ER. It should be closed to emergencies and used for primary health care.
- I feel very strongly that the resources that are put into the CEC for delivery of the overnight CEC model could be used with more effectiveness in a different setting. On average seeing 1.25 patients per night is not ensuring that the staff working there maintain proficiency in delivering high quality health care, and by putting them in this situation may actually lead to a high risk of doing harm. I

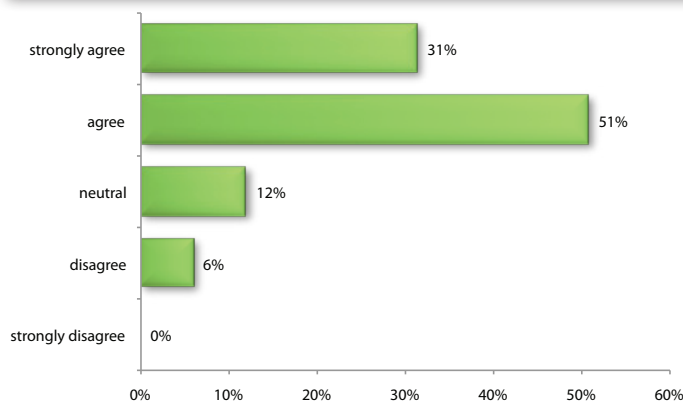
believe that the training provided is adequate but does not substitute for the experience of dealing with severe acuity patients.

- If the dollars were re-allocated to another facility to add a RN to that hospital, or to ensure inpatient beds were kept open in another facility where there is a higher level of service provided I think that the dollars could be better spent. The goal of having better patient access in the daytime hours as been achieved but I believe that the overnight delivery model needs to be re aligned to better suit the health care system as a whole and to better serve the patients
- The number of presentations overnight clearly indicate that it an extremely inefficient and ineffective use of resources for the system. It is effective for the patient; however not efficient. We need nurses and paramedic resources to be deployed effectively throughout the system.

The following comments included:

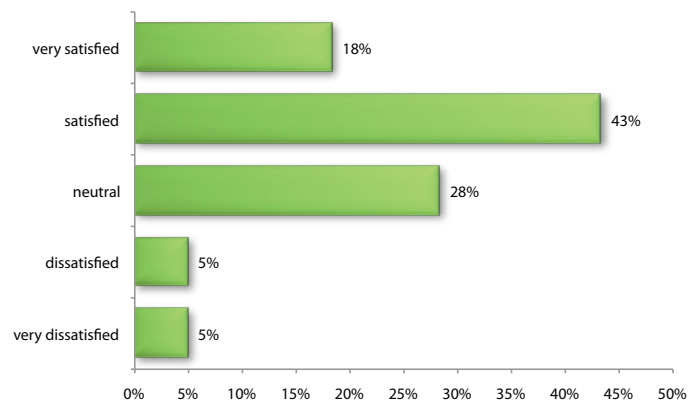
- Do not like the inconsistency of follow up.
- Services are basically the same because people still present through emerg and some doctors booked appointments in emerg and not the annex.
- There is a false notion that the quality of services provided is better. I think patients are being sent to the regional hospital more often now, which increases overcrowding at the Regional and increases wait times.
- We have started to have people come from farther away because they have heard of the great and timely service that we provide.
- Agree with as good but not better!
- Did not have many closures before the CEC
- Community is able to same day or next day visits, where as there would have been longer waits in the past - better access to primary care. An adapted model should be considered for urban and sub-urban populations where same day or next day visits with primary care are next to impossible.

Survey response results to the statement “The CEC model has resulted in community members having access to daytime primary health care service that is as good as or better than it was before.”: 82% agreed or strongly agreed, 12% were neutral and 6% disagreed (none strongly).

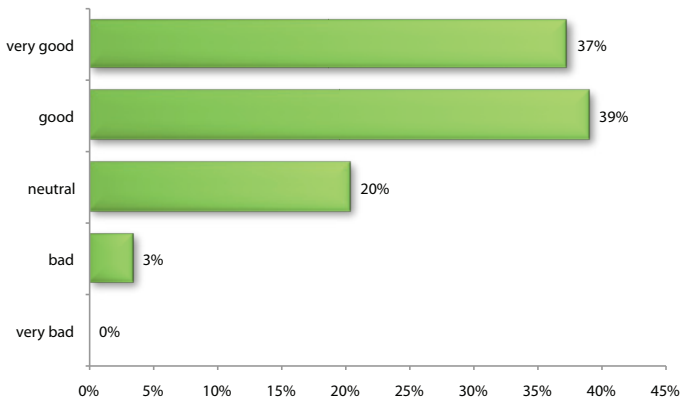


All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail.

Survey response results to the question: “Overall, how satisfied are you with your CEC job?”: 61% were satisfied or very satisfied, 28% were neutral and 10% were dissatisfied or very dissatisfied.



Survey response results to the question: "Overall, how would you rate the CEC as a place to work?": 76% responded "good" or "very good", 20% were neutral and 3% responded "bad".



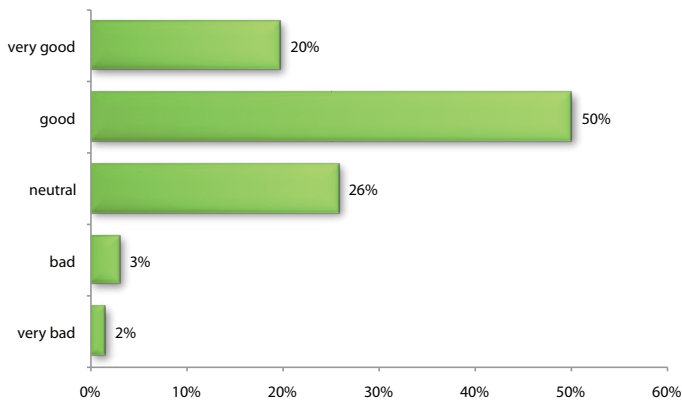
All clinical respondents were invited to share additional feedback to about the question of provider satisfaction. Of the family physician cohort, 6 out of 8 rated the statement positively and there were no negative ratings. Comments by members of the other professional groups included the following:

- It would be a much better CEC to work at if we had partners at night with a good skills mix.
- All in all I am lucky to be an experienced RN with lots of life & work experience... It makes this overnight model a bit easier than I would think it would be for a new young inexperienced nurse working with a new PCP
- I do find that the workload can be quite heavy and feel that staffing levels need to be monitored and adjusted if this trend continues.
- I feel that this model is working well in our community to provide primary, and urgent/emergent health care.
- It's a reasonable compromise for an MD who enjoys primary care with ER/hospital.
- I feel there are small improvements that could be

made to make working at the CEC a much better experience. Communication between the two agencies (EHS and DHAs) could be improved, training and orientation.

- I find this is very dependent on the staff that you are working with. The atmosphere and working conditions are not always ideal.
- I really enjoy the collaboration between paramedics and nurses. We have learned a lot from each other and compliment each other well in our skill sets depending on the patient complaint.
- I enjoy working during the day...however I feel I carry alot of weight on my shoulders on the overnight hours. It is a requirement for the RN to have ACLS, PALS, TNCC and CTAS course. Primary care paramedics do not have to have any of those courses. My preference for CEC staffing would be RN/RN or RN/VACP. In the beginning, we were assured we would not be working with newly graduated paramedics...we have. I at times work with a PCP who does not start IVs. At present we are lucky enough to happen to have ACP staffing.
- I would like to see RN and paramedic shift change at the same time. More training together as a team, (medics and RN).
- I find it unfair that all CECs are not created equal. Some have the benefit of having equal collaboration with 2 RNs or 1 RN/1 ACP. Here we have an LPN partner (with stable and predictable patients in their scope of practice) and an entry level paramedic (PCP) and no other RN in the building.
- Having paramedics at the CECs decreases ambulance availability to the public. They provide a valuable service to our community that cannot be filled by a nurse, but the CEC could be staffed by 2 RNs.

Survey response results to the question: "Overall, how would you rate the orientation or special training leading up to the CEC launch?": 70% responded "good" or "very good", 26% were neutral and 5% responded "bad" or "very bad".



All participants were invited to provide additional feedback to this field of investigation. Those who disagreed or strongly disagreed were encouraged to provide open-ended feedback to probe further detail. The comments provided include:

- Should be more complete and thorough, lead and participated by actual CEC medics and nurses. Those people that actually work it to do some of the training for new members.
- The little training there was good, but not enough.
- The orientation initially was ok, however new staff are not oriented in the same way...paramedics nor RN staff.
- I would have liked to have an orientation shift in the hospital with a medic that has already been doing the job.
- The original rules have not been passed on as original staff left and new staff came.

Clinical respondents were invited to give additional feedback to the field of provider satisfaction and team experience. They were asked the extent to which they agreed or disagreed with a series of statements, as reported in the following tables:

Statement	% agree or strongly agree	% disagree or strongly disagree	% neutral
I understand what is expected of me in my job.	90%	3%	7%
I am given enough time to do what is expected of me in my job.	85%	6%	9%
My job makes good use of my skills.	85%	11%	4%
I have the materials, supplies and equipment I need to do my work.	85%	8%	7%
I receive recognition for good work.	39%	28%	33%
I receive the training I need to do my job well.	58%	13%	29%
The people I work with treat me with respect.	83%	5%	12%
The people I work with help each other out.	83%	3%	14%
I feel I belong to a team.	80%	3%	17%
My workplace is safe.	85%	3%	12%

Statement	% agree or strongly agree	% disagree or strongly disagree	% neutral
There is clarity around delegation of care.	63%	13%	24%
There is a consistent approach to communicating significant patient information during hand-over.	66%	11%	23%
Patient care information is always well documented.	84%	3%	13%
Our team adapts to the needs of each patient.	91%	0	9%
Our team provides quality patient care.	98%	0	2%
Other team members understand my professional scope.	67%	12%	21%
I can usually predict what other team members will do in a particular situation.	80%	6%	14%
If asked, I could explain the roles in the team and how they overlap.	80%	7%	13%

2.5 DOCUMENT REVIEW

The evaluation team conducted a database/document review to inform the indicators/questions in the evaluation framework. Database mining informed utilization-related areas of inquiry (as presented, with associated limitations, in Section 2.1 of this report). Additional key sources of information for this data collection stream included compliance with standards reporting, education session reports and team building reports. The online survey instrument was designed to round out this data and where appropriate, probe for qualitative impressions of information contained in those reports.

The DHW also commissioned an economic evaluation of the cost effectiveness of the CEC overnight service. The results of that report were inconclusive citing the need for longer data capture (3-5 years) as well as the need to include an interpretation of daytime data (which was not available) in order to understand the full picture.

Overall, however, the report observes that “the province is spending less to provide an emergency department service in these facilities at night, fewer patients are visiting during these hours, on average 68% less than in 2010.” The report speculates that, “these patients are being treated at regional hospitals due to their acuity or that they are being treated in the daytime hours at either emergency or in primary care.” Based on the data available, it concludes that the CEC overnight service is less costly than the CEC alternative but that it is also less effective.

In preparing for phase 2 evaluation it would be prudent to take steps to ensure that all indicators in the evaluation framework can be informed by reliable data sources. This means quality filters relative to consistency of data entry, comparability across sites where different time frames are in play resulting in different contextual factors for analysis and, where appropriate, template-based reporting that simplify (rather than complicate or burden) administrative effort in ongoing data capture.

Special attention should be given to ensuring that phase 2 evaluation has access to Nightingale data, as

this is vital to understanding the impact that the CEC model has on continued access to primary health care and health outcomes. Similarly, it will be important to collect data to inform the ambulance transfer experience across sites in order to validate and/or quantify the issue of response and transfer times.

Finally, a template-driven system to document and account for professional education/training programs offered to, completed and rated by CEC staff and physicians would be useful for monitoring this aspect of the evaluation framework.

As part of its due diligence, the DHW undertook a review of CEC Compliance with Standards. The resulting document is included in Appendix A of this report.

3.0 DATA ANALYSIS

The following section presents an analysis of the data results, by evaluation question, as outlined in the framework. In the interpretation of results, data was triangulated where possible using a mix of qualitative and quantitative data sources to validate findings.

3.1 HAS ACCESS TO EMERGENCY AND URGENT CARE IMPROVED? IF SO, HOW? WHAT HAVE BEEN THE BARRIERS? HOW OFTEN IS THIS AN ISSUE? IF NOT, WHY NOT?

The CEC model has been successful in improving access to emergency and urgent care in all the participating communities, which was a key objective of this approach to service delivery. This is evidenced by a sharp reduction in unplanned closures of local emergency departments prior to the launch of the CEC and corroborated by clinicians and management at each site.

86% of survey respondents agree or strongly agree that daytime access to urgent and emergency care is working well. Sixty-nine percent (69%) felt that the overnight service is also working well, with clinicians at one site noting that the previous model was equally effective, and that CEC model gains are actually more significant for the daytime service.

Respondents observed significant improvement in access to urgent care daytime, evenings and weekends. It is felt that **people find it easier to get an appointment to see a family physician** for urgent (unplanned) care with greater availability of same day appointments.

General trends indicate a decrease in patient volumes presenting to the CEC emergency department. Before the CEC, these emergency departments were frequently accessed for primary care, resulting

in increased wait-times. With the exception of Tatamagouche, all **CEC sites have seen a significant decrease in daytime CTAS 4-5 presentations at the emergency department** (this variance may be explained by the seasonal changes in the population).

Sites such as Annapolis have seen their daytime CTAS 4-5 volumes drop from 1600 to just over 400 patients a quarter, a 73% decrease in volumes (based on quarterly averages over the period of April 2011 to March 2014). Most sites had relatively low daytime and overnight emergency presentations prior to the initiation of the CEC model. These rates have remained fairly consistent with CTAS 1-3 daytime volumes seeing a slight to moderate increase. Overnight emergency volumes appear to have shown a marked decrease, but must be considered in the context of the low volumes presenting overall.

The consistency in CTAS levels 1-3 indicates that urgent/emergent care has remained accessible for patients who need it. Moreover, the significant decrease seen in CTAS 4-5 volumes would lead to the conclusion that patients presenting to the CEC emergency department have better access to expanded hours and also would have more timely access to care. With less volume being seen in emergency rooms, a decrease in wait times and time spent in emergency departments would be expected.

With regard to the overnight component, all sites have seen a demonstrable **increase in the number of nights that have 0 patient visits**. Parrsboro has the

highest non-utilization rate (55%) while Springhill has the lowest (32%). The most consistency was seen in nights with 1 to 3 patients presenting with Springhill seeing this cohort almost double. Nights with 4 to 5 patient presentations have been steadily decreasing and the majority of sites have no nights with 6 or more patient presentations since the launch of the CEC model. It is speculated that this reduction may be because daytime access to the primary health care team has improved, meaning that patients do not have to seek after-hours urgent care to address their health concerns. Moreover, prior to the CEC, local family doctors who worked the night-shift were less productive the next day – an issue that has been resolved by relieving them of overnight urgent/emergency care responsibilities.

Another possible explanation is that these patients are seeking this care at other facilities and that their utilization is not captured in data within the scope of this evaluation. This is an important issue to understand and should be a specific focus of inquiry in phase 2 evaluation.

While the number of hours of urgent/emergency care has increased (resulting in more access to this level of service), with regard to the overnight shift it appears that better access is being given to a service that has proven to have very little demand. Based on a three-month average, **less than 1 patient per night visits the CEC for care. Often there are no patients seeking care** at the CEC overnight at all.

In response to the evaluation question about barriers to access and how often barriers are an issue, the following key points were shared by focus group and survey respondents:

The lack of lab and x-ray capacity during all CEC hours is a significant barrier to providing comprehensive care. Ideally there would be lab and x-ray services when the physician is on duty (12 hours). From EHS's point of view, each CEC has different hours for these services, so they need to clarify who offers what and when before they decide where to take a patient. With lab and x-ray generally not being available into the late afternoon, during the evening or overnight, it

was noted that patients actually receive different levels of care at a CEC depending on what time they arrive for service. If, for example, a patient arrives at 2pm and needs an x-ray, they can be treated in the community. If they arrive at 4pm with the same health care need, they must travel to the regional hospital for care.

Some clinicians expressed concern that the "Emergency" component of CECs' branding may give the public a "false sense of security" that the site is a fully staffed and equipped, emergency/trauma centres. Some may 'lose valuable time' stopping there, only to have to wait for a transfer to another hospital. The 'H' signage contributes to this misinformation. It is important that the public has a **full understanding of the care capacities of the CEC**, so that people do not expect services that are not available.

People sometimes find themselves being discharged from a regional hospital during the night hours, and have difficulty arranging **transportation** to get home. This is a very practical concern for rural dwellers, more particularly for those who are elderly or live alone. This has been resolved by some CECs that have arranged to provide taxi vouchers for the trip home, but this is not a consistent policy nor is it supported by a budget allocation.

Some concern was expressed that CECs may become victims of their own success, with increasing numbers of **patients traveling from outside the facility's traditional catchment area** to receive easier access to care than they would in their own community. While reception staff are generally equipped with a 'script' to ensure that patients coming from outside the area are aware of their local urgent care pathways, it is felt that the relative efficiency of the CEC from arrival to discharge makes them a very attractive option for a widening population. The magnitude of this issue should be tracked but the solution would appear to involve providing reasonable access to urgent care to all Nova Scotians so that this health system capacity is well distributed.

The overnight staffing model can pose a barrier to care, due most often to **nursing resource limitations**. Generally small pools of casual RNs being trained and

available to work at the CEC overnight means that sites often have to deploy the RN that is scheduled for the inpatient beds, leaving the LPN alone there. This is a fluctuating issue, but points to the vulnerability of the model from a human resource perspective – an issue explored later in this report.

Respondents from at least one site felt that the low urgent/emergency overnight patient volumes is due to **poor communication with the public** about the CEC emergency care model. They note that before the CEC, there were few emergency room closures, but when there was, the public understood that it was due to a lack of available physicians. It is felt that now the public is aware that there are no physicians after 8pm, but they do not understand that they can still get care. Therefore they drive to the regional hospital where the services are more comprehensive. The reduction in lab services in the future is expected to exacerbate this perception. For them, a communication blitz promoting the CEC emergency capacity would be indicated.

The **two-hour hold period** for patient treatment was noted by practitioners at several sites as a policy requiring review, or at least needing to be assessed by the local team on a case-by-case basis. Most sites had experienced situations where a patient would have been able to avoid transfer to the regional hospital if they had remained at the CEC for longer than the two hours, given that the care required was well within the scope of the local clinicians and that they had the capacity to provide it. Requiring the patient to leave the community for the remainder of their treatment, which will be concluded in a matter of a couple of hours, is not regarded to demonstrate patient-centred care. In addition to being inconvenient and disruptive, many patients are then faced with the conundrum of how to get home again.

The **physical layout of the CEC facility** can create inefficiencies for providers and inconvenience for patients. Where there is a physical distance between primary care and emergency, time is lost while the physician moves from one area to the other. The physician may deliver a treatment and then need to stay to monitor its effectiveness, rather than go

see another patient 'in the next room'. The lack of centralization also means that patients in the waiting room are not observed as much by nurses and physicians. Lack of co-location also means that there are two separate registration areas, again causing increased workload and time.

Ambulance fees are widely (but not unanimously) regarded to be a barrier to patients using Emergency Health Services either because they are concerned about the out of pocket expense and/or because there is seemingly poor understanding about the fee structure. Anecdotally, it was reported that patients have been known to drive themselves to the CEC, at danger to themselves and others, with the objective of avoiding the ambulance fee by being transferred to the regional hospital instead.

As a solution, for overnight emergency service access, consideration should be given to expanding the scope of paramedic practice so that they can manage a wider range of patient dispositions and, where appropriate, either treat and release or treat for follow-up with primary health care the next day. If transport to hospital emergency is warranted, the cost of the ambulance should be covered as it would have been in the event of a transfer from the CEC facility.

If paramedics could provide this expanded service at the patient's home following dispatch (from either 911 or 811), the issue of ambulance transfer from home to hospital (and the out-of-pocket costs associated with this service) could be largely resolved. If paramedics are mandated with this additional scope of responsibility, it would be reasonable to pursue a model of self-regulation and licensure that reflects the scope of competencies and professional role that could fill this gap.

Data Considerations:

It should be noted that closure data, overnight utilization data, and Emergency Visit volumes by quarter for day and night were the only data available to inform this indicator at the time of the evaluation.

Also of note for the data analysis, there were two sources of data provided that outlined overall closure rates; 1.) a spreadsheet that was prepared for Department of Health and Wellness Finance

but only had information validated to October 2013 and 2.) the quarterly dashboard reports that are distributed on a more broad basis. There was variability in the rates reported in each report. It was determined that the quarterly reports would be used for the purposes of this report as it is more consistently reported and provides a breakdown of closures between daytime and overnight.

There is also variability due to the length of time each site has been in operation as a CEC. While trends are clearly identifiable, data analysis reliability improves for the longer phases of implementation when drawing comparisons.

Furthermore, there is variability in how patients are tracked at the different CECs, depending on site-specific protocols/policies for patient flow/triage. Some sites are not consistent in the approach to patient data entry, which presents a challenge to overall data quality.

3.2 HAS ACCESS TO PRIMARY HEALTH CARE IMPROVED? IF SO, HOW? WHAT HAS HELPED? WHAT HAVE BEEN THE BARRIERS? IF NOT, WHY NOT?

A significant benefit of the CEC model appears to be improved access to primary health care. Eighty-two percent (82%) of survey respondents agree or strongly agree that the CEC model has resulted in community members having access to daytime primary health care service that is as good as or better than it was before.

The same story is found in the utilization data. With the exception of Tatamagouche, all CEC sites have seen a significant decrease in CTAS 4-5 patients presenting in the CEC emergency department during the day. Parrsboro has seen CTAS 4-5 patient volumes decrease from an average of almost 600 to 300 per quarter between April 2011 and March 2014.

All sites have seen a decrease in CTAS 4-5 presentations overnight ranging from a 37% to 74% decrease in average visits per quarter since the implementation of the CEC model.

For those patients who did seek service for a primary health care concern from the ED, the fact that the CEC model resulted in fewer ED closures certainly made this pathway to care more accessible. Provider and management feedback, however, is that a health system goal should be to have guaranteed access to primary

health care services in non-ED settings so that the ED is not the default option for patients looking for primary health care.

The ongoing trend of lower volumes of CTAS level 4-5 patients presenting to the CEC emergency department might be an indication that they have readily available access to primary health care services. Decreasing volumes at night might also support the conclusion that patients received primary health care in a timelier manner. This is corroborated by survey feedback in which **92% of survey respondents agree/strongly agree that patients can usually get access to same day/next day appointments.**

All sites have indicated that they have varying models of open access typically using a blend of open slots and booked appointments for same-day (and in some cases scheduled next day) appointments. Physician office hours have also been extended during the day, (now also including evenings and weekends) helped significantly by local doctors no longer having to be on-call at night and therefore not needing to adjust their next day schedule.

While providers felt that patients like having better access (shorter time before they can get an appointment), **it is believed there is a level of dissatisfaction in not always being able to see their regular provider.** Patients do get an appointment more quickly, but it is with whoever is available at that time. Anecdotally, this scheduling approach may result in breakdowns in continuity of care, particularly for chronic disease management, unless strengthened communication among the primary health care team can be assured. Some patients have found a way around this by presenting to the ED when their primary physician is working.

A noticeable increase in patients accessing the CEC from outside the catchment area has also been observed at a number of sites, apparently more for reasons ease of access rather than because they do not have a regular physician. Concern was expressed that, in these situations, continuity of care is threatened by patients repeatedly accessing care from the providers at the CEC clinic, instead of from their own family physician. Practically, these appointments generally

take longer because they involve the need to collect more medical history. Lack of patient information also creates the potential for misuse of the service (the request of practice visitor to have a driver's medical or a prescription refill); follow up can also present challenges to organize. **Some patients come from out-of-area patients to the CEC** for procedures not related to acute illness, but rather to avoid fees charged for the service by their own practitioner, such as ear syringing. There also is believed to be growth in the number of out-of-area patients seeking service at the CEC because they hear that there is faster access than they would expect in their home community. Data was not available to confirm or quantify this issue and should be a focus of phase 2 evaluation.

Concern was expressed that, if there is unchecked growth of this demand, the CEC may not be able to sustain levels of service without additional resources. It would seem to make more sense to shore up the capacity for same day/next day primary health care practices in the area, so that patients don't feel the need to leave their own community for this access.

There is a broad level of support for nurse-led triage, although there was some feedback as to whether an unscheduled primary care patient should be triaged at all. Some sites have high volumes of calls from patients looking for advice about where/when to come in, which is a significant issue both from a logistical and liability perspective. Overall there is strong sense of **need for a standardized approach to patient flow at CECs**, and to learn from the best practice experience of the sites to date. A significant barrier in optimizing patient flow is the inability of RNs to discharge patients from the CEC, an issue that is expected to be resolved imminently.

Providers expressed the view that the **CEC model should include better access to Lab and DI services during extended hours of operation**. While local access to Lab and DI in extended hours would obviously reduce the need for some patients to travel to larger centers for these services, a business case would need to consider the magnitude of demand (by time of day), the potential/need to relieve demand at larger centers and the cost of

doing so. It must be acknowledged in any business case analysis that there are severe human resource limitations in being able to recruit and retain Lab/DI personnel, particularly in rural settings, which was an issue in sustaining these services in the first place. Indeed, each CEC site incorporated pre-existing local Lab and DI capacity and system-level planning of these services has been occurring on a separate planning track.

Data Considerations:

While the assessment of health care providers and health system management regarding improved access to primary health care in the CEC model was very strong and consistent, it must be noted that lack of access to quantitative primary health care data from the Nightingale system was a significant gap in this phase of the evaluation.

Average CEC volumes were only available for CTAS score by quarter. More specific data for Monday to Friday or time of day were not available and there are limitations with the CTAS data as a significant number of patients were not assigned CTAS scores by quarter. In addition, patient data is captured in several places, by health information systems that do not interface with one another.

Moreover, there is significant variability in the operations of each CEC. Examples of this variability include whether the CEC has inpatient beds, how many and what type; hours that primary health care services are offered, when booked appointments are offered, and where (some providers are seeing PHC patients in the ED). This in turn impacts the role of CEC provider, most significantly the physician. Depending on the CEC, the physician may be just providing emergency/urgent care; or they may be seeing patients in the ED and have patients booked in their PHC practice.

These data will be vital to inform the next phase of evaluation, given how important it is to quantify and understand the success of the CEC model. It is noted that the Department of Health and Wellness has been undergoing a Technology Assessment at the CECs and this work should be supported to develop an information systems platform for CECs.

3.3 WHAT LESSONS HAVE BEEN LEARNED REGARDING THE CEC IMPLEMENTATIONS TO DATE? HOW CAN THESE LEARNINGS BE USED IN THE DEVELOPMENT OF NEW CECS AND IN OTHER SETTINGS?

One of the recurring observations shared in focus groups is that the fear of the unknown and **anticipating the 'worst case scenario' is a normal and predictable part of the change management process** for new CEC care team members. As the model becomes more mainstream, and has a longer track record of performance, some of this anxiety will diminish. Although there is no replacement for lived experience in building confidence and conviction, having the opportunity to hear from colleagues at sites that have been operating longer can help to shape confidence locally. Every team must be supported in building its own history. Even in sites that have been functioning for three years, the need for change management is ongoing.

While **paramedics are used to the MD off-site model, RNs have not had this experience and felt some anxiety** in the initial phase of implementation. At sites with an paramedic/RN overnight team, there was less of a confidence-building curve for the RN in this model, while the RN/RN overnight team took a little longer to gain confidence with the MOP approach.

All **MOPs were hand-chosen for their readiness** and predisposition to fit with this new model of care. Attention to this chemistry appears to have been as important as the focus on site-based team building.

Another key lesson for implementation that was discussed is that the **operations committee and advisory group must have people on them who can actually make decisions** in real-time – for credibility of the process as well as to maintain the pace set for implementation.

Orientation sessions were important and rated highly. 70% of respondents rated the orientation or special training leading up to the CEC launch as good or very good (26% neutral, 5% bad or very bad) with significant feedback that even more training and preparation for providers and administrative

staff would have been appropriate. However, there was some concern that new staff members have not all had the benefit of this introductory training. Specific feedback was given about the need for **orientation and refreshers on the use of various charting systems** in play during the daytime and overnight shifts.

Overall, it was shared that training programs provided locally (to avoid the need for learners to travel away to participate in training) and **involving multiple team members in the training experience (to continue to strengthen interprofessional relationships** and understanding of everyone's scope of practice), are the most effective.

Having **one manager for both the primary health care and emergency care components** of the CEC facilitates integration of both aspects of the model into a seamless system of care – operationally and culturally. Site managers must be good at knowing how to troubleshoot/team-build/remove barriers for clinical staff to be most effective. Knowing how to lead from behind is important.

A physical site in which **primary health care and emergency/urgent care is all under one roof is vastly preferred** over a multiple-building design. In addition to the need to increase staffing, such as clerical support, the multi-building design can fragment care, waste people's time having to move from one area to another to provide or receive different services, and create confusion for patients and staff alike.

Engage all stakeholders at the earliest possible time that implementation is being considered (public, colleges, unions, etc.). **Physician buy-in is absolutely vital.** Physician champions for the model should be recruited to share their experience with colleagues in communities where a CEC model is being considered.

Standards for primary health care should be developed so that providers know what is expected of them and patients can know what to expect at CECS.

Paramedics and RNs are trained for very different patient assessment approaches/processes. While this can create tension in the early phase of professional

collaboration, it is widely reported that both professions come to value the skill set of the other and feel that resulting patient care is actually improved.

In implementing a new site, it is important to **be realistic with lead time from planning to launch**, with a fixed deadline to go-live. Don't open a CEC in the summer. Don't open a CEC over Christmas.

The **public is generally unaware of the role of the CEC and what services are available**. When asked whether they feel if the public understands the role of the CEC and what services are available, only 36% felt that the community is well informed. Repeated public education is necessary to build a level of understanding about the CEC. Focus group feedback was that part of this education should include promotion of the 811 service, an explanation of the ambulance fee structure and clear communication about what services are available at the CEC, during what hours. It is also important to give communications collateral to receptionists (such as FAQ) to support community education with consistent messaging about the model when patients call in.

The implementation of the CEC model in and of itself will not be the catalyst for the creation of a collaborative environment. Either a high degree of stakeholder readiness and/or intensive change management supports are necessary preconditions to the model's success. **If stakeholder tensions existed before, a CEC model is not a remedy.**

There is **often down-time on the night shift**, particularly among paramedic team members. It was suggested that a productive use of this time could be a mobile simulation training program, which would build/maintain competency and contribute to team building as well. It was also expressed by many nurses that the inability of paramedics to contribute to inpatient care responsibilities overnight results in an imbalance of workload and can result in interprofessional tension.

Weekly team meetings are important to establish communication as routine rather than only in crisis.

As discussed earlier in the sections on patient access,

,when given the alternative it does appear that **when primary health care is accessible through a family practice, patients will choose that venue over the ED**. Better access to primary health care reduces demand on emergency departments. Patients default to the ED to get primary health care services when there are no other options.

Preparing for the launch of an CEC takes careful planning, extensive stakeholder engagement and attention to operational detail. Based on the experience and track record to date, **a best practice manual for CEC implementation could help to guide (and reassure) next-generation sites in their own planning work**, but some aspects of new site development simply need time to gel and mature with the local team.

3.4 WHAT ARE THE CHALLENGES OF THE CEC MODEL? HOW CAN THEY BE ADDRESSED? ARE THERE CHALLENGES STILL REMAINING?

Limited hours of laboratory and diagnostic imaging services at CECs means that comprehensive care, particularly for urgent and emergent patients, is not available at all times that the facility is open. As a result, patients need to be transferred to the regional centre for tests and/or treatment that could have been provided locally had they arrived at a different time. This is confusing for patients and frustrating for staff. While data was not available to quantify the magnitude of this issue, it was suggested that patient volumes by time of day should be tracked and lab/DI requirements trended to match with a business case for appropriate hours of service coverage.

Ambulance response time to transfer patients from the CEC to the regional hospital was reported at several sites to be slow on occasion, although data to quantify the magnitude of this issue was not available. The perception of CEC staff is that EHS assumes the local site capacity to manage the patient safely and that the imperative for priority response is low. Wait times for as long as 4 hours were reported by CEC staff. Quantitative data from EHS regarding ambulance response times was not available at the time of this evaluation and will be important to inform any potential operational decisions.

Human resource availability is a challenge, although it is a reality in most small rural areas. Because CEC providers require additional orientation and training, the pool of staff (particularly nursing) on which to draw is further limited, however. Backfilling is particularly difficult if there is an unplanned absence. Availability of other professionals, especially laboratory technicians, is becoming increasingly problematic, and the overall local health profession workforce is aging (one site has 90% of its nurses close to retirement). Moreover, EMC has not been able to create permanent positions for CEC paramedics until the model of care, and their staffing of it, has been confirmed for the long term. This, in addition to the need to maintain the competency of paramedics beyond the CEC environment, has resulted in high turn-over of paramedics in the CECs as well as occasional lack of availability of a paramedic to cover a shift. While most sites report generally stable human resource complements at present, all stress that this situation is fragile.

Lack of a unified electronic documentation systems results in duplication of workload and inefficiencies in the transfer of patient information between urgent/emergent and primary health care. Overnight, patient information is recorded in both Meditech or STAR (the DHA systems) and ePCR (the EHS system). These records are completely separate, and involve different data fields, with some overlap. Although paramedics are very comfortable with ePCR and nurses are very comfortable with Meditech/STAR, both provider groups regard the other's documentation platform to be cumbersome and insufficient.

As such, nurses and paramedics tend to complete their own documentation (with the nurses participating in the RN/RN CEC model being required to have competence in both systems). In addition to creating redundant workflows, it was noted at one site that this **process of dual documentation** can result in errors. One example involved the paramedic logging a medication dosage in the ePCR that was different than the dosage recorded by the nurse in Meditech. Although, in that particular situation, no risk to the patient resulted, this drew to light the potential quality issues of having separate health records documenting

a single clinical event. On the other hand, this could also be regarded to be a quality check, insofar as the error was exposed through a review of the parallel records (although this was not a benefit identified by either professional group).

Patient information being shared from the overnight hours to the daytime primary health care team for follow up is generally faxed. Patients are provided with a paper-based appointment instruction for the following morning. No electronic confirmation of the next day appointment is possible.

Different technology platforms between EHS and the DHAs can also make patient care management inefficient. This is manifest in clinical care (e.g. different ECG lead requirements by EHS and the CEC site in overnight hours) and administrative functions (e.g. paramedics' tablets are not able to access the internet at all CEC sites). Staff at all sites report finding work-arounds to address these issues, which are now more irritants than barriers to care.

Patient flow from ED to primary care after ED registration is administratively and clinically inefficient as a physician discharge from the emergency department is required. NPs and RNs need to be able to discharge patients from emergency to primary care to address this bottleneck, a welcomed policy that is expected to be implemented soon.

Some people are reluctant to call 911 because of misinformed perception of the fee structure for ambulance service. There was feedback that some people choose instead to drive themselves to the CEC when an ambulance responder would have been more appropriate. This is not an issue created by the implementation of CECs. It is nonetheless a consideration when planning rural access to emergency services that can require significant distances to access with few transportation options.

Physical design of facilities that do not allow co-location of emergency/urgent care and primary health care is a limitation, particularly when CEC physician offices are in a different building than the rest of the CEC. This results in the need for additional staffing (particularly administrative/reception support), wasted time as the

doctor moves from one building to another to see patients and longer waits for patients (particularly those arriving at the CEC urgent/emergency care during the daytime/evening shift and without an appointment.) Everything under one roof is far more efficient but not always possible.

Some **Regional Emergency Department staff do not seem to have a consistent understanding of the role and capacity of CECs**, which can result in miscommunication when a patient is transferred for care. While this was not universally the experience of CEC providers (some reported improved relationships between local and referral physicians as a result of the new model), it does suggest the need for consistent and repeated education/outreach – particularly as staff at the regional centres rotates.

Arranging locum positions can be administratively cumbersome, and in some situations, it is difficult finding someone to cover a shift. The provincial locum program is regarded to be a tremendous resource. There is a need, however, for more central coordination of this service and possibly a more aggressive strategy to increase the pool of doctors who are available to work in CEC settings.

Nurses can carry a significant workload burden in the overnight hours given their CEC responsibilities as well as those related to inpatient care. There was considerable discussion about the best staffing profile to address this issue. One option would be to adopt an RN/RN overnight team, so that the nurses could share CEC and inpatient duties interchangeably. Another option would be to amend policies so that the paramedic in the RN/paramedic team could provide more support to inpatient care functions while on-site overnight.

3.5 WHAT ARE THE STRENGTHS OF THE CEC MODEL? HOW CAN THEY BE SUSTAINED?

CEC providers and managers express the view that the model will make recruitment of health professionals to the community easier, particularly doctors. Family physicians not having to provide overnight on-call and/or remain at the hospital overnight for the emergency department (when

there is low demand) has helped with recruitment and retention in rural setting. It has also put more physician funded hours into primary health care access daytime/evening/weekend, (when there is high demand).

Physicians appear to like the collaborative teamwork environment, and the balance of private/work life that the funding and clinical model affords. They reported that they like practicing at the CEC, with 6 out of 8 rating it as a “good” or “very good” place to work. In the online survey, there were no doctors who said they did not like working at the CEC. The group Alternative Payment Plan is believed to create more opportunities for monitoring and evaluation of performance.

Extended hours evenings and weekends has been a significant benefit of the model – both in terms of predictable access and convenience. Shifting the hours of family doctors to daytime/evening/weekends has meant that they are available when patients actually need to see them, with most sites reporting success in achieving same day/next day appointment access for patients who need it. This has, in turn, resulted in fewer patients going to the emergency department for primary health care.

Improved coordination of care with other programs, such as the diabetes education centre and mental health and addictions has been noted, as has **better chronic disease management**. Some sites do report that the daytime collaborative practice is extremely busy, making it difficult for the family doctors to spend sufficient time with more complex patients. Nurse practitioners’ role is regarded to be maturing, as patients and provider team members alike become more familiar with the NP scope and relationships are built.

ED closure problem has largely been resolved, with the community having predictable hours of care access.

The clinical environment of the CEC is less physically demanding on paramedics than they would otherwise experience in the field. For a cohort of this profession, a CEC-based practice has particular appeal as a career choice. Working in a CEC also helps paramedics better understand hospital processes and patient flow.

3.6 ARE CECS MEETING THE CEC STANDARDS FOR URGENT AND EMERGENCY CARE? FOR PRIMARY HEALTH CARE?

All sites completed a common process to ensure that they could meet CEC Standards prior to launching. All sites have undergone policy development in association with introduction of the CEC model. Policies have been developed from a site/district perspective and in conjunction with EHS and their services as a partner in the CEC model. All sites indicated that they would like to see more collaboration in development of policies to avoid duplication of effort and to avoid misunderstandings, particularly in the process of delivering patient care.

Overwhelmingly, survey **respondents across all professional groups believe that “their team provides quality patient care” (98% agreed or strongly agreed with this statement and nobody disagreed)**. Ninety-two percent (92%) of CEC site leadership agree or strongly agree that their site is resourced to provide the level of care expected of a CEC.

Notwithstanding the almost unanimous confidence in quality of care, there was a less positive response to “the level of training they receive to do their job well” (58% agreed or strongly agreed, 13% disagreed or strongly disagreed and 29% were neutral).

When they were asked to rate the statement “I feel that I am getting the right amount of training to support my clinical role in the CEC” with 58% agreeing or strongly agreeing, 19% disagreed or strongly disagreed and 23% were neutral. Open-ended feedback shared that there is frustration in not being able to get time off to participate in training programs, long distances to participate in programs is a barrier and training to support competency maintenance is lacking. **It was generally felt that resources to support provider education must be protected in CEC budgeting.**

It is important to note that no feedback was provided that staff felt under-qualified to provide the expected level of care required by a patient visiting the CEC. The request for more training does not appear to

be linked to a specific patient-event where a lack of training was a concern. It could be concluded that this is more an issue of confidence (anticipating a potential scenario where an unpracticed skill might be required). Examples of suturing and splinting were cited frequently by respondents. **Some staff expressed the concern that it is difficult and perhaps impossible to maintain competency in some procedures** given the lack of opportunity to use those skills in a CEC setting. An example of such a skill is the ability to perform needle decompression for pneumothorax, which has not presented to any CEC since the launch of the model.

It was put forward in focus group discussions that the **ED standards for CECs may need to be revisited** in light of the clinical presentations that can reasonably be expected at these sites. It is generally felt that local providers are required to maintain some skills that will rarely, if ever, be required – making the maintenance of competencies problematic (and costly) and recruitment to these positions more difficult.

Sites have participated in training and quality review activities at the local, surrounding area and provincial level. EHS has provided a number of training and quality review sessions for CECs in various regions. All sites, in variable formats, participate in quality review of cases that present to the CEC often in partnership with EHS. It has been noted that there would be a benefit if these quality reviews at the site level could take place in more real time and if learnings could be shared on a broader basis across CECs. **More opportunities for providers and managers involved with the CECs to meet and exchange experiences** would contribute to a wider inventory of best and promising practices, and potentially accelerate the learning curve at new CECs as they are implemented.

An issue that raised much discussion was the **availability of lab and x-ray services during the extended CEC hours**. The CEC Standards indicated that district health authorities had the responsibility to define a strategy for reasonable access to diagnostic services based on pre-existing local assets. While the CEC model inherited the lab and x-ray resource plan

(in other words, this is not a CEC-created issue), providers feel that they are actually delivering two levels of care at the CEC in the daytime; one when lab and DI services are available and the other when they are not.

For the next phase evaluation it will be important to have data to understand the impact to the health system of patients who are being transferred out of the community for this service, by time of day, and if their care could have been adequately and cost-effectively provided at the CEC if diagnostic services had been available.

As part of its due diligence, the DHW undertook a review of CEC Compliance with Standards, which is included in Appendix A of this report. Based on a review of this documentation, all CECs are in compliance with access, triage and transfer standards (noting that accessible language availability is unknown).

3.7 ARE THERE ELEMENTS OF THE CEC MODEL NEGATIVELY AFFECTING QUALITY OF CARE?

This was a direct question at focus groups and **no specific examples were identified**. There is an overall high confidence in the quality of care provided. A potential issue, however, is the loss of clinical skills at sites where patient acuity presentations are lower, volumes are small and the frequency of “real” emergencies is rare. This is discussed elsewhere in this report.

3.8 HAVE THERE BEEN ANY UNINTENDED OUTCOMES FROM THE IMPLEMENTATION OF THE CEC MODEL? IF SO, WHAT?

There is a perception by local providers at some sites that lower overall acuity of patients presenting at the CEC is resulting in lost competency to deal with real emergencies should they arise. This is challenged by providers at other sites who believe that the emergency department is actually seeing sicker patients because the levels 4 and 5 cases are being diverted to primary health care. This warrants closer examination of actual utilization data, by CTAS, time of day and disposition.

There is a general impression that the CEC model has resulted in a **reduction of ‘no shows’ for booked appointments**, resulting from overall improved access to care and contributing to overall greater efficiency of service.

It is expected that there will be **improved chronic disease management outcomes** because of easier access to primary health care and better continuity of care. This warrants closer examination in the next phase of CEC evaluation.

The relationship between local family physicians and their regional ED counterparts has improved at some sites, due to clearer understanding of roles, capacities and limitations. As noted earlier, this is not a universal outcome, suggesting that broader investment in this relationship building is warranted and yields positive results.

Nurses on the night shift feel a high level of physical security with a uniformed paramedic presence on site.

3.9 HAS THE NUMBER OF LESS URGENT CASES (CTAS 4-5) PRESENTING AT THE CLOSEST 24 HOUR ED AT NIGHT CHANGED? DURING THE DAY? HOW?

The only CTAS data that was available at the time of the evaluation was the volumes of CTAS 1-3 and CTAS 4-5 by quarter for day and overnight at CECs. Data isolating CEC catchment area patients’ visits to the closest 24-hour ED was not available. It should be noted that such data would be of dubious value insofar as it would be difficult to determine if any changes in utilization could be attributed to the CEC model given that there are so many factors that impact a patient’s decision about where to access care and their ultimate pathway.

At all CECs, there are significantly more patients seen in the daytime than overovernight hours. There are more CTAS 4-5 patients being seen both day and night than CTAS 1-3 patients. All CECs with the exception of Tatamagouche have seen a decrease in the numbers of CTAS 4-5 patients presenting to the ED since the launch of the model. The variance in data for Tatamagouche may be reflective of the seasonal changes in population being served.

Annapolis has seen the most significant decrease averaging 1200 CTAS level 4-5 patients per quarter pre CEC and just over 400 CTAS level 4-5 patients presenting post CEC launch. All sites have seen a decrease in CTAS 4-5 patients in the overnight. Overnight volumes are generally much lower than daytime volumes and should be considered contextually when looking at percentage decrease in volumes.

3.10 WHAT ARE THE DISPOSITIONS OF ED PATIENTS AT CEC EDS AT NIGHT? DURING THE DAY?

Disposition data was only available for overnight hours at the time of the evaluation. For daytime hours all that was available was the CTAS scores of patients presented on a quarterly basis. There are nearly 20 disposition types for daytime (with apparent variability in the approach to coding) and 3 dispositions for overnight. For future evaluation data quality, all sites should adopt a standard approach to tracking patient dispositions.

In general terms, there are significantly more patients seen in the daytime than overovernight hours. There are more CTAS 4-5 patients being seen both day and night than CTAS 1-3 patients.

For the overnight dispositions all CEC sites have the most patients being treated with follow up the next day, and the least number of patients being transferred out. Patients that are treated with scheduled follow up make up approximately 15-20% of dispositions. This has been steadily increasing in half the sites with Parrsboro numbers doubling since opening. The remaining three sites have seen decreases in this disposition with Annapolis seeing a decrease of almost half since the implementation of the CEC.

Treat and transfer rates for the most part have remained relatively consistent. Some of the sites show variability over time. Pugwash had fairly consistent rates for all three dispositions until the last two quarters of 2013-14 where Treat and Transfer saw a significant increase while Treat and Release saw a significant decrease. While these peaks and variations

may imply significant changes in the CEC patient flow, they are more likely explained by the low volumes overall and the sensitivity to even minor changes in patient activity.

The high proportion of patients being treated with scheduled follow up would warrant further investigation to gain a better understanding of what time they presented (indicated they may have waited it out until they could wait no longer) and if what the patient presented with could have safely waited to be seen the next morning (is the ED being kept open for patients who do not really need that level of care?)

3.11 FOR EACH CEC: IS THE MODEL OF CARE MEETING THE COMMUNITY'S NEEDS FOR EMERGENCY CARE? IF SO, HOW?

The indicators defined in the evaluation framework to measure the communities' need for emergency care rest entirely with CEC implementation team perceptions in phase 1 and, in phase 2, patient satisfaction. This subjective approach to answering the question of need links the answer with measures of availability. Therefore, in using this measure, providers and management across sites felt that communities' needs were being addressed, with some noting that the previous model (while unsustainable due largely to issues of human resources) also met this need just as well.

If the question of need is measured in how often community members use a service, it is important to distinguish the differences between the extended daytime and overnight CEC models.

Regarding the daytime service, providers reported the perception that the CEC is meeting the needs of the community for emergency care and that the level of acuity that is presenting at the ED is more appropriately matched to that level of care (because more CTAS 4s and 5s are being managed by primary health care). **Eighty-six percent (86%) of survey respondents agree or strongly agree that "the model for daytime access to urgent and emergency care that we provide at the CEC is working well;** 8% were neutral and 6% disagreed (none strongly).

Regarding the overnight service, feedback was mixed

and generally less positive. **While availability is greatly improved for emergency care, there was very low demand for the emergency services provided at the CECs.** Some respondents attributed this to a lack of public awareness about the CEC model and possible lack of confidence in the absence of an on-site physician at night.

Many felt strongly that the CEC overnight service is not a good use of resources. This is consistent with the directional findings of a health economics analysis, which cautiously points to the CEC overnight service lacking evidence of cost effectiveness. Some focus group and open-ended survey feedback explored the potential to replace the CEC overnight service with such alternatives as the use of paramedics to provide an expanded scope of overnight urgent service access to patients. In that model, treatment would be provided by paramedics right in the patient's home with local primary care followup the next day as required (similar to the service they would receive at the CEC, but at home). If there were a health concern that could not be resolved or stabilized, the care plan would be escalated to immediate transport of the patient to a regional emergency centre (similar to the current pathway for patients arriving at the CEC but are assessed as requiring transfer to a regional hospital for treatment).

If replacing the overnight CEC model is considered, it is strongly advised that the same careful attention to communication and planning that went into the introduction of the CEC model in each community be central to any change in service delivery approach.

3.12 IS THERE 24/7 ACCESS TO CECs FOR URGENT AND EMERGENT CARE?

All sites but one provide 24/7 CEC access for urgent and emergent care, with one site (Musquodoboit Valley) collaborating with EHS to provide this service to the community overnight.

Since the CEC model was implemented, there has been a dramatic decrease in unplanned closures of local emergency departments (see Section 3.1 of this report). This has been due to the availability of registered nurses and paramedics at each site,

supported by an emergency medicine doctor they can reach by telephone for advice managing a patient.

Across all sites, it was felt that more public education is needed so that community members don't expect to see a physician at the CEC during the overnight.

As noted in 3.11, some respondents felt that the previous model (while unsustainable due largely to issues of human resources) also met this need just as well.

3.13 ARE PATIENTS OR "TREAT AND FOLLOW-UP" PATIENTS CONSISTENTLY RECEIVING SAME OR NEXT DAY APPOINTMENTS WITH A PHC PROVIDER?

Quantitative data to support this indicator was not available from Nightingale at the time of the evaluation, but focus group and survey respondents from all sites felt that same-day/next-day appointments are generally available. Moreover, there was consistent feedback that **access to same-day/next-day appointments has improved significantly as a result of the CEC model.**

There is variability in the approach that different sites use to schedule and see the follow up patients from the overnight. An opportunity exists for a best practice approach to be developed and implemented based on these experiences. For the next phase evaluation, it would also be important to track these patients to see if they showed up for the appointment (was the issue really of an urgent nature) and if they returned to the ED within the next 48 hours with the same complaint.

3.14 IS THE CEC OFFERING ONGOING PRIMARY CARE TO ALL PATIENTS IN ITS COMMUNITY (CATCHMENT)?

All CECs are providing episodic care as well as ongoing care through the collaborative practice. Some CECs triage patients upon arrival to either urgent care/emergency or primary health care; some require patients to self-select their service venue. Other CECs have defined their catchment population and 'virtually roster' primary health care patients based on residency. Patients from outside the catchment area are directed to a more traditional 'walk-in' clinic pathway; all patients have access to urgent and emergency services on demand. All sites facilitate same-day/next-day access through a scheduling system that protects slots to

accommodate those patients.

3.15 FOR PATIENTS TRANSFERRED FROM THE CEC TO THE CLOSEST 24 HOUR ED, HAS THERE BEEN GOOD COORDINATION BETWEEN CECS AND EDS? IF SO, WHAT HAS HELPED? IF NOT, WHAT HAVE BEEN THE CHALLENGES? WHAT WOULD HELP?

Some sites have noted improved relationships between local providers and regional hospital staff since the implementation of the CEC model, expressing higher confidence in the level of support that can be expected in making the referral). Others have noted frustration with the apparent lack of understanding of regional hospital staff about the role and capacity of the CEC and the necessity of a transfer.

Several sites expressed frustration with what providers regard to be excessive delays in ambulance response times, particularly when facilitating transfers. Data was not available to confirm or quantify the magnitude of this issue. Focus group speculation was that part of the problem may be that a **bottleneck occurs when several CECS plan end of shift transfers at the same time**, while others speculated that this may be a reflection of EHS assuming greater capacity by CEC staff to “hold” patients who are clinically fragile than is reasonable.

Some sites report inconsistent discharge planning between regional ED and CEC if patient requires follow-up appointment locally.

All sites noted concern that, when patients are transferred to the regional hospital, this sometimes results in significant inconvenience and hardship for the patient who must find transportation to return home after discharge. This is not an issue created by the CEC model, but rather is a challenge faced in most rural settings where public transportation is not available.

3.16 HAS CARE BEEN WELL COORDINATED WITHIN THE CEC? WHAT HAS HELPED? WHAT HAVE BEEN THE CHALLENGES? WHAT WOULD HELP?

Seventy-five percent (75%) of survey respondents agree or strongly agree the model is working well in

terms of coordination of care from day to night. There is slightly higher confidence in the level of coordination of care at the CEC from the night to day model, with 85% agreeing or strongly agreeing it's working well

The main areas of concern revolve around the transfer of care from the daytime ER to the overnight Medical Oversight Physician, and tension expressed about some MOPs' expectation that the daytime team would have dealt with the patient before the shift change.

Shift changes present a challenge to coordination of care within the CEC. With all sites transitioning at same time there can be delays in accessing the medical oversight physician. Also in the hours leading up to shift change there is variability in how it is determined who has responsibility for the patient, and some tension over the expectation of having 'everything cleaned up' by the end of the shift. Clarity and consistency with regard to when the physicians stop seeing patients, and what they are expected to do before they go home (call the doctor on call, call emergency re transfers, etc.) was suggested. At these times a patient can be left waiting longer for the responsible provider to come on shift. Overlapping shift changes within the CEC and staggered shift changes across sites may help to address this problem.

At the end of the shift, decisions need to be made about the 'detained' patients (whether a transfer needs to be arranged, or if the patient should stay and be handed-off to the overnight CEC team). A transfer involves waiting for EHS and delays can extend the time that providers need to stay beyond the end of their shift.

One CEC has avoided some of the end-of-shift 'bottleneck' by the front desk advising patients about the probability of their not seeing a physician that day (unless it had otherwise been determined to be necessary). The patient can then make an informed decision about whether they wish to drive to the 24-hour emergency department, await treatment treated in the 'overnight' model (no physician), or come back the next day.

The use of the overnight documentation system (ePCR and Meditech/STAR) presents potential communication issues with the daytime primary

health care team who use Nightingale. CEC night staff use Meditech or Star to register a patient and can only provide patients with a paper-based appointment instruction for a next-day follow-up visit to the daytime clinicians at the CEC. An integrated information system where patients' follow-up appointment can be booked and confirmed by the night shift before sending the patient home would be preferred. The use of multiple documentation systems presents potential liability issues as well, which are noted earlier in this report.

Good role clarity has helped with coordination of care and strong physician support was noted as key to the team working at its peak.

3.17 FOR EACH CEC CATCHMENT AREA, HAS THE USE OF AMBULANCES CHANGED – PRE/POST CEC? DESTINATION?

No quantitative data was available at the time of this evaluation to inform this question. Anecdotally, providers at several sites shared the **perception that ambulance response times to calls from a CEC can be excessive.** Delays of up to four hours were reported from the time that an ambulance was called for a patient transfer to when the ambulance arrived, placing additional demand on the CEC providers to 'hold' the patient in the interim.

It was also reported that some patients avoid the out of pocket expense of ambulance service from home to hospital by driving to the CEC and then being transferred from there (which involves no cost to the patient).

3.18 ARE AMBULANCES STOPPING AT THE CEC? IF SO, AT WHAT TIME OF DAY AND WHAT CTAS LEVEL ARE THE PATIENTS WHEN THEY ARRIVE?

No quantitative data was available at the time of this evaluation to inform this question. In the event that a trauma or STEMI patient, for example, arrives at the CEC by car, providers would call 911 to dispatch an ambulance.

Anecdotally, concern was expressed at some sites that a CEC-originated 911 call is not always treated with the same degree of urgency as it would have received

had the call originated from the patient's home. It is the perception that EHS assumes the CEC is capable of stabilizing the patient and that paramedics' arrival to begin treatment is not imperative. There is no data to support or challenge this perception.

3.19 ARE ALL PRACTITIONERS COLLABORATING IN PATIENT CARE CALLS DURING CEC NIGHT SHIFTS? ARE THERE ANY EXCEPTIONS? WHAT ARE THEY AND WHY?

On par, there seems to be support for the RN/paramedic model (particularly when this involves an ACP) in that this clinical mix has the advantage of bringing an additional (and valued) professional skill set to the team. RNs were generally positive about their experience with Advanced Care Paramedics, but expressed concerns about the limitations of clinical scope and level of experience brought by some Primary Care Paramedics.

Sixty-eight (68%) of providers working at a CEC responding to the online survey agree or strongly agree that the team approach to care is working well on the overnight shift. 20% were neutral and 11% disagree (no strongly disagree). It is generally felt that, **once the nurse/paramedic team has been given time to gel, both professional groups come to value each other's clinical skills and approach to care.**

At most sites, nurses in particular acknowledged some initial misgivings about the collaborative model with paramedics, but generally reported support for the team after experiencing how it worked. At all sites, the need to invest in team-building well before the launch of a CEC and beyond was stressed. The vast cultural difference between nurses and paramedics should not be under-stated, and can be a barrier to team development.

Nurses reported a significant learning curve in working with the Medical Oversight Physician, as they had been used to an on-site-available physician model. The support of paramedics in helping their nurse-colleagues develop confidence in this model was acknowledged. Overall, as these teams mature, nurses and paramedics feel equally confident in their roles and able to practice to their full clinical scope.

Nurses also reported general frustration that paramedics are unable to help them with inpatient care, leaving the RN to juggle the needs of admitted patients while the paramedic, quite often, has nothing to do. This was also a source of frustration by paramedics who feel under-utilized. While some nurses feel that the solution to this issue would be to have an RN/RN model in play overnight, most who expressed an opinion felt that the benefits of the RN/Paramedic team outweigh the disadvantages as it relates to inpatient care.

In an online survey of CEC providers, 63% felt that there is clarity around delegation of care and 91% felt that their team adapts to the needs of each patient. 98% believe that their team provides quality patient care and 80% are confident that they could explain the roles in the team and how they overlap.

3.20 TO WHAT EXTENT, HAS INTERDISCIPLINARY TEAM BUILDING AND EDUCATIONAL SESSIONS TAKEN PLACE FOR CEC PRACTITIONERS? WHO IS NOT PARTICIPATING? WHY NOT?

Staff at each site participated in an orientation/training session prior to the opening of every CEC. 70% of CEC providers responding to the online survey rated the orientation leading up to launch as good or very good. 25% neutral. 5% bad or very bad.

58% of CEC providers responding to the online survey felt that they receive the training they need to do their job well. Primary Care Paramedics and nurses are the professionals most likely to express a lack of confidence in their training preparation for their CEC role. This rating may be explained by the anxiety expressed by providers regarding the difficulty of maintaining high skill levels for rare emergencies. Provider feedback also indicated concern about the lack of training in the use of Nightingale and ePCR, and the distance required to travel to education opportunities.

Providers from all professional groups observed that **joint education sessions are an extremely effective approach to team building.** Scenario-based learning and simulation training were regarded to be particularly effective.

3.21 ARE PROVIDERS SATISFIED WITH THE CEC MODEL? ARE THEY PROFESSIONALLY SATISFIED WORKING WITHIN THE CEC? DO PROVIDERS BELIEVE THEY ARE DOING A GOOD JOB?

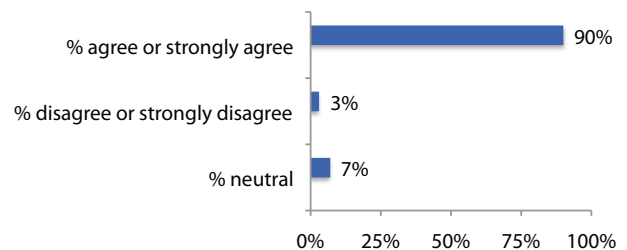
While providers gave high ratings to their experience working at CECs and in the team environment overall, a domain where feedback was more negative relates to the perception that staff receive recognition for good work. **A minority of provider respondents felt that they “receive recognition for good work”** (39% agreed or strongly agreed, 28% disagreed or strongly disagreed and 33% were neutral). There is no comparative data (either pre-/post-CEC implementation or CEC versus other health service environments), to know if this is an issue specific to CECs. However, the low ratings in this important area of workplace morale merits attention.

The RN's feel able to provide quality care using the CEC model. They find the work interesting, manageable and diverse.

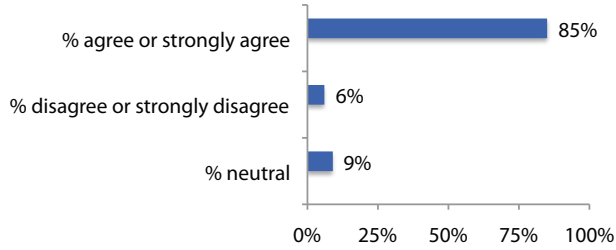
61% of CEC providers responding to the online survey said they are satisfied or very satisfied with their job. 28% were neutral. 10% were dissatisfied or very dissatisfied. 75% rate the CEC as a “good or very good place to work”. 22% were neutral on that question and 3% said it is a bad place to work. No respondents said it is a very bad place to work.

The following highlights other responses to questions of job satisfaction in that survey:

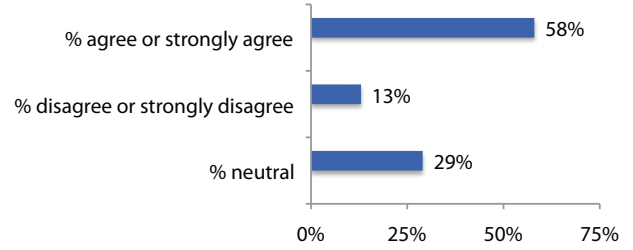
I understand what is expected of me in my job.



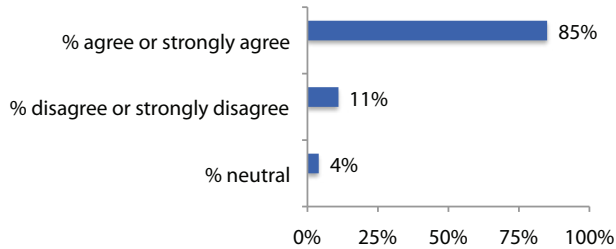
I am given enough time to do what is expected of me in my job.



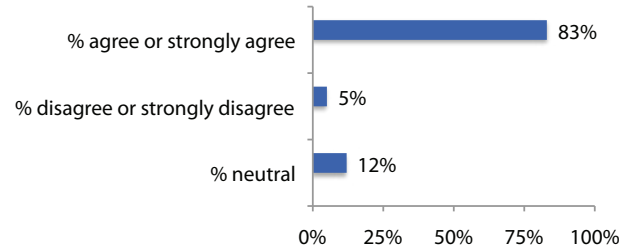
I receive the training I need to do my job well.



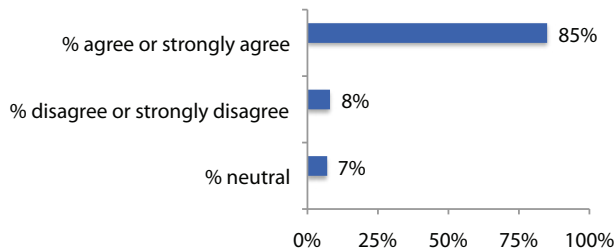
My job makes good use of my skills.



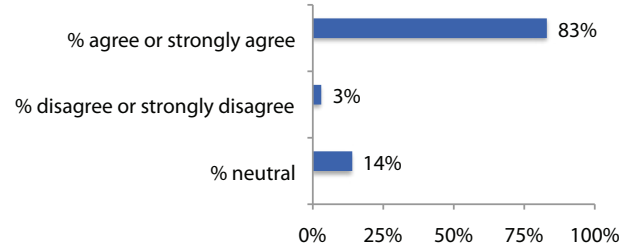
The people I work with treat me with respect.



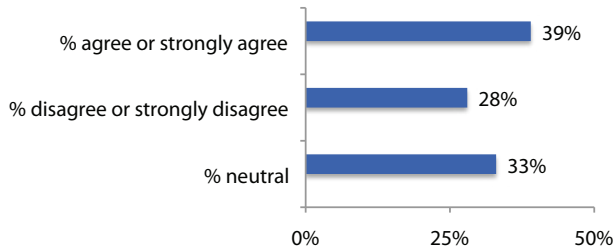
I have the materials, supplies and equipment I need to do my work.



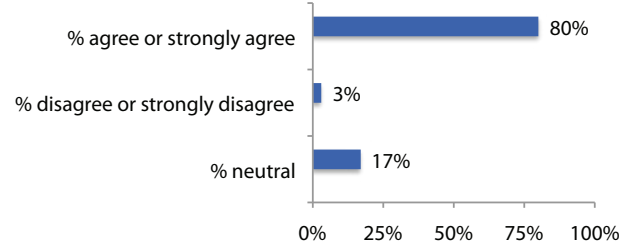
The people I work with help each other out.



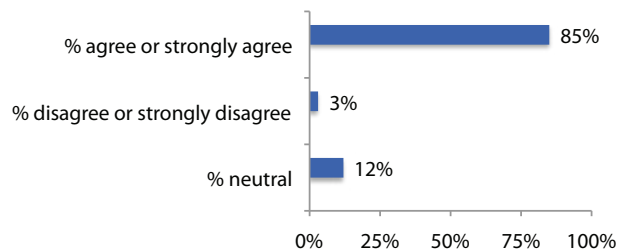
I receive recognition for good work.



I feel I belong to a team.



My workplace is safe.



While these data sets would suggest a generally satisfied workforce, it should be noted that there is neither baseline data nor is there comparative data to measure job satisfaction in other health care settings.

For daytime urgent care/ For overnight urgent care:

92% agree or strongly agree that the team approach to care is working well in the daytime shift while only 59% of respondents said that they are satisfied or very satisfied with the overnight shift. The latter group's rating is likely explained by the tension expressed by nurses with the limitations of the Primary Care Paramedic skill set, as well as tensions around shift changes and the dual workflow with patient records and registration (ePCR and Meditech/STAR).

3.22 HOW COST EFFECTIVE ARE THE CECS? WHAT IS THE COST MINIMIZATION RESULTING FROM IMPLEMENTATION OF CECS?

The Department of Health and Wellness undertook a separate review of the CEC model which helps to inform this evaluation question from a health economics perspective. The report observes that "the province is spending less to provide an emergency department service in these facilities at night, fewer patients are visiting during these hours, on average 68% less than in 2010." The report speculates that, "these patients are being treated at regional hospitals due to their acuity or that they are being treated in the daytime hours at either emergency or in primary care." Based on the data available, it concludes that the CEC overnight service is less costly than the CEC alternative but that it is also less effective.

From the perspective of site-based informants to this stream of evaluation, there is a general impression that the overnight service is not cost effective given the extremely low patient volumes. When asked in the online survey if they feel providing access to urgent/emergency care service overnight at the CEC is an effective use of healthcare resources, 40% of managers agree or strongly agree that it is an effective use of resources, 20% were neutral on the question and 40% strongly disagreed with the statement. It must be acknowledged that there is considerable stress associated with this question.

Communities generally fear change to the way health services are delivered, and the CEC overnight service is often regarded as the 'last hope' for local 24-hour access to health care. If the overnight CEC model is deemed to be unsustainable, it is generally believed that a reinvestment of resources to shore up the capacity of same-day/next day access to primary health care 12/7 – in the CEC community as well as in surrounding communities – is warranted. It is also expected that the EHS service would require some augmentation, particularly if a decision were made to extend the range of dispositions that are within the scope of an extended paramedic practice in order to reduce the need for patients to be transferred from home to hospital for treatment.

Furthermore, decommissioning of the overnight hours would require the same level of planning, stakeholder engagement and operational detail that was the hallmark of the implementation of the model.

3.23 IS THE CEC MODEL SUSTAINABLE FROM A HUMAN RESOURCE STAFFING PERSPECTIVE? IF SO, WHY? IF NOT, WHY NOT?

While the decreased number of closures is noteworthy, both management and providers at the CEC sites have indicated concern about how fragile the staffing capacity is. In the past, physician shortages were the main concern. Today, it is difficult recruiting nurses for the CEC model, and lab technicians are very hard to come by. The sites are working with a small number of core staff and do not have a large pool of skill-ready professionals to draw from, either for casual back-fills

due to sickness or for planned vacancies. An aging workforce adds a further dimension of vulnerability to several site's succession planning. The reality is that if one or two key members of the team are unavailable, the CEC is challenged to maintain service.

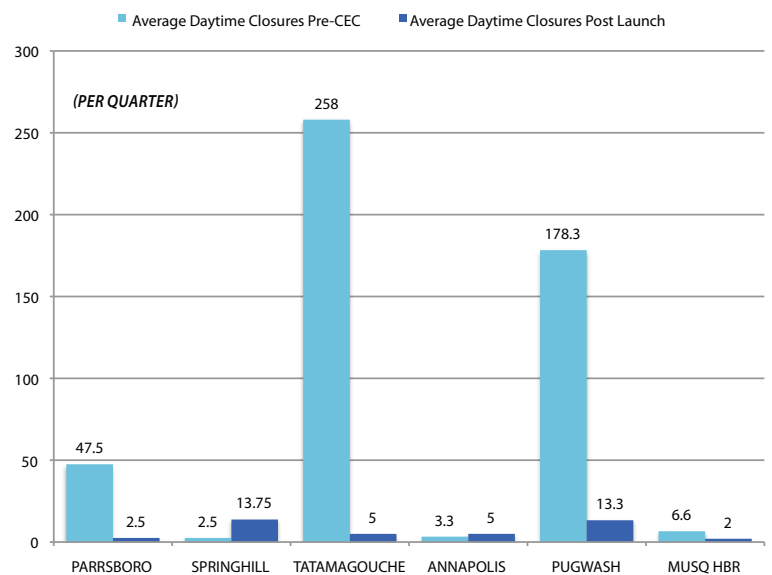
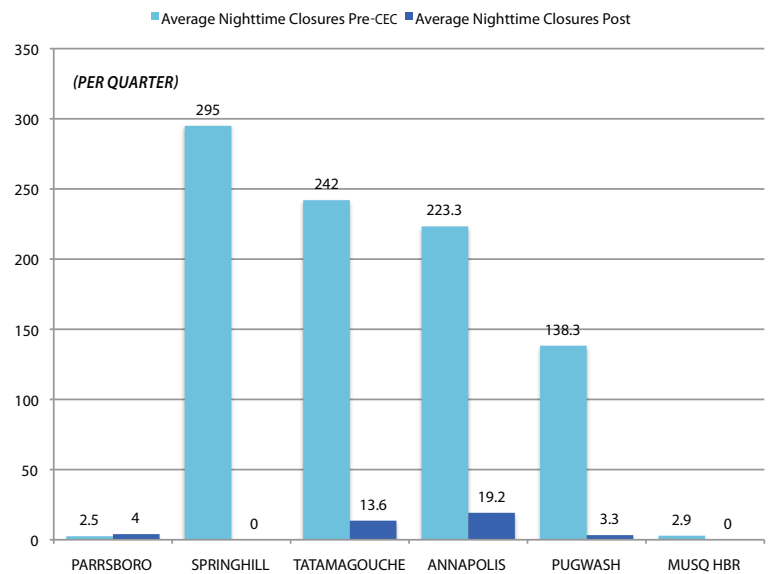
From the paramedic's perspective, they must be exposed to a variety of practice settings in addition to the CEC so that they can maintain their emergency service skills. There is a strong perception by CEC nurses that Advanced Care Paramedics provide a better level of care on the team model. There is concern that ACP paramedics are already in short supply, and that their deployment to CECs would jeopardize the quality of the broader EHS service.

3.24 HAVE THE NUMBER OF ED CLOSURES BEEN REDUCED IN COMMUNITIES WHERE CECs HAVE BEEN IMPLEMENTED?

All of the CEC sites have seen significant decreases in closures since the introduction of the CEC model.

For the purposes of this evaluation, unscheduled closures refers to any hours that the site is closed due to unforeseeable circumstances. Typically this is due to the lack of availability of a core member of the care team (physician, RN or paramedic). Musquodoboit Valley prior to the implementation of the CEC model had regularly scheduled closures overnight. Sites with Nurse Practitioners, such as Parrsboro are able to offer reduced service levels to avoid complete closure of the site.

All sites have seen a significant decrease in unscheduled closures both day and overnight since launching the CEC model. Sites were averaging as high as 300 hours of unscheduled closure per quarter at night and over 250 hours of unscheduled closures per quarter in the day. For example, All Saints in Springhill in the 2011-12 year had experienced approximately 1200 hours of closure; post-CEC, they have no overnight closures and very few daytime closures (never reaching more than 50 hours per quarter). More often than not, there are no closures at all. Hours of modified service were only a consideration for one site (Parrsboro) and did not have a significant impact on overall closure rates.



4.0 FINDINGS & RECOMMENDATIONS

The following section summarizes the themes/key findings and recommendations.

Key finding: The CEC model has been successful in providing predictable access to urgent and emergency care services. Utilization of CEC services during the overnight shift has, however, proven to be very low.

Alternatives should be explored that would maintain the high level of quality and degree of access in a more cost effective way. One approach might be to examine whether overnight urgent and emergency services could be capably delivered by EHS paramedics with an enhanced role to provide a broader range of “treat and release” and “treat and follow-up” services in the home than is presently within their scope.

This could address the goal of keeping appropriate service delivery close to home, as well as mitigating at least some of the barriers resulting from the out-of-pocket costs borne by rural patients needing ambulance transfer from home to hospital. It would also reduce the frequency of patients being stranded at the regional hospital after discharge because they have no means to get home.

Recommendation 1. Share evaluation findings with all stakeholders, including community leadership, to review the data regarding demand for urgent and emergency service at each site. In that the need for refreshed public education about the role of the CEC, how to access services and what is available was generally recommended, this outreach would be well-timed with broader discussions about how best to meet the urgent and emergency care needs of the community in a sustained, high quality manner.

Recommendation 2. If an alternative to the overnight service is developed, this may create the opportunity to redeploy resources to shore up the capacity of the primary health care team to provide 12/7 same day/next day service, for which there is significant demand as well as evidence of contributing broader health system efficiencies.

Recommendation 3. Any enhancements to the model of service delivery must be supported with the same attention to change management support, planning and engagement of stakeholders that was evident in the design and launch phase of the initial CEC implementation. The quality of that implementation planning is widely regarded to have been a key contributor to the success of the model overall.

Recommendation 4. Explore with EHS the business case implications for overnight paramedic-provided service coverage with a broader range of patient dispositions within their professional scope. It will be vital that the local collaborative care practice has the capacity to ensure availability of a next-day appointment if that is required in a ‘treat and follow up’ scenario.

Recommendation 5. Consider the Musquodoboit Valley overnight approach for implementation in other sites. This will require, among other things, negotiation with the Medical Oversight Physicians to ensure they have the capacity to support an expanded program, although based on data to date, utilization would not be expected to be significant.

Recommendation 6. Review the CEC Minimum Emergency Services based on the evidence of CEC utilization to ensure that staff skills being required are in fact relevant, and that competencies can be maintained.

Recommendation 7. Pursue the establishment of licensure and self-regulation for paramedics in Nova Scotia, recognizing the growing role and scope for this profession in the delivery of health care services in a variety of settings.

Key finding: The CEC model has been successful in providing better access to primary health care services by directing professional resources to the daytime, evening and weekend hours that are convenient and predictable and when most patients need them.

The availability of same-day and next-day primary health care access is key to there being low demand for these services overnight. Insofar as lab and x-ray services are integral tools to enable the full scope of CEC service offerings, further study is warranted to determine the most patient-centred and cost effective approach to local availability of these services during extended hours. Not only would this support the delivery of care closer to home in more hours of the day, but may offset demand at other facilities experiencing bottleneck issues of their own.

Recommendation 8. Timely access to the right health care services for all Nova Scotians should be a goal of the DHW. Any further rollout of the CEC model should focus on building this capacity by directing professional resources to the daytime, weekend and evening hours that are convenient for patients (8-8 Monday to Friday as well as hours over the weekend).

Recommendation 9. Ironically, existing CECs may prove to be victims of their own success, as (anecdotally at least) growing numbers of patients from outside the immediate catchment area are traveling to get service. Unless predictable access to quality primary health care services can be assured in all communities, those 'islands' of accessibility will be swamped by demand. The next focus of model expansion should therefore focus on securing, same-day/next day access to primary health care access to residents of area

communities so that they can receive this care locally, and from their own provider team.

Recommendation 10. Primary health care standards for CEC should be developed. These standards should have the same rigor and comprehensiveness as the Emergency Care Standards that were foundational to the design of the CEC model.

Key Finding: The teams both daytime and overnight are working well and staff representing all provider groups rate the collaborative environment highly, both in terms of the quality of care provided and as a good place to work. All new CEC provider teams should be expected to experience some anxiety about their role in a new model of care, but experience shows that these times will gel over time, particularly if everyone comes to the table with the intent to collaborate.

Recommendation 11: Ongoing investments in change management is still required, even after several years, to continue supporting interprofessional relationships, particularly between nurses and paramedics who come from such different professional cultures.

Key Finding: Improvements are required in transitions of care, both within the site (from daytime to overnight teams) as well as between the Medical Oversight Physician(s) and the CEC doctor. Health information systems that do not 'talk' to each other and the need for multiple charting adds a further layer of inefficiency and potential risk. Some regional hospital emergency staff also require more education about the capacities and limitations of the CEC model so that transitions in care are smooth and collaborative

Recommendation 12. Consider staggering shift changes, by providers within the CEC and/or by each CEC with the MOP. While this would involve some internal logistics, it is preferable to sites reducing access by using 'shoulder' hours to attend to matters of discharge planning.

Recommendation 13. Reconciling Nightingale, Meditech/Star and ePCR into a seamless data-sharing platform is outside the scope of this evaluation, however it must be observed that a 'one patient, one record' goal is worthy of pursuit. Parallel data

collection followed by paper-based exchange between providers is not only inefficient, it creates opportunities for human error in several steps of patient information transaction.

Recommendation 14. An orientation program should be developed (or refreshed) and shared with regional hospital emergency department staff so that they have a clear understanding of the role, capacity and limitations of the CEC and an introduction to the providers who work there.

Recommendation 15. Providing joint continuing education sessions, ideally on-site, is believed to be a highly effective contributor to team-building. Once standards have been developed (for primary health care) and revised (for emergency care), adequate resources must be assured that staff get the training they need to maintain competency. It is also vital that each professional on the team has a current understanding about scopes of practice – who can do what, and when that scope changes.

Key finding: Different CECs use different protocols in how patients flow (who goes to primary health care, who goes through the emergency department, how follow-ups are booked, how same day/next day access is facilitated). While some approaches are shaped by very practical considerations such as the physical layout of the CEC (with the doctors' office in a separate building from the emergency department, for example) there would appear to be some best practices emerging, and an opportunity to standardize across sites where this is practicable.

Recommendation 16. CEC teams need more opportunities to talk to each other to share experiences and build the best and promising practice foundation of the model.

Recommendation 17. Sites should rotate in leading the discussion of a case review as a regular clinical quality improvement mechanism, facilitated virtually to maximize participation.

Recommendation 18: Conduct an evaluation of the New Waterford model once there is sufficient experience to learn from that approach.

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