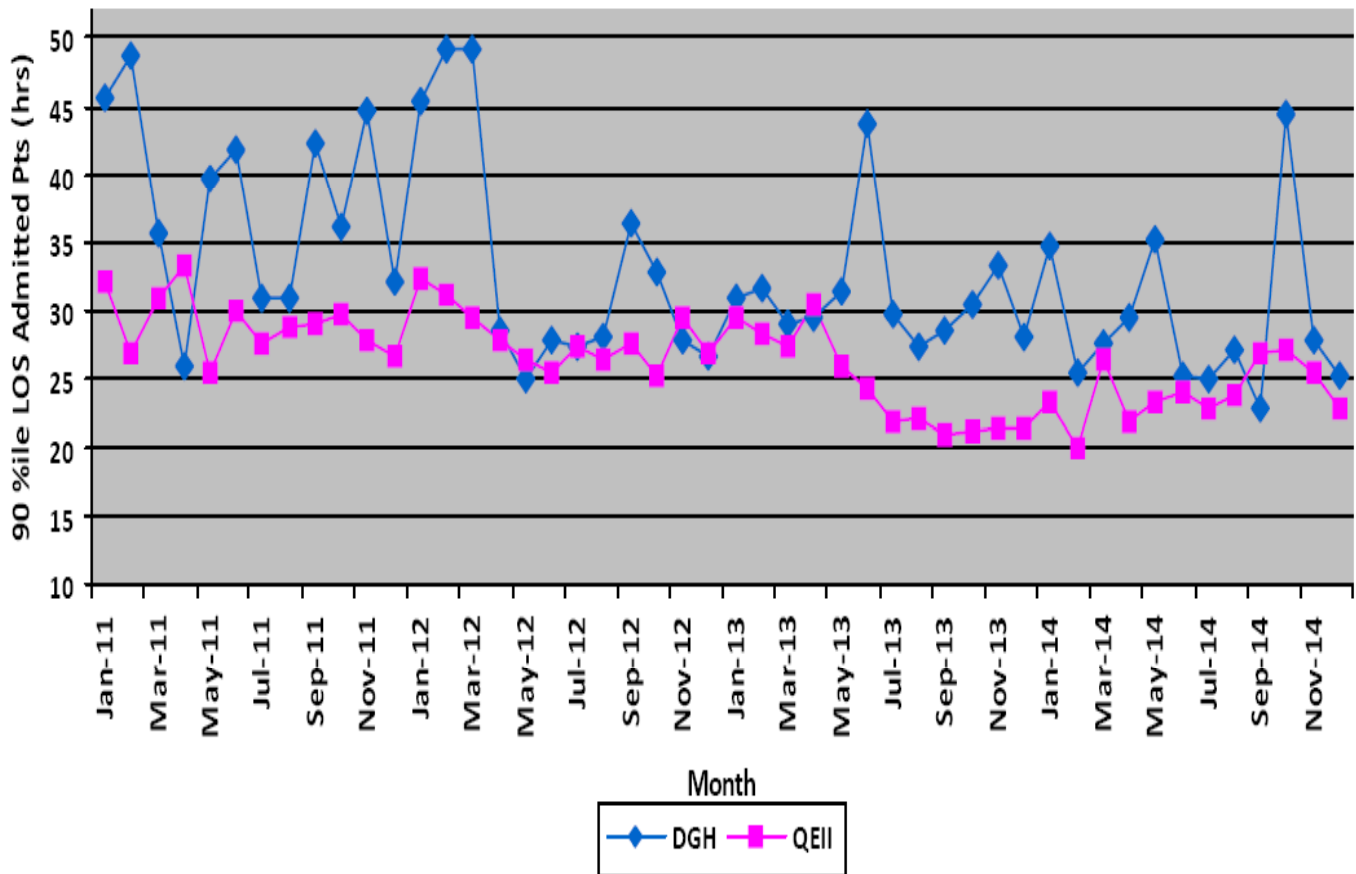


Flow and Network Integration

ED Length of Stay (LOS) for Admitted Patients

Context:

ED LOS of admitted patients (i.e. "ED boarding") has been recognized as the main cause of overcrowding in the ED. Overcrowding is the term used to describe access block. Access block as manifested by increased patient wait times, increased ambulance offload times, and increased LWBS rates is associated with increased adverse outcomes, increased mortality (in a dose/response relationship), and increased costs to the system overall.



Analysis:

The 90th percentile performance for the Halifax Infirmary is 24 hours. Dartmouth General remains approximately 25 hours. The current national target recommended by CAEP is 12 hours.

David Petrie, District Chief, CDHA

Flow and Network Integration

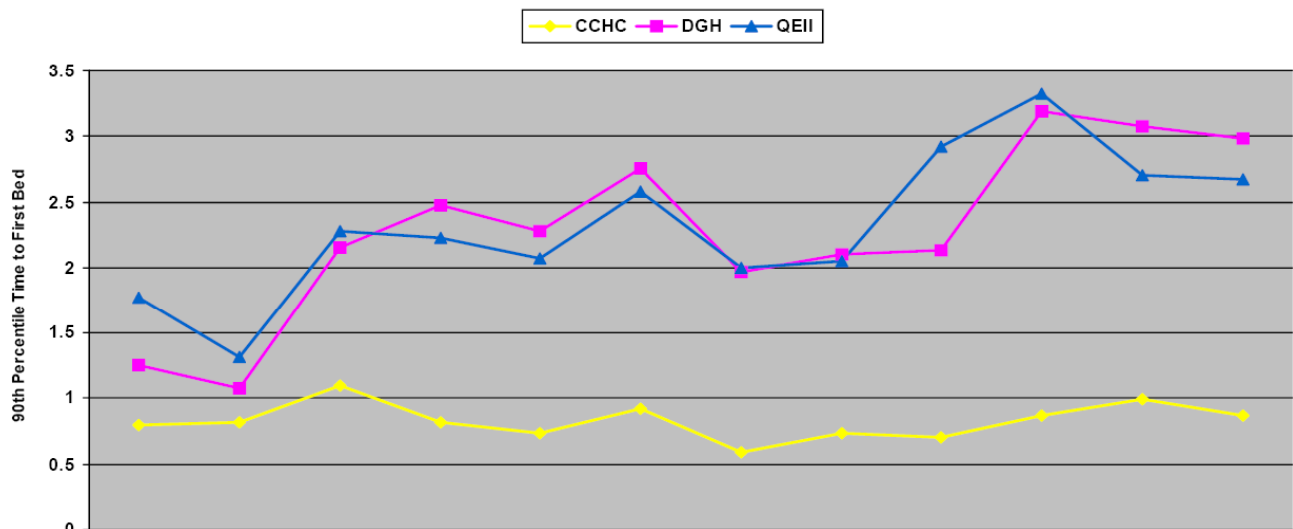
Ambulance Offload / Transition

Context:

Ambulance offload times are another Key Process Indicator which has implications both to the individual patient (i.e. wait times to see an MD), and to the community (i.e. turn around times for the ambulance to get back to the streets and available to the community for the next 911 emergency call).

Because of rising ambulance offload times in the past (due to ED access block) a transition team has been in place to assume the observation of care in the “ambulance hallway” prior to the placement of the patient in an ED bed (to allow the EHSNS crew to return to service). This off load team was discontinued on April 1, 2014.

Reporting Period from: Jan 01, 2014 to: Dec 31, 2014



	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
CCHC	0.8	0.82	1.1	0.82	0.74	0.92	0.59	0.74	0.7	0.87	0.99	0.87
DGH	1.25	1.08	2.15	2.47	2.28	2.75	1.97	2.1	2.13	3.19	3.08	2.98
QEII	1.77	1.31	2.28	2.23	2.07	2.58	2	2.05	2.92	3.32	2.7	2.67

90th Percentile Time to Bed (hr)

	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
CCHC	242	192	269	231	238	250	216	198	224	260	260	235
DGH	598	547	639	586	594	537	598	571	562	548	600	574
QEII	1444	1264	1372	1283	1390	1279	1341	1319	1274	1279	1310	1326

Ambulance Volume

Analysis:

After a prolonged period of improved ambulance offload times there is a consistent increase in the 90th percentile performance likely secondary to the discontinuation of the offload/transition teams at the Dartmouth General and Halifax Infirmary and the increase in patient volumes.

David Petrie, District Chief, CDHA

Flow and Network Integration

Matching Capacity with Demand:

Context:

Ambulance smoothing has occurred in the central region for Quarter 4 2012 based on the relative surge capacity at each ED site. This table shows the percentage of time that the HI and DGH were on then escalating levels of capacity (Red being the highest surge level). CCHC is also part of this network. The surge levels are determined by 5 criteria and are measured real time so the status changes dynamically. If an ambulance patient does not meet exclusion criteria (CTAS 1 and 2 previously determined trip destination criteria for major trauma, stroke, STEMI, or have had recent admit to hospital) then patients may be rerouted from a Red ED to a Green ED.

QEII	DGH	%
GREEN	GREEN	21.00%
YELLOW	GREEN	13.35%
GREEN	YELLOW	9.99%
YELLOW	YELLOW	9.80%
YELLOW	RED	6.70%
GREEN	RED	6.41%
ORANGE	GREEN	5.72%
ORANGE	RED	5.07%
YELLOW	ORANGE	4.51%
ORANGE	YELLOW	3.99%
GREEN	ORANGE	3.84%
RED	RED	3.36%
ORANGE	ORANGE	2.10%
RED	GREEN	1.99%
RED	YELLOW	1.34%
RED	ORANGE	0.82%

Analysis:

During Quarter 4, 2014, Dartmouth General Red / Halifax Infirmary Green jumped to 6.41% of the time (from 2.17% last quarter) and Halifax Infirmary Red / Dartmouth General Green occurred 1.99% (up from 0.88% (ie: The Dartmouth General is 3 times more likely to be on a trip diversion status.) Ambulance smoothing may occur during these times. Cobequid Community Health Centre may receive CTAS 3, 4 or 5 ambulances during these Red times up until 15:00.

The percentage of time either Emergency Department was on Red in quarter 4 increased significantly.

David Petrie, District Chief, CDHA

Flow and Network Integration

Pod of Initial Destination at the Halifax Infirmiry ED / RAU

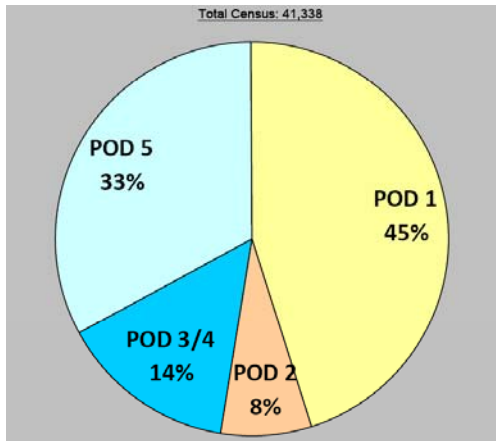
Context:

Internal flow within an ED needs to optimize available space/capacity to meet the volume/CTAS demands of the presenting patients.

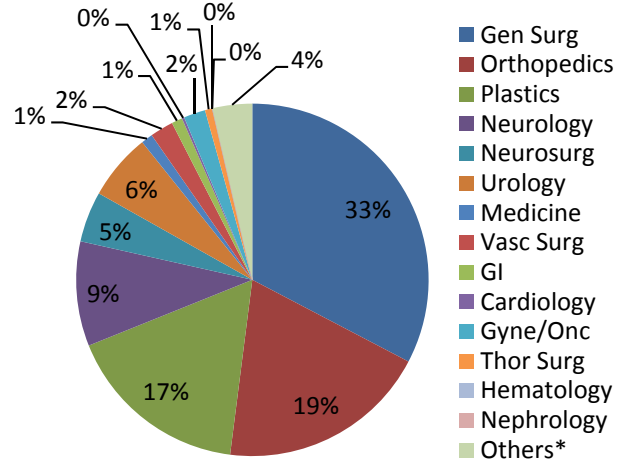
The HI ED has innovated (chair centric Pod 1, fast track/paramedic assisted pod 5) to meet the needs of this demand. The Rapid Assessment Unit is another aspect of the ED which has evolved to meet the needs of transferred patients and referred patients from our own ED. This allows expedited consultations to specific services and frees up bed time to see the next Emergency patient in the waiting room or ambulance hallway.

HI ED- POD Utilization

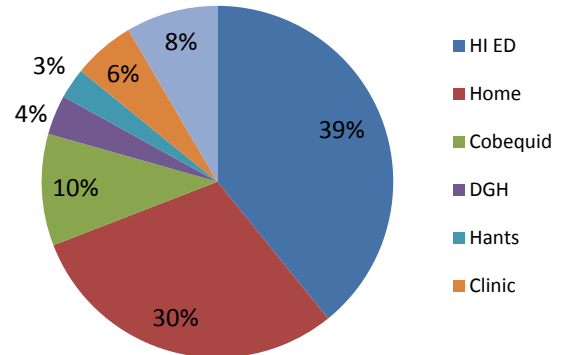
- Initial Location POD 1-2-3-4-5 or Psych
- Psych and Intake A part of Pod 1
- Intake B Part of Pod 5
- No Left Without Being Seen Counted



Volume By Source



Volume By Origin



Analysis:

Pods with rapid bed turnovers (1 and 5) continue to carry the largest numbers of patients (78% of total census).

RAU continues to divert a significant number of patients from ED Beds. 17% of RAU load comes from other CDHA ED sites and 39% from the HI ED.

Sam Campbell, Site Chief, QEII ED

Flow and Network Integration

Clinical Decision Unit (CDU) Utilization

Context:

The Clinical Decision Unit is a virtual unit embedded within the physical space of the ED which facilitates observation and rechecks by the Emergency Physician. The purpose is twofold; to improve the transfer of care with more explicit ordering and documentation clinical care pathways, and to try and reduce admissions for patients that potentially may “turn around” with 6 – 24 hours of treatment and observation.

Site	CDU patients	CDU Patients Admitted	Percentage CDU Admitted	Total Site Patient Volume	Percentage Total Patients CDU	Median Length of Stay CDU Non Admitted patients (hr)
HI ED	268	64	23.9%	17899	1.5%	18.40
DGH ED	522	115	22.0%	10159	5.1%	16.32
CCHC ED	81	49	60.5%	9512	0.9%	8.55

Analysis:

The benchmark for Clinical Decision Unit use in the province of Ontario is 4 – 5 %. Unfortunately, documentation of its use has not been very good at the Halifax Infirmary or the Cobequid Community Health Centre; but is approximately at the expected rate at the Dartmouth General.

Clinical Decision Units has been shown to reduce Emergency Department length of Stay, reduce admission rates with no increase in Emergency Department revisit rates in a recent Academic Emergency Paper.

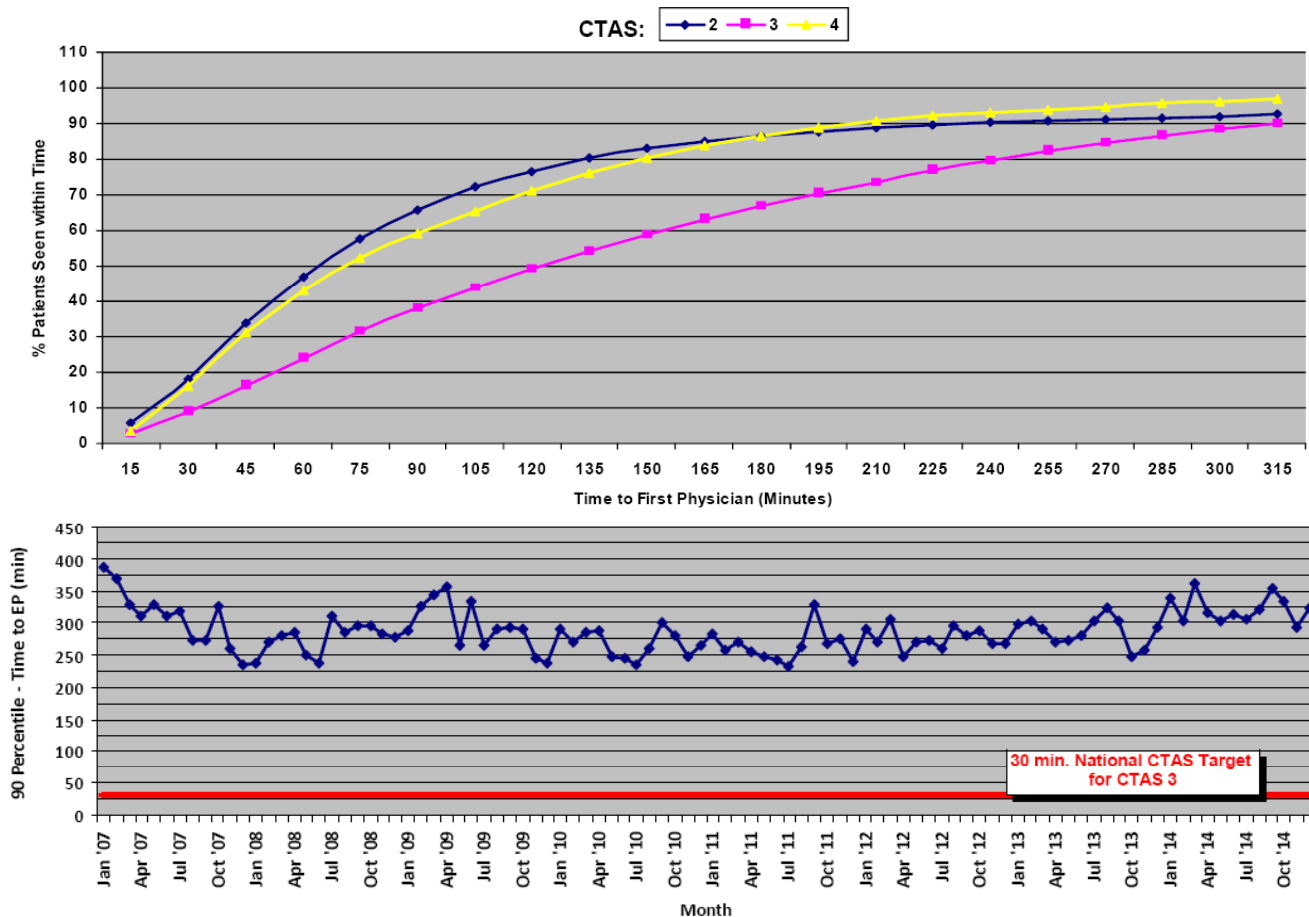
David Petrie, District Chief, CDHA

Patient Experience

Wait Times – HI ED

Context: One of the main ways ED access block manifests itself is in patient wait times (time from registration to time to see MD). Wait times have been shown to be associated with adverse outcomes in a dose response curve that suggests causation.

This data looks at the wait time performance curve for CTAS 2, 3, and 4s (assuming CTAS 1s get seen expeditiously and CTAS 5s have less of a time dependency).



Analysis:

Limited availability of inpatient beds continues to retard ED flow as admitted patients are boarded in the ED. This severely affects the ability of the ED to deal with the increased census and acuity. Wait times continue to be unacceptably long. This dysfunction further affects the ability of the pre-hospital system to function effectively, and blocks the ability of referring centers to send their patients in for specialist care. It also causes tension between providers in different parts of the system, and thus further breakdown in process and efficiency.

Internal ED strategies to use space more effectively, while successful in maintaining wait times at the same level in spite of increased acuity and census, have been stretched to the limits of their potential. The resulting stress on staff, which seemed to improve last year with flow improvements is deteriorating again and an increase in sick calls and pod closures should be expected. Without an institutional/system strategy that makes each service responsible for actively managing the beds allocated to them, it appears that this is unlikely to improve.

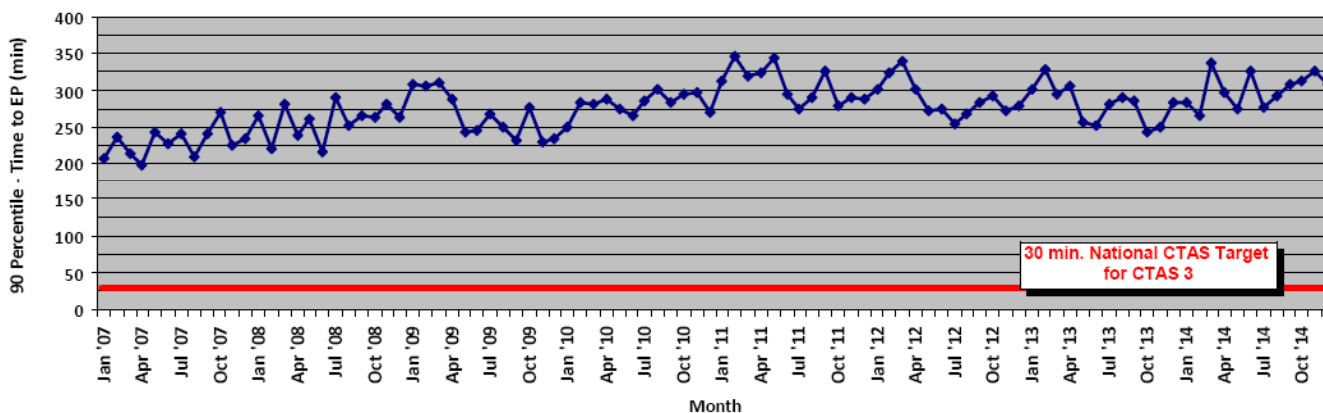
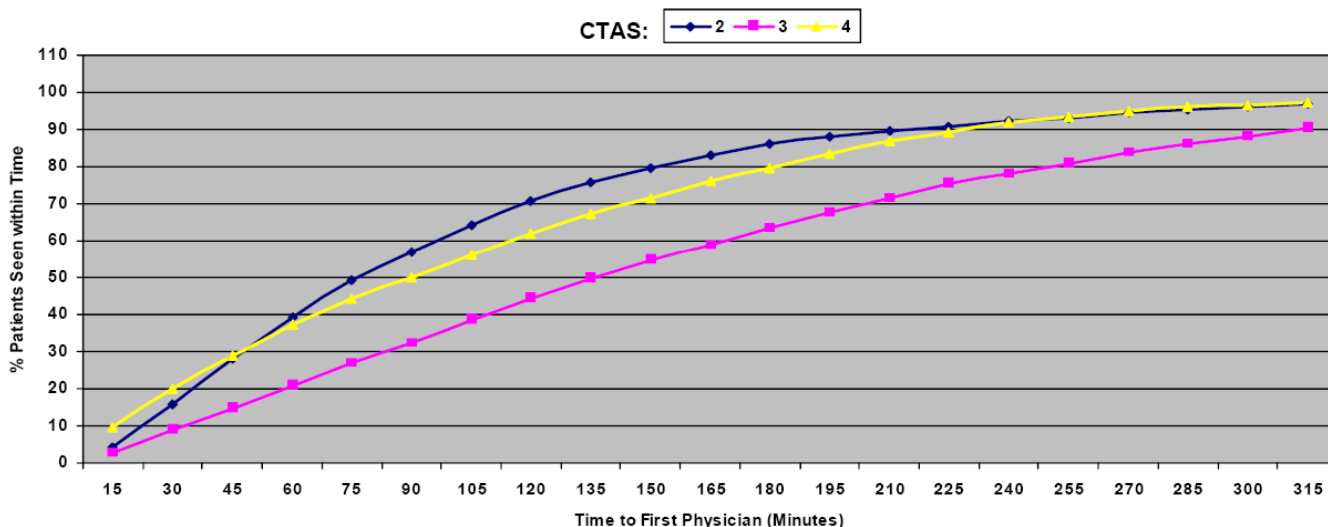
Sam Campbell, Site Chief, HI ED

Patient Experience

Wait Times – DGH ED

Context: One of the main ways ED access block manifests itself is in patient wait times (time from registration to time to see MD). Wait times have been shown to be associated with adverse outcomes in a dose response curve that suggests causation.

This data looks at the wait time performance curve for CTAS 2, 3, and 4s (assuming CTAS 1s get seen expeditiously and CTAS 5s have less of a time dependency).



Analysis:

Capacity issues for admitted patients at DGH continues to have a negative impact on wait times for incoming ED patients. Loss of the CDHA/EHS ambulance offload team in March 2014 has also had a negative impact on wait times for those patients arriving by ambulance. Renovations at DGH may have a further negative impact on wait times.

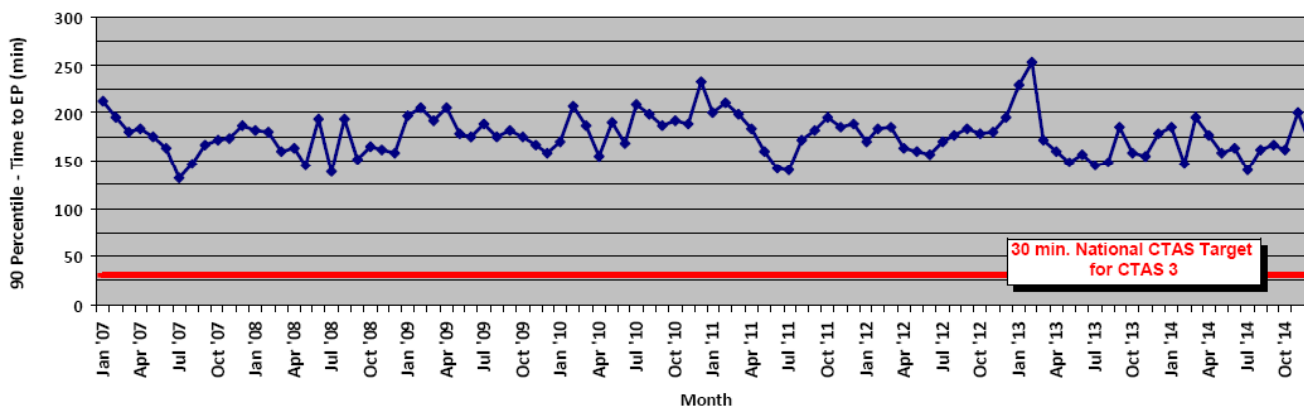
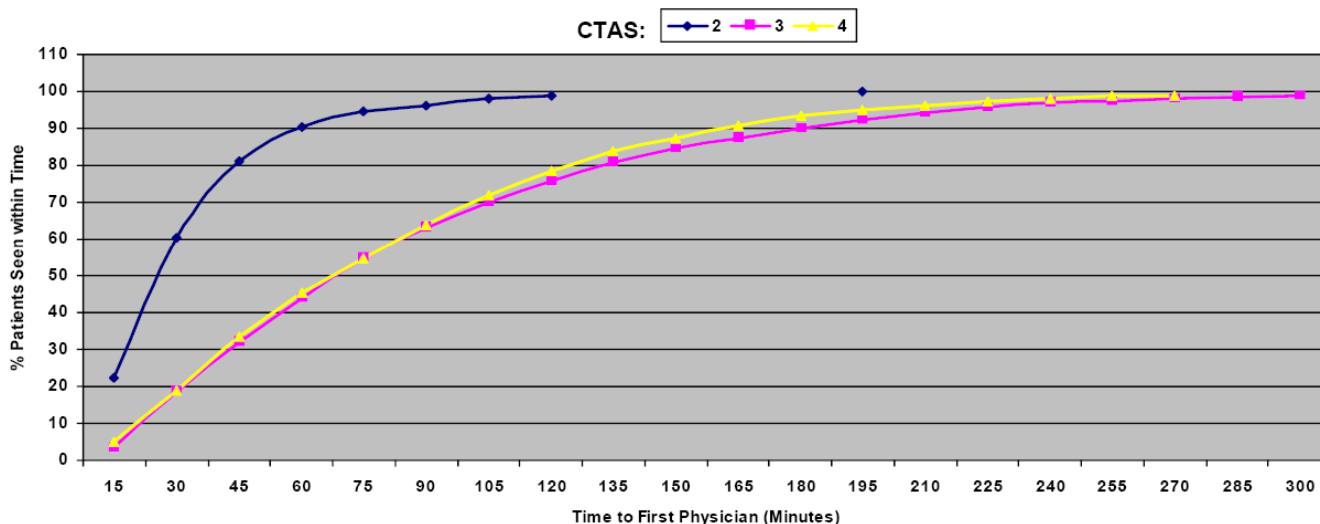
Ravi Parkash, Site Chief, DGH ED

Patient Experience

Wait Times – Cobequid ED

Context: One of the main ways ED access block manifests itself is in patient wait times (time from registration to time to see MD). Wait times have been shown to be associated with adverse outcomes in a dose response curve that suggests causation.

This data looks at the wait time performance curve for CTAS 2, 3, and 4s (assuming CTAS 1s get seen expeditiously and CTAS 5s have less of a time dependency).



Analysis:

Wait times have remained stable despite increased volumes. Care plans help deliver treatments to selected patients before EP assessments. This is not reflected in this data. An increase in nursing resource to allow full bed capacity during hours of operation may improve patient wait times as the level 3 patients are often waiting for a bed to be assessed.

Mike Clory, Site Chief, CCHC ED

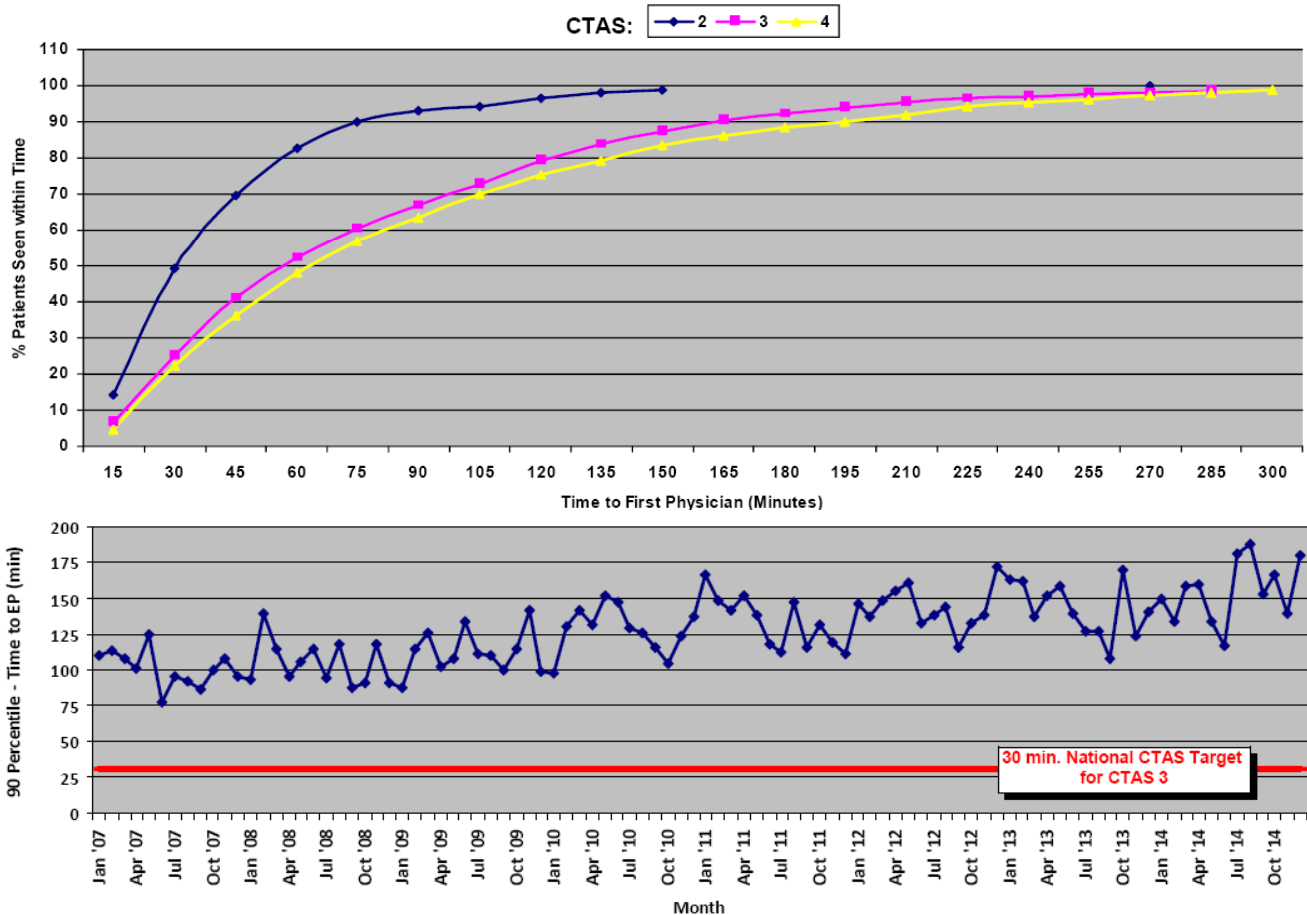
Patient Experience

Wait Times – Hants ED

Context: One of the main ways ED access block manifests itself is in patient wait times (time from registration to time to see MD). Wait times have been shown to be associated with adverse outcomes in a dose response curve that suggests causation.

This data looks at the wait time performance curve for CTAS 2, 3, and 4s (assuming CTAS 1s get seen expeditiously and CTAS 5s have less of a time dependency).

The time targets are: CTAS 2 = 15 min, CTAS 3 = 30 min, CTAS 4 = 60 min.



Analysis:

Wait times within HCH exist due to:

1. Admitted bed shortages – creates limited space.
2. Physician dependent (1 ERP) – limited flux.
3. Delays to tertiary care and/or consultants within HI site

Looking at processes and overflow areas for observation internally to manage (ie. cohorting in one area to maximize staff and space)

Tanya Penney, Health Services Manager, HCH ED

Clinical Care

Diagnostic Imaging & Lab Reporting

Context:

Through put of patients in the Emergency Department is impacted by the intensity of the work up (lab and diagnostic imaging required). Decision rules developed in the Emergency Department setting (Cat Scan Head, Cervical-Spine, Ottawa Ankle, Rule Out Deep Vein Thrombosis, Rule Out Pulmonary Emboli, etc) all impact the cost effectiveness of patient investigation.

Reporting Period from: Oct 01, 2014 to: Dec 31, 2014

DI Ordered						
Site	Pt Volume	CT Orders (%Pt Volume)	US Orders (%Pt Volume)	MRI Orders (% Pt Volume)	XR Orders (%Pt Volume)	Total Di Orders (% Pt Volume)
QEII	17899	2432 (13.6%)	1038 (5.8%)	55 (0.3%)	7370 (41.2%)	10895 (60.9%)
DGH	10159	1582 (15.6%)	485 (4.8%)	0 (0.0%)	5113 (50.3%)	7180 (70.7%)
HCH	3774	1 (0.0%)	60 (1.6%)	0 (0.0%)	1079 (28.6%)	1140 (30.2%)
CCHC	9512	911 (9.6%)	154 (1.6%)	0 (0.0%)	4852 (51.0%)	5917 (62.2%)
Total	41344	4926 (11.9%)	1737 (4.2%)	55 (0.1%)	18414 (44.5%)	25132 (60.8%)

Labs Ordered			
Site	Patients with Labs Ordered	% Patients with Labs	Patient Volume
QEII	7916	44.2%	17899
DGH	5347	52.6%	10159
HCH	1082	28.7%	3774
CCHC	4279	45.0%	9512
Total	18624	45.05%	41344

Analysis:

This is unadjusted data looking at the percentage of overall patients who receive a Cat Scan, Ultrasound, MRI (Magnetic Resonance Imaging), X-Ray or labs ordered during their assessments in the Emergency Departments. This data is not adjusted to acuity, complexity, or presenting complaint / diagnosis. There are no national benchmarks for these indications but they will allow for some comparison within the Capital Health Emergency Departments. With the Choosing Wisely campaign ramping up this may create an opportunity for improvements. Dartmouth General Hospital continues to order more lab and Diagnostic Imaging than the other centres (again, not adjusted to acuity / complexity).

David Petrie, District Chief, CDHA

Cobequid Community Hospital Emergency Department Quality Initiatives/Innovative Practices

1. Emergency Department Order Form:

Separate order form printed with all charts for CTAS 1, 2, 3 patients. All patient orders other than initial investigations are completed on this form. This is to improve patient safety by providing clearly patient order system.

2. Team Simulation Training:

Weekly ED staff simulation sessions were initiated in December 2013. These sessions are multidisciplinary with the goal to improve the quality of patient care. To date, the program has been a positive experience with participants identifying educational needs and improved team communication. All Emergency Physicians have participated in at least one session. Most of our nursing staff has been able to participate. We have also received a dedicated space to establish a simulation center.

3. Non Urgent Care Pamphlet:

This pamphlet has been developed to provide non urgent patients with alternative care options during surge capacity time periods. (See attached)

4. Over Capacity Protocol:

Medicine and Nursing collaborated to develop an over capacity policy to address the evening timeframes when there are too many patients present between the waiting room and unit and no likelihood of all patients being assessed and treated before closure.

5. Ultrasound Expects Protocol:

This was developed in collaboration between Diagnostic Imaging and Nursing. The purpose of the policy is to fast track patients brought in through 'expects' for ultrasound.

6. Better Care Sooner Emergency Education Initiative :

Over the last two years permanent nursing staff received education/training required to meet the provincial standards. With the movement of staff throughout Capital Health this is an ongoing initiative. (See attached)

Prepared by: Cobequid Community Health Centre
Emergency Department Operations Committee

**Options for:
Non Urgent Care**

For your convenience, many Family Physician groups provide coverage outside of normal office hours. You may call your Family Doctor's office for information on how to see the on-call doctor.

Non urgent care would include any illness or injury for which you would normally visit your family doctor.

This may include but is not limited to the following list:

Earache, cough, colds, minor cuts, abrasions, sore throats, prescription refills, injections, immunizations, rashes, minor sprains and strains

You may check with Triage if you are not sure. Below is a list of Walk-In Clinics

-
- Community Care Walk-in Clinic
159 Cobequid Road, Suite 201
902 865-5800
 - Family Focus Medical Clinic
(all offices) **902 420-6060**
667 Sackville Drive, Suite 207 (Lawtons)
27 Peakview Way (Lawtons)
240 Baker Drive (Lawtons)
5991 Spring Garden Road
(Halifax Professional Centre)
Joseph Howe Drive (Atlantic Superstore)
 - Lower Sackville Family Care Centre
745 Sackville Drive **902 865-3733**
 - ScotiaMed Family Practice & Walk-In Clinic
961 Bedford Highway **902 832-2380**
 - Bedford Central Medical Clinic
1650 Bedford Highway **902 835-4777**
 - Hammonds Plains Family Practice & Walk-In Clinic
2120 Hammonds Plains Rd **902 832-9233**
 - Ravines Medical Centre Walk-In Clinic
535 Larry Uteck Blvd **902 407-4380**
 - Bayers Lake Medical Clinic & Walk-In
210 Chain Lake Drive (Atlantic Superstore)
902 407-4012
 - Clayton Park Medical Clinic
278 Lacewood Drive **902 445-9600**
 - Tantallon Walk-In Clinic
5110 St. Margaret's Bay Road (Lawtons)
902 826-7200
 - Montebello Medical
249 Waverley Road **902 406-4444**
 - Medicine in Motion
121 Ilsley Avenue, Unit 5 **902 468-2774**
 - Tacoma Family Medicine and Walk-In
101-58 Tacoma Drive **902 466-1531**
 - Community Link Medical Clinic
114 Woodlawn Drive **902 462-7138**
 - Solutions Family Medical Clinic & Walk-In
650 Portland Street (Atlantic Superstore)
902 477-7656

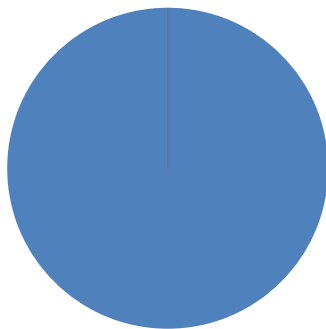
Cobequid Community Health Centre

Emergency Department

Training - Permanent Nursing Staff

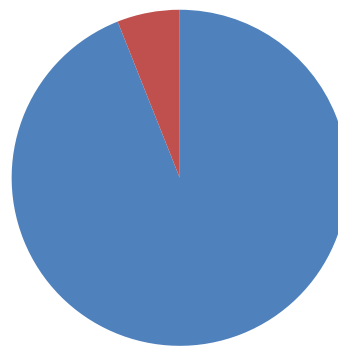
Course Name	Total Number trained by Year						Total % of permanent staff with Training	Total % of Permanent staff without Training
	2010	2011	2012	2013	2014	Current		
TNCC	0	0	2	16	12	1	100%	0%
Pals / ENCP	0	1	0	11	13	4	94%	6%
ACLS	0	0	1	19	10	1	100%	0%
CTAS	2	0	3	7	9	10	100%	0%

TNCC



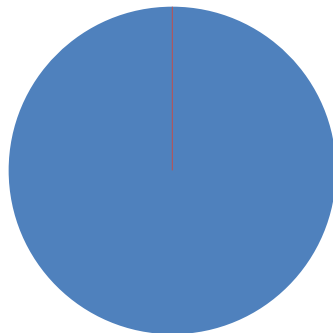
■ Total % of permanent staff with Training
 ■ Total % of Permanent staff without Training

Pals / ENCP



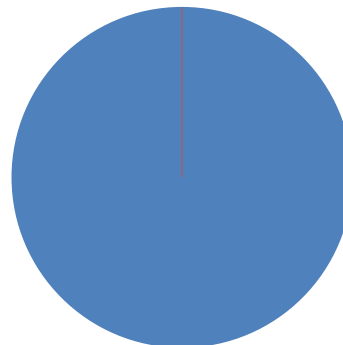
■ Total % of permanent staff with Training
 ■ Total % of Permanent staff without Training

ACLS



■ Total % of permanent staff with Training
 ■ Total % of Permanent staff without Training

CTAS



■ Total % of permanent staff with Training
 ■ Total % of Permanent staff without Training

COBEQUID COMMUNITY HEALTH CENTRE QUALITY ASSURANCE AUDIT REPORT

Audit Date: Nov 2014
 Department: Emergency Department

Audit Tools: EDIS Database/HPF

Audit Type: Retrospective
 Audit Activity: Review of Acute Myocardial Infarctions at the CCHC ED for primary Percutaneous Coronary Intervention (PCI)

Sample Size: from January 1-October 31, 2014

Standard Audited: (1) Time to first ECG
 (2) Time of EHS Transport
 (3) ASA therapy
 (4) Time to decision

Criteria Audited: HPF record of emergency visit for all acute myocardial infarctions referred for PCI from Specific criteria included:
 (1) Time to first ECG
 (2) Time of EHS transport
 (3) Time from diagnostic ECG to consultation

Results:

	2014	2013	2012	2011	2010	2009
*Acute STEMI	12	14	19	10	15	17
ECG time Average (min.)	7.4	10	8.4	13.9	14.9	11.9
10 min ECG(%)	67	71	68	30	46.7	39
EHS Transfer time (min.)	47	54.1	50.4	51.9	51.3	
**ED Consult Time (min)	10.1	13.1	16.9	14.8	14.6	
Balloon time goal 120 min						
80% percentile (min)	112	108	121	115	114	
120 min balloon time%	100%	75%	58%	70%	86%	

	2014	2013	2012	2011	2010
ASA	(100%)	(92%)	(100%)	100%	100%

*PCI
 **Time from diagnostic ECG to consult I.C.

Issues Identified: (1)ECG time meeting target of 10 minutes. Maximum time was 14 minutes.
 (2)ED consult time improved and is meeting standard set by ED group of 10 minutes.
 (3)PCI targets for the time to balloon inflation are being met.

Significance: (How are your findings important?)
 ●100% compliance with ASA therapy meets safety standard goals.
 ●Delayed PCI can cause increased morbidity.

Recommendations & follow up: ●Importance of timely ECG and consultation to IC will be reinforced with emergency staff.
 ●STEMI review on a monthly basis.

Hants Community Hospital Emergency Department Quality Initiatives

POCT:

October

POCT	HCH
iSTAT	128
COBAS	48
COAG	8
pocHi	75
Piccolo	56
Total	315

November

POCT	HCH
iSTAT	149
COBAS	45
COAG	19
pocHi	85
Piccolo	50
Total	348

December

POCT	HCH
iSTAT	175
COBAS	47
COAG	4
pocHi	92
Piccolo	63
Total	381

•POCT (left)

Point of care testing for after hours began in October 2014; nursing is performing tests such as CBC, lytes, troponin after 2300 Mon-Friday and after 1500 Sat, Sun and holidays. Attached are the number of tests performed in October, November and December.

•Waiting Room Rounds

Discussions and announcements to the waiting room for periods of long waits have started this fall; staff are becoming comfortable with discussing other options for patients seeking care that is not urgent. The patients who chose to leave are being captured and discussions occur via telephone to ensure that they have received care and are satisfied with their health needs

•Over Capacity Protocol:

Areas within the facility are being identified and used for overflow – particularly admitted patients to ensure flow of emergency care still occurs.

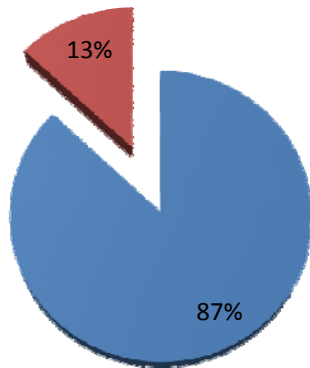
•Better Care Sooner Emergency Education Initiative (Next page)

See attached nursing education needs based on Better Care Sooner; plans to have the small amount of staff attend education sessions is ongoing.

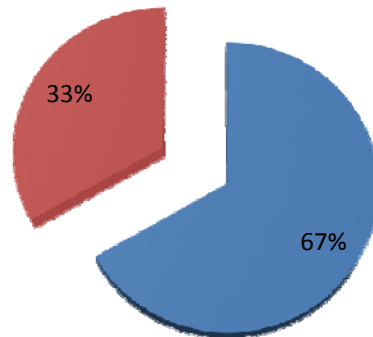
**Hants Community Hospital Emergency Department
Emergency Department
Training - Permanent Nursing Staff**

Course Name	Total Number trained by Year						Total % of permanent staff with Training	Total % of Permanent staff without Training
	2010	2011	2012	2013	2014	Need		
TNCC	0	0	2	1	10	2	87%	13%
Pals / ENCP	0	1	1	2	6	5	66%	33%
ACLS	0	0	1	6	6	2	87%	13%
CTAS	12	0	0	0	1	2	87%	13%

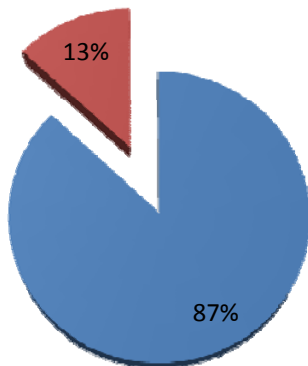
TNCC



PALS/ENP©



CTAS



ACLS

