Background

COTW March 7, 2019 - Provided information to Council on the System Transformation Project to assist with key decisions regarding the future of Niagara EMS as a Mobile Integrated Health system.

PHD 07-2019 - described recommended changes to the EMS Response Time Performance Plan (RTPP) and implementation of a new Clinical Response Plan (CRP) as well as the integration of the Emergency Communications Nurse System (ECNS).
## Response Time Reliability Performance Results

<table>
<thead>
<tr>
<th>CTAS</th>
<th>Target Time (mins)</th>
<th>Target %</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCA</td>
<td>6</td>
<td>55</td>
<td>57.72%</td>
<td>52.16%</td>
<td>60.64%</td>
<td>59.25%</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>80</td>
<td>77.15%</td>
<td>75.37%</td>
<td>76.92%</td>
<td>76.23%</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>90</td>
<td>84.73%</td>
<td>83.58%</td>
<td>82.48%</td>
<td>81.75%</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>90</td>
<td>89.91%</td>
<td>88.77%</td>
<td>85.41%</td>
<td>82.70%</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>90</td>
<td>94.77%</td>
<td>95.34%</td>
<td>91.93%</td>
<td>89.38%</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>90</td>
<td>99.59%</td>
<td>99.29%</td>
<td>98.98%</td>
<td>98.80%</td>
</tr>
</tbody>
</table>
# Revised Response Times

<table>
<thead>
<tr>
<th>CTAS</th>
<th>Target Time Previous/Revised (mins)</th>
<th>Target %</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCA</td>
<td>6/6</td>
<td>55</td>
</tr>
<tr>
<td>1</td>
<td>8/8</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>11/15</td>
<td>90</td>
</tr>
<tr>
<td>3</td>
<td>15/30</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>20/60</td>
<td>90</td>
</tr>
<tr>
<td>5</td>
<td>30/120</td>
<td>90</td>
</tr>
</tbody>
</table>
“Central to each (country’s) vision is the concept of providing pre-hospital care as a system, rather than just a single service type, that can provide a flexible response to a wide range of patient complaints with other related healthcare providers.” (Sheffield, pg. 44)
System Transformation

3 Phases

1. Mobile Integrated Healthcare model - implemented Q2 2018
2. Evidence-based Clinical Response Plan – pending Sep 2019
3. Emergency Communications Nurse (ECN) secondary triage – pending Sep 2019
## Top Five EMS Transports to EDs in Niagara (2013-2015)

<table>
<thead>
<tr>
<th>Niagara</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>0&lt;1 years</td>
<td>Resp. Distress</td>
<td>Seizure/Post Ictal</td>
<td>General Illness/Weakness</td>
<td>Other Medical/Trauma</td>
<td>Newborn/Neonatal</td>
</tr>
<tr>
<td>1-4 years</td>
<td>Seizure/Post Ictal</td>
<td>General Illness/Weakness</td>
<td>Resp. Distress</td>
<td>Soft Tissue Pain/Trauma/Edema</td>
<td>Other Medical/Trauma</td>
</tr>
<tr>
<td>5-9 years</td>
<td>Musculoskeletal Trauma</td>
<td>Seizure/Post Ictal</td>
<td>Soft Tissue Pain/Trauma/Edema</td>
<td>Behaviour/Psychiatric</td>
<td>Resp. Distress</td>
</tr>
<tr>
<td>10-14 years</td>
<td>Musculoskeletal Trauma</td>
<td>Behaviour/Psychiatric</td>
<td>Alcohol Intoxication</td>
<td>Soft Tissue Pain/Trauma/Edema</td>
<td>Syncope</td>
</tr>
<tr>
<td>15-19 years</td>
<td>Musculoskeletal Trauma</td>
<td>Behaviour/Psychiatric</td>
<td>Abdominal Pain NYD</td>
<td>Soft Tissue Pain/Trauma/Edema</td>
<td>Drug Overdose</td>
</tr>
<tr>
<td>20-24 years</td>
<td>Musculoskeletal Trauma</td>
<td>Abdominal Pain NYD</td>
<td>Behaviour/Psychiatric</td>
<td>Abdominal Pain NYD</td>
<td>Seizure/Post Ictal</td>
</tr>
<tr>
<td>25-44 years</td>
<td>Musculoskeletal Trauma</td>
<td>Abdominal Pain NYD</td>
<td>Musculoskeletal Trauma</td>
<td>Soft Tissue Pain/Trauma/Edema</td>
<td>GI Problems/Pain/Vomiting/Nausea</td>
</tr>
<tr>
<td>45-64 years</td>
<td>General Illness/Weakness</td>
<td>Musculoskeletal Trauma</td>
<td>Musculoskeletal Trauma</td>
<td>Abdominal Pain NYD</td>
<td>Ischemic Chest Pain</td>
</tr>
<tr>
<td>65-74 years</td>
<td>General Illness/Weakness</td>
<td>Resp. Distress</td>
<td>Musculoskeletal Trauma</td>
<td>Abdominal Pain NYD</td>
<td>GI Problems/Pain/Vomiting/Nausea</td>
</tr>
<tr>
<td>75-84 years</td>
<td>General Illness/Weakness</td>
<td>Musculoskeletal Trauma</td>
<td>Resp. Distress</td>
<td>GI Problems/Pain/Vomiting/Nausea</td>
<td>Abdominal Pain NYD</td>
</tr>
<tr>
<td>85+ years</td>
<td>General Illness/Weakness</td>
<td>Musculoskeletal Trauma</td>
<td>Resp. Distress</td>
<td>Soft Tissue Pain/Trauma/Edema</td>
<td>GI Problems/Pain/Vomiting/Nausea</td>
</tr>
</tbody>
</table>

**Mental Health**

**Falls & Generally Unwell**
2018 call volume ↑2.6% vs 6.5-8.5% each year previous.
System Transformation – “Unscheduled” Mobile Integrated Health teams

• Multidisciplinary teams – designed for purpose – alternative response to low acuity 911 calls
  • Falls Intervention Team (Paramedic/OT) – “FIT”
  • Mental Health and Addictions Response Team (Paramedic/MH Nurse) – “MHART”
  • Community Assessment and Response Team (Paramedic) – “CARE”

• Continue to expand Community Paramedic Programs
Early Results

- 2018 **2.6%** volume increase compared to **6.6%** yearly average from 2011-2017
- **0.22%** for 2019 YTD (Q1 & 2)
- **5%** reduction overall of mental health transports to hospital to ED despite a **8%** increase in mental health calls coming into our communication centre
- increase of **3%** in calls for falls but a **4%** decrease in transports to ED - the previous year saw an increase of **9%** in falls
- **6%** increase of calls for general unwell patients but an overall decrease in transports to ED of **9%** for this cohort

= increased availability for paramedics to respond to high acuity calls
Mobile Integrated Health Units In Action

Click to start video
New Clinical Response Plan (CRP)

• Planning included Physicians, Base Hospital, SSCs and Paramedics
• Facilitated by Brock University
• Responses tailored to each Determinant rooted in Best Practice and Clinical Evidence
• Compared against Plan implemented in UK with nearly identical outputs
• Implementation scheduled for Sep 2019
Impact of CRP

• Paramedic response time based on clinical needs in relation to timely intervention
• Reduces the number of lights and siren calls from ~40% to ~10-15%
• Improves emergency resource availability/response time for the most critically ill and injured patients
• Reduces requirement for tiered response – primarily fire services
CRP & Fire Tiered Response

• In 2018 NEMS responded to 64,611 incidents
• Fire services was tiered on 15,870 of these (24.5%)
• Projected volumes for fire tiered response under the new CRP based on 2018 data: 7,234 fire responses (11.2%)
• Does not include tactical support
• Meeting held with Fire Chiefs May 29th to review
ECNS - LowCode

- Secondary triage for low acuity patients
- Completed research (Omega Project)
- 15-20% call volume eligible for non-ambulance response
- Alternate care pathways
- Implementation Sept 2019
Internal Consultations

• Staff involved in program development
• CUPE 911 kept informed
• Trained all paramedics in new CRP
• Training for System Status Controllers in August prior to go-live
Provincial Consultation

• Since early 2018 NEMS has been working with Ministry of Health on System Transformation Project to demonstrate a mobile integrated health system (MIH)
• April 2019 Ontario government indicated it is considering a restructuring of paramedic services in Ontario
• NEMS staff had met previously with Premier’s Council on Improving Healthcare and Ending Hallway Medicine
Ensure Ontarians receive coordinated support by strengthening partnerships between health and social services, which are known to impact determinants of health.

INNOVATION IN ONTARIO

Mobile Integrated Health Response Teams

Niagara Emergency Medical Services (EMS) have partnered with local community partners to create integrated interdisciplinary response teams for non-urgent low acuity EMS callers. These response teams engage with clients and provide alternative pathways to connect them with the care or service they need through primary care, urgent care or other community health and social resources to avoid an unnecessary emergency department (ED) visit. The program includes technology and access to data, such as Clinical Connect, to ensure the response team is aware of care plans in place for these clients and to help ensure continuity in following their plan.

Based on data from the Niagara EMS, some early results in 2018 showed:

- 5% reduction in transports to ED for calls related to mental health, despite a 7% increase in mental health call volume in the region;
- 2% reduction in transports to ED due to calls for falls (call volume for falls remained stable compared with previous year); and
- 6% reduction in transports to ED due to calls for generally unwell (call volume for generally unwell remained stable compared with previous year).
Provincial Consultation

• NEMS recently met with Ministry officials from Enhancing Emergency Services Ontario (EESO) to provide consult on new care models
• NEMS continues to work with the Ministry on the last phases of STP – clinical response plan & nurse triage – expected go live Sep 2019
• Continue to remain in engaged with province as a leader in MIH transformation
Public Awareness – Expectations Survey

3. What is the role of EMS in NON-URGENT medical situations (e.g. flu, sprained ankle, broken arm, etc.)? Choose all that apply.

- Assess the situation via phone
- Assess the situation in person
- Provide reassurance via phone
- Provide reassurance in person
- Arrive quickly
- Provide treatment
- Transport patients to a hospital
- Provide information/advice
- Link patient to other services better suited to addressing their needs
- Transport patients to a different health care provider (i.e., doctor’s office, urgent care centre)
- Other, please specify

NIAGARA EMERGENCY MEDICAL SERVICES
Public Awareness

NEMS Re Defining the Patient Journey

Niagara EMS
Published on 17 Sep 2018

Niagara EMS is transforming the delivery of mobile integrated health services to our communities that is reliable and efficient to meet your needs. Watch this video to see what you might experience when you call 911 for paramedic services in Niagara.
Niagara paramedics will no longer be racing to every call

Nurses to handle less urgent calls that had been responded to by EMS

Mar 21, 2019  by Allan Benner  The St. Catharines Standard

Niagara's paramedics will no longer be racing to less urgent calls, and in some cases an ambulance might not be dispatched at all.

Niagara Emergency Medical Services Deputy Chief Richard Ferron outlined upcoming changes to ambulance dispatch service at Tuesday's public health and community services committee meeting, changes that will allow paramedics to provide enhanced services despite an ever-increasing call volume with limited funding from Niagara Region.

"We were in fact the largest increase in call volume in the province of Ontario in the time period of

Some 911 callers may soon find themselves discussing their health issues with a nurse rather than awaiting an ambulance.

Niagara Emergency Medical Services is poised to be the first paramedic service in Canada to use the Emergency Communication Nurse System and employing registered nurses with emergency department experience to help people with non-emergency calls, said EMS commander Dayman Perry.

Five nurses have been hired and are in training for the job. They are scheduled to start working this
Public Awareness Continued

• Today’s update to PHSSC
• Proactive media releases
• Launch of new videos informing of the changes and implementation date
Post Go-Live

Monitor and collect data and evidence

Health economic analysis completed by McMaster U

Develop sustainability plan
Thank you

STAR CARE

Begins with me

@NiagaraEMS

NIAGARA EMERGENCY MEDICAL SERVICES