Administrative Report

Office of the Chief, Essex-Windsor EMS

To: **Warden Tom Bain and Members of County Council**

From: **Bruce Krauter**
Chief, Essex-Windsor Emergency Medical Services

Date: **October 3, 2018**

Subject: **Essex Windsor EMS 2019 Response Time Standard Performance Plan**

Report #: **2018-1003-EMS-R010-BK**

Purpose

To provide Essex County Council with background information and the recommended 2019 Land Ambulance Response Time Plan for Essex Windsor EMS, as required by Ontario Regulation 257/00 (as amended by Regulation 267/08).

Background

Under Regulation 267/08 every upper tier municipality and delivery agent will

- Develop an annual response time performance plan;
- Ensure that this plan is continually maintained, enforced and where necessary, updated;
- Provide each plan and each update to the Ministry;
- Report to the Ministry on the response time performance achieved under the previous year's plan.

Bruce Krauter, Chief, Essex-Windsor Emergency Medical Services
Essex-Windsor EMS, Suite 115, 360 Fairview Ave. W., Essex, ON, N8M 1Y6
Phone: 519-776-6441, ext. 2654; Email: bkrauter@countyofessex.on.ca

The response time performance plan developed by the municipal sector:

- Will include response time commitments CTAS 1, 2, 3, 4 and 5 patients. CTAS (Canadian Triage Acuity Scale) is an international medical triage standard utilized by hospitals, ambulance services, communication centres and paramedics to identify the urgency a patient requires medical care.
- Will recognize that the attendance of any person equipped to provide defibrillation (including a paramedics, firefighter, police officer or other first responder) to a sudden cardiac arrest patient will "stop" the response time clock;
- May include municipal public safety and prevention education and promotion campaigns that could contribute to meeting municipal response time performance plans, such as:
    - Fire and Police Defibrillation
    - High School CPR Programs
    - Community Based First Aid Programs
    - Public Health Safety and Prevention Programs, including programs to educate the public on the appropriate use of 911.

In providing performance reports to the Ministry, each municipality must report on:

- The percentage of times that sudden cardiac arrest patients received assistance from a person equipped to provide defibrillation **within six (6) minutes from the notification of a call by an ambulance communication service**.
- The percentage of times that an ambulance crew has arrived on scene to provide ambulance services to sudden cardiac arrest patients or other patients categorized as CTAS 1 **within eight (8) minutes of the time of notice is received respecting such services.**
- The percentage of times that a paramedic arrived at a location of a patient determined to be CTAS 1, 2, 3, 4 or 5 within a period of time determined appropriate by the municipality.

Canadian Triage Acuity Scale –CTAS

CTAS was developed for use in hospital Emergency Departments (ED's) to sort and prioritize patients as they enter the facility. Efficient management of an ED requires a team of providers capable of correctly identifying patient needs, setting, priorities and implementing appropriate treatment, investigation and disposition.

In 1999, the MoHLTC mandated the use of CTAS in all Ontario Hospitals. Not unlike hospitals, EMS responds to patient needs in the same manner and has been "triaging" patient conditions since its inception. In 2001, the MoHLTC mandated Land Ambulance Services to begin using the CTAS tool for all patient responses to remain consistent with the Ontario Hospital network. In 2012, with the release of Regulation 267/08 and the Response Time Standard Plan, CTAS is now used for measuring response time targets.

CTAS is based on establishing a relationship between the patients presenting or chief complaint and the potential causes as defined by sentinel events and the patient's final diagnosis. Other factors are considered in determining acuity, including vital signs, pain severity, and associated symptoms. The patient is the focus of CTAS as it attempts to define the ideal time in which patients should be seen.

CTAS is a five (5) level scale with the highest severity being Level 1, resuscitation and Level 5 being non urgent. The following are the definitions of the CTAS Levels

CTAS 1 Resuscitation

Conditions that are a threat to Life or Limb (or imminent risk of deterioration) requiring immediate aggressive interventions. Typical patient is non responsive or vital signs absent/unstable.

CTAS 2 Emergent

Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or delegated acts.

CTAS 3 Urgent

Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affecting ability to function at work or activities of daily living.

CTAS 4 Less Urgent

Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1-2 hours.

CTAS 5 Non Urgent

Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration. The investigation or interventions for some of these illnesses or injuries could be delayed or even referred to other areas of the hospital or health care system.

Ambulance Priority Coding

Any time an Ambulance responds to an event or transports a patient a Priority Code is assigned to the vehicle movement by the Communication Centre or as determined by the attending paramedic. The Priority Codes are developed and mandated by MoHLTC and governed under the MoHLTC Land Ambulance Documentation Standards and indicate the urgency of the Ambulance or EMS vehicle movement during the call. The Priority Code also indicates what sort of emergency warning devices (lights and siren) are activated during such travel. Paramedic determination of Priority Code is governed by the patient's CTAS level.

The Priority Codes are as follows;

Code 1 Deferrable

A routine call that may be delayed without detriment to the patient (i.e. a non-scheduled transfer, a minor injury).The vehicle would travel without any emergency warning systems activated and follow the Highway Traffic Act (HTA) per normal driving. A Code 1 Priority would transport a CTAS 4 or 5 patients

Code 2 Scheduled

A call which must be completed at a specific time because of a specific treatment or diagnostic facility availability (i.e. inter-hospital transfer for diagnostic imaging, scheduled to meet an air ambulance). The vehicle would travel without any emergency warning systems activated and follow the Highway Traffic Act (HTA) per normal driving. A Code 2 Priority would transport a CTAS 4, 5 or the rare CTAS 3.

Code 3 Prompt

A call that should be performed without delay (i.e. stable fracture).The vehicle would travel without any emergency warning systems activated and follow the Highway Traffic Act (HTA) per normal driving. A Code 3 Priority would transport a CTAS 3, 4 or 5.

Code 4 Urgent

A call that must be performed immediately where the patient's life or limb may be at risk (i.e. cardiac arrest, unconscious). The vehicle would travel with emergency warning systems activated and follow the Highway Traffic Act (HTA) for emergency vehicles, such as speed and proceeding through red lights. A Code 4 Priority would transport CTAS 1 or 2 only.

Discussion

When developing the first Response Time Standard Plan in 2012, Administration completed a retrospective review applying the mandated targets of the Response Time Standard to the response time performance over the previous several years, in an attempt to establish response time plan targets that were realistic and appropriate.

Problems that arose in utilizing this data in 2012 continue to cause difficulty in assessing and projecting accurate response time targets. These issues include:

- Inconsistent data obtained through the Ambulance Dispatch Records System;
- Limited data available regarding defibrillator equipped arrival times (Fire or Public Access Defibrillation);
- Deployment plan and strategy adjustments to address increasing call volume and patient off load times;
- The Response Time Standard is based on CTAS category assessed by paramedics on arrival regardless of dispatch priority;
- The mandated response time targets do not allow for individual benchmarks for urban, rural or remote regions within the Municipality, One set of targets must be set for the entire County.

Given the many variables affecting the response times, the most appropriate method to determine response time targets is to review and compare the historical response time targets and actuals from 2014, 2015, 2016, 2017 and 2018, January to September (YTD).

The following chart provides details of the historical response time targets and actual performance, by year.

CTAS	Time Min.	Target	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 YTD
Sudden Cardiac Arrest	6	55%	59%	53%	61%	59%	64%
CTAS 1	8	75%	75%	76%	78%	75%	81%
CTAS 2	10	90%	85%	86%	84%	84%	85%
CTAS 3	12	90%	86%	87%	87%	87%	86%
CTAS 4	14	90%	90%	92%	91%	91%	95%
CTAS 5	14	90%	91%	91%	90%	90%	90%

Analysis

Sudden Cardiac Arrest (SCA)

The 2018 Year to Date (YTD) result of 6 minutes 64% of the time is the highest results since inception of the Response Time Plan. Despite the steady increase in volume, EWEMS is realizing improvements in the most life threatening of responses. Contributing factors are:

- Service enhancement commencement in spring of 2018;
- Deployment plan changes enacted throughout 2018, and
- Changes to standby locations and balanced emergency coverage of ambulance resources.

CTAS 1

The 2018 YTD result of 81% exceeds the set target of 75%. This result is also a notable improvement from prior year, despite the continued rise in call volume. Contributing factors are consistent with the improvements in SCA response, including:

- Service enhancement commencement in spring of 2018;
- Deployment plan changes enacted throughout 2018, and
- Changes to standby locations and balanced emergency coverage of ambulance resources.

CTAS 2 and 3

The 2018 CTAS 2 response time performance result is 85% and the CTAS 3 average response rate is 86%. Although these results are below the target of 90%, they remain consistent with previous years and are within reach of the target. Both favourable and unfavoruable factors have contributed to these results, including:

- Ambulance Off Load delays at all Emergency Departments continue to hamper ambulance availability (unfavourable);
- Resource deployment changes implemented to improve EMS coverage across the region (favourable), and
- Ongoing use by vulnerable patients (frequent users) of EMS services (favourable).

CTAS 4 and 5

The 2018 YTD EWEMS response time performance rate for CTAS 4 is 95% and CTAS 5 is 90%. Both measures exceed the target of 90%. Contributing factors can be linked to:

- Resource deployment changes implemented to improve EMS coverage across the region, and
- Ongoing use by vulnerable patients (frequent users) of EMS services.

Action Plans

In 2018, Essex Windsor EMS developed and continues action plans to address the goal of meeting and exceeding the Response Time Targets. Action Plans include:

- Off Load Diversion protocol: CTAS 3 patients from Essex County municipalities are transported to Erie Shores Health Care Hospital Emergency Department when resources are limited. This protocol allows for ambulances to be off loaded in a more timely fashion and therefore returning resources to active service;
- Vulnerable patient enrollment in the Community Paramedic Remote Patient Monitoring project, that enables those patients to remain in home and not requiring transport to emergency departments;
- Continuation of the Vulnerable Patient Navigator project and enrollment in the Community Health Assessment Program through EMS (CHAPEMS) with the similar goal of allowing vulnerable patients to remain in home, managing their health care with the assistance of a paramedic;
- Continued Off Load Management and patient flow planning with the Emergency Departments, community agencies and key stakeholders, and;
- Deployment plan monitoring and adjustments to ensure EMS resource coverage is efficient and effective.

Essex Windsor EMS is proposing that the response time standard presented below be approved and adopted for 2019. These targets remain unchanged from the previous Response Time Plan and have been determined with consideration of the following:

- Sets achievable standards that build on Essex Windsor EMS' strong overall performance;
- A review of historic response time performance in comparison to patient acuity;
- Consideration of call volume trends;
- Impact of significant and persistent Ambulance Offload Delay pressures, and
- An evaluation of current performance related to cardiac arrest save rates.

Essex Windsor EMS remains committed to continual analysis of performance and seeks system improvement opportunities, however; current operating conditions and trends suggest that the proposed response time targets are both reasonable and attainable.

Proposed 2019 Response Time Standard Plan

CTAS	Time (min:sec)	Percentage %
Sudden Cardiac Arrest	6:00	55%
CTAS 1	8:00	75%
CTAS 2	10:00	90%
CTAS 3	12:00	90%
CTAS 4	14:00	90%
CTAS 5	14:00	90%

Financial Implications

No financial implications are imposed because of this recommendation.

Recommendation

It is recommended that County Council authorize Administration to adopt and submit the proposed 2019 Essex Windsor EMS Response Time Performance Plan, as required under Ontario regulation 257/00(as amended by Regulation 267/08).

Respectfully Submitted

Bruce Krauter

Originally Signed by

Bruce Krauter, Chief, Essex-Windsor Emergency Medical Services

Concurred With,

Robert Maisonville

Originally Signed by

Robert Maisonville, Chief Administrative Officer