



Administrative Report

Office of the Chief, Essex-Windsor EMS

To: Warden MacDonald and Members of Essex County Council

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

Date: Wednesday, September 06, 2023

Subject: Essex Windsor EMS 2024 Land Ambulance Response Time Standard Performance Plan

Report #: 2023-0906-EMS-R07-BK

Purpose

To provide Essex County Council with background information and approve the recommended 2024 Land Ambulance Response Time Performance 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; and
- Report to the Ministry on the response time performance achieved under the previous year's plan.

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 paramedic, firefighter, police officer, or other first responder) to a sudden cardiac arrest patient will "stop" the response time clock; and
- 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 then “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 patient 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. A typical CTAS 1 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. A typical CTAS 2 patient may be non-responsive, with diminished vital signs and in an unstable condition.

CTAS 3 Urgent

Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affect the ability to function at work or activities of daily living. A typical CTAS 3 patient will be responsive, may be confused, and vital signs will be stable although may be out of normal parameters. This patient may deteriorate or have an underlying medical condition causing concern.

CTAS 4 Less Urgent

Conditions related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1-2 hours. A typical CTAS 4 patient is not in a life-threatening condition, vital signs are stable, maybe in slight distress, and requires medical attention but not of urgency. This patient may be best suited for an alternate level of medical care or service.

CTAS 5 Non-Urgent

Conditions that may be acute but non-urgent as well as conditions that 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.

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; and
- 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.

In addition to the continuing impacts noted, health system pressures continue to impact response times and performance. Factors that have led to the results are:

- Continued ambulance offload delays, both in quantity and duration;
- Decreased capacity within the hospitals;
- Decreased person-to-person access to primary care;
- Increased use of emergency rooms for low-acuity health care;
- Increased backlog of health care follow-up and treatment;
- Decreased health human resources across the health care system;
- Paramedic fatigue, resulting in an increase of unscheduled absences; and
- Increasing EMS call volume across the region.

Given the many variables affecting the response times, one indicator is to examine, review and compare the historical response time targets and actuals from 2019, 2020, 2021, 2022, and 2023, January 1 to July 31 (YTD).

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

CTAS	Time Min.	Target	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 YTD
Sudden Cardiac Arrest	6	55%	62%	53%	48%	51%	45%
CTAS 1	8	75%	77%	75%	68%	69%	72%
CTAS 2	10	90%	85%	83%	79%	77%	78%
CTAS 3	12	90%	87%	85%	83%	80%	80%
CTAS 4	14	90%	91%	90%	87%	86%	84%
CTAS 5	14	90%	90%	87%	85%	83%	82%

Analysis

Sudden Cardiac Arrest (SCA)

The 2023 Year to Date (YTD) result of 6 minutes, 45% of the time is inconsistent with previous years. This indicator can have numerous

influences and one that has been identified is data input into documentation. Education on data input and logging should improve this indicator to historic levels. Other factors such as offload delays and staffing may have an influence but average response times have not fluctuated year over year and remain at the 7-minute level for all emergency responses.

CTAS 1

The 2023 YTD result of 72% is below the set target but an improvement over 2020, 2021, and 2022. Average response times for this CTAS level remain around the 7 to 8-minute mark, with 2023 on the high end. This may be caused by ambulance offload delays, limited response resources at times, and staffing pressures due to unplanned and unscheduled absences.

CTAS 2 and 3

The 2023 YTD CTAS 2 and CTAS 3 response time performance resulted in relatively similar outcomes of 78% and 80%. These results are below the target of 90% and they are slightly below the trend outcomes from previous years. This result can be attributed to ambulance offload delays, limited response resources at times, and staffing pressures due to unplanned and unscheduled absences.

CTAS 4 and 5

The 2023 YTD CTAS 4 and CTAS 5 response time performance resulted in relatively similar outcomes of 84% and 82%. These results are below the target of 90% and are slightly below the trend outcomes of previous years. This result can be attributed to ambulance offload delays, limited response resources at times, and staffing pressures due to unplanned and unscheduled absences.

Action Plans

In 2023, Essex Windsor EMS developed and continued action plans to address the goal of meeting and exceeding the Response Time Targets. Action Plans included:

- Off Load Diversion protocol: CTAS 3, 4, and 5 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 offloaded in a timelier fashion and therefore returning resources to active service quicker;

- Enrollment of vulnerable patients in the Vulnerable Patient Navigator program, the Community Paramedic Long Term Care Program, and the Mental Health and Addictions program, which enables those patient populations to receive the right care, at the right place and not require transport to emergency departments;
- Continuation of the Mobile Integrated Health Program and enrollment in the Community Health Assessment Program through EMS (CHAPEMS) with the similar goal of allowing vulnerable patients to remain at 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;
- Deployment plan monitoring and adjustments to ensure EMS resource coverage is efficient and effective; and
- Determining the call volume impacts, unit hour utilization rates and pressures service-wide to determine the need for service enhancements in the future, as recommended by the 2018 Master Plan.

Future Action Plans

In an effort to mitigate or reduce some of the continuing impacts to Response Time Standards, Administration is recommending both short-term and long-term initiatives.

The 2019 EMS Master Plan is recommended to be reviewed and updated. A review and refresh of the "Master Plan" would validate and/or update the findings to reflect current circumstance and better predict the future. A lot has changed or is being planned within the region that may directly or indirectly impact the service levels of EMS moving into the future. It is estimated a review and refresh of the EMS Master Plan would be a \$150,000 expense to the 2024 budget.

The 2019 Master Plan recommends a staffing enhancement of twenty-four (24) paramedics in 2024. With the most recent 2023 call volume projection of 10%, Administration supports the recommendation and intends to bring forward the staffing enhancement request in the 2024 Budget deliberations. This staffing enhancement is estimated to cost \$2.5 million.

Short Term Plans

In an effort to mitigate or reduce one of the most notable impacts of response times, Ambulance Offload Delays, Administration is recommending the hiring of up to eight (8) part-time offload assistants. These positions would be responsible for assisting paramedics in offloading patients and

readying the ambulances to return to service. This would be a practice that is very similar to what occurred during the pandemic at the local emergency departments. This will allow paramedics to have a little downtime between calls, making the transition from one assignment to another more seamlessly and efficient. The Offload Assistant Program would be focused on students who are currently enrolled in their second year of a paramedic program and have the ability to give some part-time hours to the service. This program would provide numerous benefits to the service, the hospitals, the students and the community:

- Provide the students experience working for EWEMS, learning the practice, the service, vehicles and staff;
- Provide the paramedics some much needed down time between assignments;
- Provide some assistance to offload patient management during high call volume, in a monitoring capacity only; and
- Provide some relief to EMS resources with the intent to improve return service times and reduce offload times.

The Offload Assistant Program would be a win/win/win opportunity. It is estimated that the program would be an unfunded liability of approximately \$200,000 annually.

Essex Windsor EMS has begun another recruitment campaign with an expectation that new recruits will be within the ranks by late fall of 2023. Although this part-time recruitment is within the 2023 budget, there may be added expenses to succeed in recruiting candidates to the area. Any negative budget projections will be monitored in conjunction with the CAO/Director of Financial Services.

Proposed Response Time Standards Plan Determination

Understanding that the Land Ambulance Response Time Performance Plan has not been amended or altered since inception and there have been numerous changes to 911 response and the addition of community paramedics, Administration felt it prudent to review and examine the composition of the plan.

Reviewing patient conditions, patient outcomes on response times, and comparing to similar land ambulance services are valuable in determining if any amendments should be made to the plan.

As an example, CTAS 3, 4 and 5 are non-life-threatening conditions and the requirement of speed and urgency is not a determining factor.

An examination of comparable plans revealed that most areas have taken this into consideration.

Municipal Plan 2023	SCA		CTAS 1		CTAS 2		CTAS 3		CTAS 4		CTAS 5	
	Mins	%	Mins	%	Mins	%	Mins	%	Mins	%	Mins	%
Middlesex/London	6	60	8	70	10	75	15	80	20	90	20	90
Waterloo	6	70	8	70	10	80	11	80	12	80	12	80
Niagara	6	55	8	80	11	90	15	90	20	90	30	90
Guelph/Wellington	6	65	8	65	10	75	15	90	15	90	20	90
Hamilton	6	75	8	75	10	75	15	75	20	75	25	75
Essex County	6	55	8	75	10	90	12	90	14	90	14	90

Essex Windsor EMS is proposing that the Response Time Standard Performance Plan presented below be approved and adopted for 2024.

CTAS	Time Min.	2024 Target	Previous
Sudden Cardiac Arrest	6	55%	6 / 55%
CTAS 1	8	70%	8 / 75%
CTAS 2	10	75%	10 / 90%
CTAS 3	15	80%	12 / 90%
CTAS 4	20	80%	14 / 90%
CTAS 5	30	80%	14 / 90%

These targets have been determined in 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 more reasonable and attainable.

Financial Implications

There are financial implications imposed by this report. Administration is recommending a draw from Safe Restart Funding in the amount of \$67,000 for the remainder of 2023 and a consideration of \$200,000 for the 2024 Budget deliberations for the creation and implementation of an Offload Assistant Program.

In addition, Administration will bring forward for consideration during the 2024 Budget deliberations a staffing enhancement of twenty-four paramedics and a review and refresh of the 2019 EWEMS Master Plan.

Consultations

Essex Windsor EMS Senior Leadership Team and the [Ontario Ministry of Health, Land Ambulance Response Time Standards database](#).

Recommendation

That Essex County Council approve the recommended 2024 Land Ambulance Response Time Standard Performance Plan for Essex Windsor EMS, as required by Ontario regulation 257/00 (as amended by regulation 267/08);

And further, that Essex County Council approves the recommended creation of the Offload Assistant Program and to utilize the Safe Restart Funding in 2023 to address the unbudgeted amount of \$67,000.

Approvals

Respectfully Submitted,

Bruce Krauter

Bruce Krauter, Chief, Essex-Windsor Emergency Medical Services

Concurred With,

Sandra Zwiers

Sandra Zwiers, MAcc, CPA, CA, Chief Administrative Officer