Paramedic Services 2020 Response Times

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Report Summary

This presentation, presented by Paul Kadwell, Deputy Chief of Paramedic Services, provides information regarding the City of Greater Sudbury's Paramedic Services response times in 2020.

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Financial Implications

There are no financial implications associated with this report.

Background

This report provides an update to the Emergency Services Committee on the Paramedic Services Response Time actuals for 2020 that were submitted in March to the Ministry of Health and Long Term Care, as per legislation. Our current Response Time Standard (RTS) plan was established in 2013 and approved by Council in accordance with the Ambulance Act of Ontario, Standard 257/00. The RTS plan provides the level of service by establishing and maintaining performance targets in a manner that best meets the needs of the community. The RTS plan has not changed since 2013.

Response Time Standard Framework

Under the Ambulance Act of Ontario, Standard 257/00, it is the responsibility of each ambulance operator in Ontario to establish and publicly report response time performance. In addition to this, the response time performance plan allows the City of Greater Sudbury's Paramedic Services to evaluate and make quality improvement changes to improve response times year over year.

City Council is responsible to establish response time targets for our municipality and report annually to the Ministry of Health and Long Term Care (MOHLTC) on our compliance with the established response time plan as set out in Regulation 257/00 under the Ambulance Act. This Regulation allows for municipal input when creating the response standards and permits for medically relevant differences among call types.

Key aspects of the regulations include:

- Multiple response time targets based on medically relevant categories.
- Variable percentile performances.
- The targets of time and percentile performance can be maintained or changed at the discretion of Council.

Reportable Call Criteria

The response time framework is based on the following:

1. The percentage of times that a person equipped to provide any type of defibrillation has arrived on-scene to provide defibrillation to **sudden cardiac arrest patients within six minutes** of the time notice is received. (A bystander, emergency responder or paramedic with a defibrillator will stop the clock.)

2. 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 minutes** of the time notice is received respecting such services.

3. The percentage of times that an ambulance crew has arrived on-scene to provide ambulance services to patients categorized as **CTAS 2, 3, 4 and 5 within the response time targets set by the upper-tier municipality** or delivery agent under its response time plan.

Canadian Triage Acuity Scale (CTA)

The response time standards utilize the Canadian Triage Acuity Scale (CTAS) as shown in Figure 1. CTAS is a medically proven triage tool currently utilized by all hospitals and paramedics in Ontario. CTAS is based on a five-level scale with Level 1 (resuscitation) representing the most critically ill patients and Level 5 (non-urgent) representing the least ill group of patients. CTAS scores are based on an assessment of the patient's condition by the paramedic after arrival at the scene.

Patient Severity Categories

Level of Acuity	Type of Call
Sudden Cardiac Arrest (SCA)	Patient has no vital signs
CTAS 1	Critically ill or have potential for rapid deterioration
CTAS 2	Potential to life, limb, or function, requiring rapid medical intervention, controlled acts
CTAS 3	May progress to serious problem. Associated with significant discomfort or affecting ability to function
CTAS 4	Conditions that would benefit from intervention or reassurance
CTAS 5	Non urgent, chronic, without evidence of deterioration

Figure 1

Timelines for submission and reporting:

- October 31st of each year report to the MOHLTC the response time standards, as approved by Council, for the upcoming year.
- By March 31st of each year, file the previous year's response time actuals with the MOHLTC.
- Between April and June of each reporting year, the municipal response time plan and results achieved will be posted on the MOHLTC website for public viewing.

Response Times Targets

The response time standards for sudden cardiac arrest and CTAS 1 calls have a fixed time set by the Province of six (6) and eight (8) minutes respectively. These fixed times are based on the most current medical evidence for these calls. The City is to determine and report on only the percentile of time either a defibrillator (EMS, Fire, or public access defibrillator) for sudden cardiac arrest calls or a paramedic for all CTAS 1 calls has arrived at the patient for each of these categories.

For CTAS 2 to CTAS 5 patients, the City is to set both the response time target and the percentile these response times are achieved. Paramedic Services submitted the following response time targets in October 2020 (Figure 2), for 2021. Paramedic services has not changed the RTS plan since the MOHLTC implemented legislative changes in 2013. Paramedic Services has one of the most aggressive RTS plans within the Province compared to other comparable Services RTS plan (Figure 3). Paramedic Services continuously seeks opportunities to meet and exceed the published percentages for SCA's and all five of the CTAS categories within our plan.

Level of Acuity	Time	Percentage
Sudden Cardiac Arrest	6 minutes (set by MOHLTC)	70%
CTAS 1	8 minutes (set by MOHLTC)	80%
CTAS 2	10 minutes (set by CGS)	85%
CTAS 3	15 minutes (set by CGS)	85%
CTAS 4	15 minutes (set by CGS)	85%
CTAS 5	15 minutes (set by CGS)	85%

Figure 2

CGS Paramedic Services 2020 RTS Comparison to other Services

Level of Acuity	Type of Call	CGS Approved RTS	Hamilton Approved RTS	York Approved RTS	Waterloo Approved RTS
Sudden Cardiac Arrest	Patient has no vital signs (6 minutes)	70%	75%	60%	50%
CTAS 1	Critically ill or have potential for rapid deterioration (8 minutes)	80%	75%	75%	70%
CTAS 2	Potential to life, limb, or function, requiring rapid medical intervention, controlled acts	10 min 85%	10 min 75%	10 min 80%	10 min 80%
CTAS 3	May progress to serious problem. Associated with significant discomfort or affecting ability to function.	15 min 85%	15 min 75%	15 min 90%	11 min 80%
CTAS 4	Conditions that would benefit from intervention or reassurance	15 min 85%	20 min 75%	20 min 90%	12 min 80%
CTAS 5	Non urgent, chronic, without evidence of deterioration	15 min 85%	25 min 75%	25 min 90%	12 min 80%

Figure 3

In March of 2021, the RTS actuals for 2020 were submitted to the MOHLTC. Comparison of RTS actuals from previous years are identified in Figure 4.

Paramedic Services analyses call volume trends, response times and the deployment of Paramedic resources to address the SCA's and all five of the CTAS categories within our plan. In 2020 there were 28,402 calls for service and only 159 calls, or 0.01 percent, were for SCA's. Due to the small number of calls in this response category, a minimal number of calls over 6 minutes has a significant impact on the final result. In 2021, there were 159 SCA's and 96 times a defibrillator arrived on scene within six minutes. To achieve the seventy percentile for our 2020 RTS we needed to arrive 116 times with defibrillator on scene in less than six minutes. Seven calls were less than thirty seconds and 22 calls were between thirty seconds and one minute, achieving the six minute time frame. The remainder of the calls were greater than one minute. Analyses of the SCA calls that were greater than six minutes was conducted. Contributing factors included call location that was greater than a four minute drive time from a station, call volume during specific times of the day, resource availability in an assigned area, and during COVD-19, additional PPE requirements prior to making patient contact.

Paramedic Services will continue to monitor the RTS actuals for 2021 and determine if the RTS plan needs to be modified for 2022. If there is a recommendation to change the RTS plan for 2022, we will return to the Committee for approval of the recommended changes in the fourth quarter of 2021.

Level of Acuity	Types of Call	Approved RTS%	% RTS 2017	% RTS 2018	% RTS 2019	% RTS 2020
Sudden Cardiac Arrest	Patient has no vital signs	70%	73%	70%	58%	60%
CTAS 1	Critically ill or have potential for rapid deterioration	80%	80%	79%	76%	80%
CTAS 2	Potential to life, limb, or function, requiring rapid medical intervention, controlled acts	85%	88%	86%	88%	86%
CTAS 3	May progress to serious problem. Associated with significant discomfort or affecting ability to function.	85%	97%	97%	97%	96%
CTAS 4	Conditions that would benefit from intervention or reassurance	85%	98%	98%	97%	97%
CTAS 5	Non urgent, chronic, without evidence of deterioration	85%	97%	98%	98%	97%

Figure 4

Evaluating Response Times

A top priority of the Paramedic Service is to provide the best possible prehospital clinical care to the residents and visitors of the City of Greater Sudbury in the most effective and efficient method possible. Paramedic Services continues to evaluate response times, these include:

- Continue to review performance and opportunities to improve RTS for all SCA's and CTAS calls.
- Review call volume trends
- Review adjustments to deployment strategies to meet evolving demands
- Evaluate current staffing patterns and staffing levels
- Evaluate the number of EMS resources required to address geographic challenges
- Continue to review medical tiered response protocol with Fire Services
- Evaluate the local public access defibrillation program.
- Impact of COVID-19,

Sudbury Paramedic Services remains committed to the continual analysis of performance and seeks system improvement opportunities.

Conclusion

As per legislation, Paramedic Services submitted RTS 2020 actuals in March 2021. All CTAS RTS's were achieved except for SCA's at 60 percent. It was identified that call location, call volume during specific times of the day, and EMS resource availability contributed to the challenges to achieve SCA RTS in 2021. We continue to seek opportunities to improve our response time performance categories within our plan.

Unless it is identified in 2021 that the RTS plan needs to be modified the RTS plan for 2022 will remain the same as in previous years.