
REPORT TITLE: Paramedic Services 2023 Response Time Framework

FROM: Nancy Polsinelli, Commissioner of Health Services

RECOMMENDATION

That the recommended Response Time Framework for Paramedic Services for the year 2023, as described in the report of the Commissioner of Health Services, listed on the September 22, 2022 Regional Council agenda titled “Paramedic Services 2023 Response Time Framework”, be approved.

REPORT HIGHLIGHTS

- Land ambulance delivery agents are required to set response time standards for their municipality each year and to communicate them to the Ministry of Health (Ontario Regulation 267/08, July 30, 2008).
- For 2022 (based on ministry data available, January to June) all CTAS response times are over target
- Response times are impacted by a number of factors, including call volume, call volume, hospital offload delay, the triage and dispatch of calls by the Mississauga Central Ambulance Communications Centre (CACC). The global COVID-19 pandemic has exasperated these factors particularly in 2022 including staff shortages in the health care sector, including Peel Paramedics.
- The recommended 2023 Response Time Framework is unchanged from 2022 allowing time to study the impact of the implementation of the Medical Priority Dispatch System, continuing to implement strategies to address the high call volumes and increasing offload delay pressures and address immediate needs through the addition of the two council approved 24/7 ambulances and 22 FTE into the system.

DISCUSSION

1. Background

Land ambulance delivery agents are required to set response time standards for their municipality each year and to communicate them to the Ministry of Health by October 31st (Ontario Regulation 267/08, July 30, 2008).

Regional Council reviews and approves the response time standards for the coming year and, through Paramedic Services, reports on compliance with the six call severity categories to the Ministry of Health. The six call categories are based on two types of calls:

- **Sudden Cardiac Arrest** – Response time for these calls is measured from notification of call to when a defibrillator is at the side of a patient; this response time is set by the Ministry of Health. The clock stops when a bystander, emergency responder or paramedic first applies the defibrillator to the patient.

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- Canadian Triage Acuity Scale (CTAS) – This scale is a standard medical triage system that divides patient acuity into five categories (refer to Table 1). CTAS is currently used by paramedics and by all hospitals. Response time is measured from when the paramedic is notified (assigned the call by CACC) to when they arrive at the location of the patient (arrival on scene). The CTAS 1 response time is set by the Ministry of Health.

Historical data, including Peel's overall call volume, response times and cardiac arrest data (based on evidence from our Fire Services and Public Access Defibrillation program) form the foundation for the response time targets. Data from the first six months of the current year (2022) supplements the historical data and helps determine if any modifications should be made to the response time framework. The goal is to be at or below Ministry and Council approved targets.

The COVID-19 pandemic of 2020-2022 has impacted response times in 2022 due to increasing call volume (refer to Figure 1), offload delay at area hospitals, and staffing shortages.

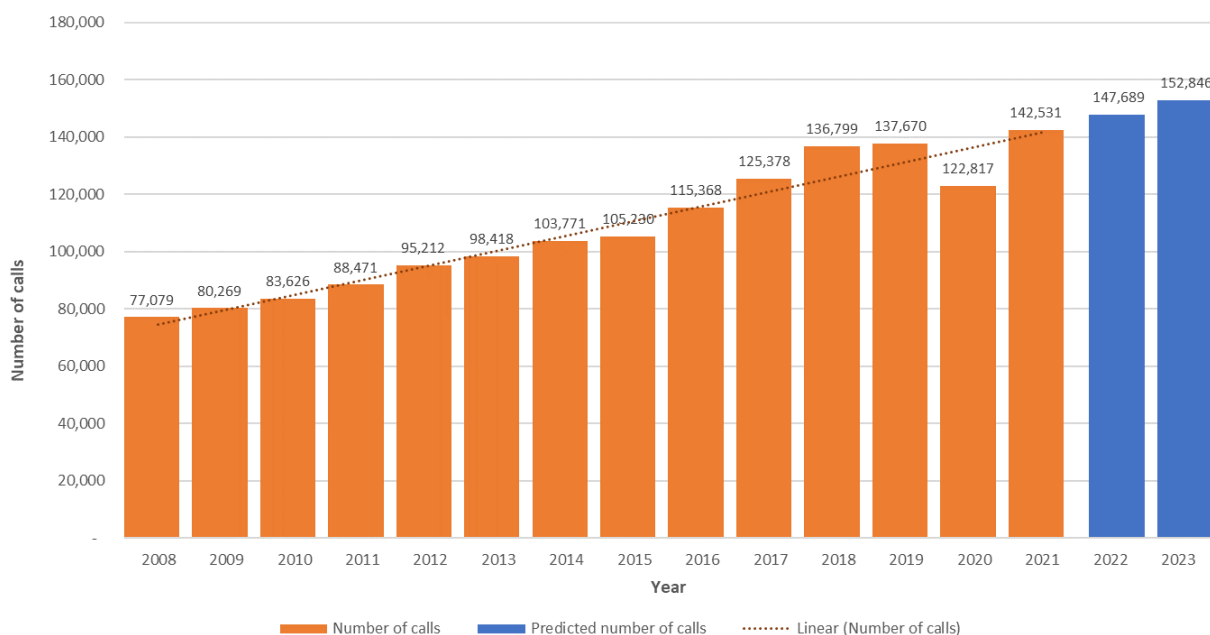


Figure 1. Call volumes: 2008-2021 actuals and 2022-2023 forecasts

2. Findings – 2021 and Year to Date 2022 Response Times

Getting to a sudden cardiac arrest (SCA) quickly is paramount to the survival outcome of the patient. Having a bystander or first responder start CPR and apply a defibrillator prior to paramedic arrival enhances their chance of survival. Paramedic Services, together with other Emergency Responders, continue to exceed the 6-minute target (five minute and 51 seconds) above 70 per cent (at 72 per cent). SCA data are not yet available for January to June 2022.

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CTAS 1 and 2 response times are the most critical non-SCA calls paramedics respond to and provide care. Together, these times and the sudden cardiac arrest response time account for approximately 22 per cent of total transports to hospital. The 2021 CTAS 1 response time was 41 seconds over target of 8 minutes and CTAS 2 response time was six seconds under the target of 10 minutes. The 2022 data (January to June) shows one minute and 21 seconds over target for CTAS 1 and 20 seconds over target for CTAS 2.

CTAS 3 calls account for most transports to hospital (approximately 67 per cent) and Paramedic Services are over the target by six seconds. The CTAS 4 response time is over the target by 12 seconds and CTAS 5 by one minute and 14 seconds. These calls account for approximately 11 per cent of transports to hospital.

Table 1
2021 and January to June 2022 – Targets and Actual Performance

Level of Acuity <i>(Targets for Sudden Cardiac Arrest and CTAS 1 are set by Ministry of Health)</i>	2021 Council Approved Target Time	2021 Council Approved Target %	2021 Actual Time at Target % (minutes)	2021 Actual %	2022* Actual Time at Target % (minutes)	2022* Actual %
Sudden Cardiac Arrest* (Patient has no vital signs)	6:00	70%	5:51	72%	**	%**
CTAS 1 (Critically ill or have potential for rapid deterioration)	8:00	75%	8:41	67.8%	9:21	63.0%
CTAS 2 (Potential to life, limb or function, requiring rapid medical intervention, controlled acts)	10:00	80%	9:54	80.7%	10:20	77.6%
CTAS 3 (May progress to serious problem. Associated with significant discomfort or affecting ability to function)	13:00	90%	12:48	90.5%	13:06	89.6%
CTAS 4 (Conditions that would benefit from intervention or reassurance)	14:00	90%	12:36	93.0%	14:12	89.4%
CTAS 5 (Non-urgent, chronic, without evidence of deterioration)	14:00	90%	13:19	91.7%	15:14	87.8%

*2022 CTAS data is based on January 1 to June 30, 2022.

**2022 SCA data is not yet available.

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Direct factors that impact response time:

- Call volume – As shown in Figure 1 call volume in 2020 decreased from the prior year due to effects of the global pandemic. However, 2021 volumes surpassed pre-pandemic volumes, and 2022 volumes (147,689) are estimated to be three per cent higher than 2021, indicating a return to the upward trend.
- Offload delay – Paramedic Services has recognized a marked increase in offload delay time, estimated to climb to 58,830 hours by the end of 2022 (22 per cent higher than 2021). Severe health human resourcing challenges at area hospitals directly impacts the ability of hospital staff to move patients from paramedics to the care of the hospital. The program continually works with hospital partners to improve these delays. For details on how offload is being managed refer to Council Report of June 23, 2022, titled Paramedic Services System Pressures.
- Staffing –The global pandemic has resulted in staffing shortages in the health care sector, including Peel Paramedics. Between the months of June 2021 to May 2022, the average number of unfilled shifts increased from seven per cent to 17 per cent, which is the equivalent of 18 ambulances off the road each day. There was also a reluctance by staff to accept overtime shifts during this time, attributed to fatigue, adding to the challenge of filling shifts. If these labour pressures persist, the Service may not have sufficient numbers of paramedics to staff ambulances currently and in the future. Peel Paramedics is actively focusing on strategies to recruit, engage, and retain this critical workforce.
- The combined effect of these three factors and the resulting impact on response time is shown in Figure 2:

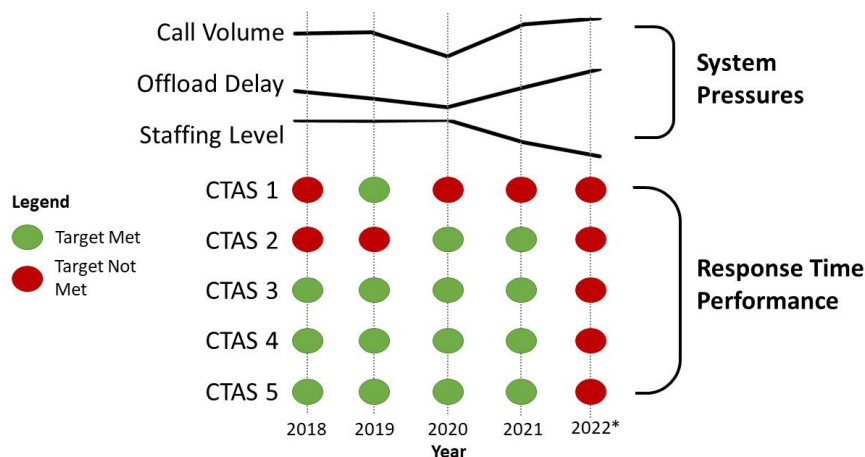


Figure 2. Effects of System Pressures on Response Times by CTAS, 2018 to 2022

Note: *Call volume and offload delay are estimated to the end of 2022 using data from January to August 2022.

Figure 2 depicts system pressure trends in call volume, offload delay, and staffing levels for the years 2018 to 2022. Compared to the previous two years, both call volume and offload delay time were lowest in 2020 with the onset of the COVID-19 pandemic; both rebounded in 2021 and are estimated to continue to increase in 2022. By contrast, staffing levels were relatively constant until 2020, after which time they began dropping. Response times performance against targets for CTAS 1-5 is shown for the corresponding years with green circles indicating target time was met and red circles indicating target time was not met. Between 2018 and 2021, most CTAS targets were met except for CTAS 1 and 2. Increasing call volumes and offload delay, compounded

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crucially by growing staffing level shortages in 2022 are resulting in the Service's inability to meet response time targets for all CTAS levels.

Other factors that impact response time:

- COVID-19 – Infection prevention and control measures within the hospitals and the amount of PPE required to be worn before connecting with the patient or responding to the call have significantly impacted system response.
- Rapid Response Units – These units, staffed by a single paramedic, are strategically in place to provide care quickly to the higher acuity calls in the community. As the need to transport more COVID patients to the hospital increased, these units were suspended so that staff could be placed on ambulances to help address the demand. These units are now back in place to assist with response time but could be redeployed if another severe wave occurs in the future.
- Triage of emergency calls by the Ministry of Health operated dispatch system remains misaligned with the CTAS criteria. In the absence of a robust, evidence-based triage tool, the dispatch centre continues to send a large portion of call responses out as 'life threatening'.

3. Proposed Direction – 2023 Response Time Framework Recommendation

No changes are recommended for the response time framework for 2023. The proposed response time framework recommended for 2023 is:

Table 2

Recommended 2023 Standards – No Change For 2023

Level of Acuity	Time	Current %	Proposed %
Sudden Cardiac Arrest	6 minutes (fixed time)	70%	70%
CTAS 1	8 minutes (fixed time)	75%	75%
CTAS 2	10 minutes	80%	80%
CTAS 3	13 minutes	90%	90%
CTAS 4	14 minutes	90%	90%
CTAS 5	14 minutes	90%	90%

With the introduction of the new Medical Priority Dispatch System towards the end of this year, the program will be evaluating the effectiveness of this new triage tool to determine the positive changes to response times over the coming year.

Further, Paramedic Services continue to seek strategies to address the highest acuity level (greatest patient need). Modifications and adjustments to paramedic deployment strategy are ongoing. This work guides CACC dispatch to optimally position ambulance resources where the call demand is likely to occur. In addition, staff work to maintain a one-minute reaction time (from call notification to depart station) for the most urgent calls (red lights and sirens). Further, tiered response agreements with Fire and Emergency Services partners are in place for sudden cardiac arrest and CTAS 1 and 2 calls.

Staff will continue to work toward meeting these targets by managing other initiatives such as offload delay process improvements, patient diversion strategies, and paramedic resource management and support (e.g., adjustments to deployment plan, continued work in psychological health and wellness).

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The 2022 forecasted volumes reflect a seven per cent increase from pre-COVID volumes and has had a direct impact on the program's ability to be responsive. With the dramatic increase in call demand, high offload delays and staffing shortages Paramedic Services received approval from Council (Commissioner of Health Services report, listed on June 23, 2022 Regional Council agenda titled "Paramedic Services System Pressures") to place two additional 24/7 ambulances and 22 FTE into the system. This is to address the immediate need; staff will continue to monitor any further needs which the evidence provides.

CONCLUSION

As quality response times lead to good health outcomes for the residents of Peel, it is recommended that Council approve the proposed response time standards for 2023 as they are based on best available call data and medically based practices currently utilized in Peel.

Staff will continue to monitor response times and growth impacts, and if required will report back to Council with recommendations to address additional demands on the system.

Paramedic Services remains committed to delivering the highest standard of care in Ontario despite the system pressures and continues to implement process improvements and strategies to meet Council approved response times.



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