

The Regional Municipality of York

Committee of the Whole
Community and Health Services
May 4, 2023

Report of the Commissioner of Community and Health Services

2021 and 2022 Paramedic Response Time Performance Plan Final Results

1. Recommendations

The Regional Clerk circulate this report to the local municipalities for information.

2. Summary

This report informs Council of Paramedic Services Response Time Performance Plan results for 2021 and 2022.

Key Points:

- Paramedic Services met five out of six response time targets for 2021 and three out of six response time targets 2022
- Sudden Cardiac Arrest response times have improved in 2022 compared to 2021, above the Council and Ministry target
- Local fire services and improved access to defibrillators in the community continue to improve response times for sudden cardiac arrest
- Call volumes surpassed their pre-pandemic levels, and 911 call demand is projected to continue to increase each year
- In 2022, average hospital transfer of care time remained below the 30-minute target, however, total hours spent in offload delay (over 30 minutes) more than doubled since 2020
- Paramedic Services will continue to follow the current response time framework established by Council in 2012
- Ministry of Health funding for the Dedicated Offload Nurse Program remains insufficient to cover the actual costs transferring patients to hospitals
- The Ministry of Health has confirmed implementation of the new Medical Priority Dispatch System at Georgian Central Ambulance Communication Centre in 2024

3. Background

Council established a response time performance plan in 2012

Under [Ontario Regulation 257/00](#) of the *Ambulance Act*, upper-tier municipalities that operate land ambulance services are required to have response time performance plans. In [September 2012](#), Council adopted the *York Region Emergency Medical Services Response Time Performance Plan 2013*, which identified targeted response times from Dispatch to arrival on scene.

Response times are based on the Canadian Triage Acuity Scale (CTAS), a five-level tool used to assess the severity of a patient's condition and the need for timely care. CTAS level 1 is the most severe (resuscitation) and CTAS level 5 is the least severe (non-urgent). The Ministry of Health sets the response times for Sudden Cardiac Arrests and CTAS level 1. Ontario Regulation 257/00 permits each upper-tier municipality to set its own response times for CTAS levels 2 to 5.

The Region reports response time performance to the Province each year

Regulation 257/00 requires York Region to report the following performance measures to the Ministry of Health annually:

- The percentage of times that anyone equipped to provide defibrillation to sudden cardiac arrest patients arrived on scene within six minutes
- The percentage of times that an ambulance crew arrived on scene for CTAS 1 patients within eight minutes
- The percentage of times that an ambulance crew arrived on scene for CTAS 2, 3, 4 and 5 patients within the response time targets set by the Region

Response Time Performance results are posted on the Ministry of Health's public website and reported to Council. Council received the last report in [June 2021](#). York Region Paramedic Services has met most response time targets every year since 2013.

Reporting on 2021 performance measures to Council was delayed due to the COVID-19 Pandemic

Due to COVID-19 pandemic, reporting on 2021 performance measures to Council was postponed. This year's report includes Paramedic Response Time Performance Plan Final Results for both 2021 and 2022.

4. Analysis

RESPONSE TIME PERFORMANCE RESULTS

York Region Paramedic Services met most response time targets in 2021 and 2022

Paramedic Services (the Service) met most response time targets in 2021 and 2022 except for CTAS level 3 in 2021 and CTAS levels 1 to 3 in 2022, as shown in Table 1. However, the median time of arrival on scene was better than the targeted response time. For example:

- For CTAS level 1, the target is for paramedics to be on scene within 8 minutes from the time the call originated, 75% of the time
- In 2022, the response rate was 74% of the time, 1% below target
- The median time of arrival for all CTAS 1 calls in 2022 was six minutes and fifty-five seconds, below the 8-minute target

Additionally, a 5% improvement in response calls for sudden cardiac arrest (the most critically ill patients) was achieved in 2022.

Despite not meeting some targets, patient safety is maintained by shifting paramedic resources to the highest priority calls and making ongoing adjustments to the paramedic deployment strategy to address key pressure points in the system. While Paramedic Services cannot control the number of calls it receives, it can look to opportunities to manage demand in ways that alleviate strain on the system. Improvements to ambulance dispatch will provide better triage of 911 responses to identify the highest priority calls requiring immediate response.

Table 1
2021 and 2022 Response Time Performance

Category and Examples	Target response time from Dispatch to arrival on scene	Targeted percentage to meet response times (%)	2021		2022	
			Actual (%)	Median Time (minutes)	Actual (%)	Median Time (minutes)
Sudden Cardiac Arrest Absence of breathing, pulse	Community Target: Arrival of any person equipped with an AED within 6 minutes Set by the Ministry	60	61	5:31	66	5:19
CTAS 1 - Includes sudden cardiac arrest or other major trauma	8 minutes Set by the Ministry	75	75	6:48	74	6:55
CTAS 2 - Chest pain, stroke, overdose	10 minutes Set by York Region	80	80	7:18	78	7:42
CTAS 3 - Moderate pain or trauma	15 minutes Set by York Region	90	89	8:20	89	8:38
CTAS 4 – Minor trauma, general pain	20 minutes Set by York Region	90	91	8:58	93	9:24
CTAS 5 – Minor ailments, repeat visits	25 minutes Set by York Region	90	94	9:22	96	9:41

Response time performance was impacted by four key factors

For the first time, in 2021 and 2022 Paramedic Services did not meet or exceed all performance targets. In large part, this was due to COVID-19 impacts on the Service and on the health system. Factors that impacted response time performance included:

- **Call Volumes and Offload Delay:** increased call volumes (911 calls) and offload delays at hospitals (time spent over the 30-minute target to transfer patients into the care of the hospital), as well as increased time on calls posed challenges to meeting response time targets, as discussed later in this report

- **Cross-border Calls:** paramedic services in Ontario operate under a seamless response system, meaning the closest ambulance is dispatched to emergency calls regardless of municipal boundaries. In 2021 and again in 2022 the volume of responses in surrounding regions increased due to offload delays in other hospital emergency departments. These offload delays decreased emergency coverage capacity for the Service, causing longer response times within York Region as discussed later in the report
- **COVID-19 Pandemic Measures:** implementation of additional infection and prevention control measures in response to the COVID-19 pandemic (such as enhanced cleaning measures, wearing more personal protective equipment and changing it more frequently and new on-scene precautions when treating patients) impacted response times because of the additional time required
- **Staffing and Well-being:** increased staff illness, isolation protocols and heightened precautions and anxieties during the pandemic, resulted in reduced staffing levels which impacted response times and paramedic workload. For example, 9,578 12-hour shifts and 8,326 12-hour shifts were lost due to illness and staff isolations in 2021 and 2022 respectively, compared to 8,163 12-hour shifts in 2020 and 5,377 12-hour shifts in 2019

Despite these challenges faced during the COVID-19 Pandemic, Paramedic Services staff continued to provide high-quality emergency services to residents.

Services across Ontario experienced similar challenges meeting response time targets amid increased system pressures

Across Ontario, paramedic services reported facing system pressures that impacted their response times. As shown in Table 2, other services experienced similar challenges in meeting their response time targets for the most critical patients in 2021 (2022 results for other services are not yet available). York Region Paramedic Services outperformed some of its regional counterparts for the most severe emergencies.

Table 2
2021 Response Time Performance for other paramedic services

Region	Targeted percentage to meet response times (%)	Actual Performance 2021 (%)
Sudden Cardiac Arrest		
York Region	61	66
Halton Region	55	52
Durham Region	60	55
CTAS Level 1		

York Region	75	74
Peel Region	75	68
Halton Region	75	72
Durham Region	75	74

Source: The Ministry of Health Land Ambulance Response Times

Local fire services and improved access to defibrillators in the community continue to improve response times for sudden cardiac arrest

Getting to a sudden cardiac arrest quickly is paramount to the survival of a patient. Under Regulation 257/00 of the *Ambulance Act*, the response time to sudden cardiac arrest is measured based on the earlier of the arrival on scene of any person equipped to provide any type of defibrillation or the arrival on-scene of a paramedic crew. This includes the use of a defibrillator by fire services or a bystander prior to paramedic arrival, which can be factored into the overall performance result. Municipal fire services receive funding to assist with sudden cardiac arrest response and this collaboration is invaluable in helping to meet response time targets for sudden cardiac arrest. As shown in Table 1, Paramedic Services, with the support of local fire services, was able to meet its 2021 and 2022 sudden cardiac arrest target.

The Region's Automated External Defibrillators Program has expanded into 28 new sites with a total of 99 new defibrillators installed across the Region over the past two years (totalling 204 defibrillators in operation). Registration of community defibrillators with Georgian Central Ambulance Communication Centre also increased by 44%; this better enables them to provide 911 callers with the precise location of a defibrillator in the community if needed during an emergency.

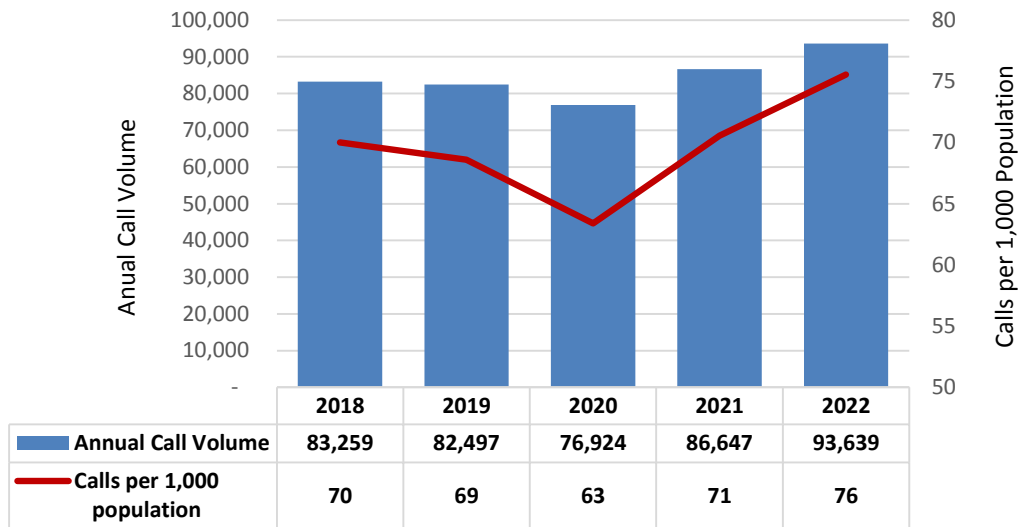
911 CALL DEMAND

Demand for the Region's Paramedic Services surpassed pre-pandemic levels and is projected to continue to increase

In 2020, a decrease in volume was experienced as compared to the previous upward trend. The anomaly appears to be associated with COVID-19 Pandemic when there were fewer visits to emergency departments likely due to fears of contracting COVID-19 in hospital. Paramedics repeatedly encountered critically ill patients claiming they waited until the last minute before seeking the emergency services they needed. Paramedic services across Ontario experienced similar reductions in 2020. Since 2020, emergency call volumes have surpassed their pre-pandemic levels, driven by an aging and growing population and staffing and system pressures, which is expected to continue impacting service delivery as projected in the [Paramedic Services Master Plan, 2021 to 2031](#).

Figure 1 provides call volumes from 2018 to 2022. Paramedic Services received 63 calls per 1,000 residents in 2020, 71 calls per 1,000 residents in 2021 and 76 calls per 1,000 residents in 2022.

Figure 1
Paramedic Call Volume Total and per 1,000 Residents, 2018 to 2021



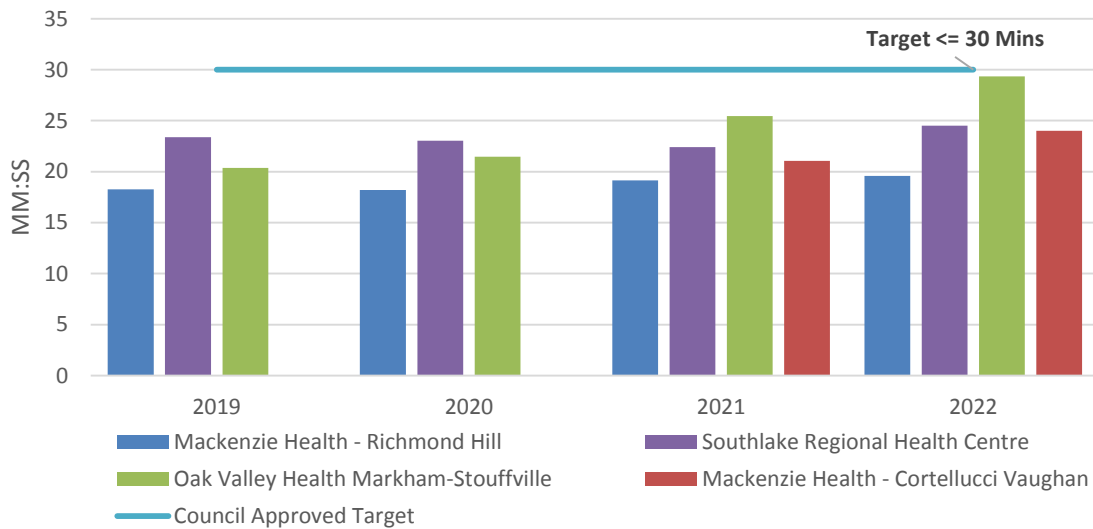
Source: York Region Paramedic Services Ambulance Dispatch System
 Note: 2022 population provided by Long Range Planning

HOSPITAL TRANSFER OF CARE TIMES AND OFFLOAD DELAY

Hospital transfer of care times on average remained below the 30-minute target however, times are increasing

Hospital transfer of care time refers to the average time between when paramedics arrive at a hospital and when a patient is transferred from the paramedics' care to the hospital's care. Time over the 30-minute target is called offload delay. Shorter transfer times help get ambulances back in service faster, enabling paramedics to manage call volumes and meet response time targets. As shown in Figure 2 below, while the average transfer of care times remained below the Region's target of 30 minutes, in 2021 and 2022 they increased, leading to increased offload delay as explained in the next section of the report. Compared to 2021, transfer of care times increased in 2022 for all hospitals, particularly at Oak Valley Health Markham-Stouffville Hospital, located in the City of Markham, which came very close to the 30-minute target, an indication of overall capacity constraints in the hospitals.

Figure 2
Average Transfer of Care Time by York Region Hospital



Note: Mackenzie Health – Cortellucci Vaughan opened its emergency department in June 2021
 Note: Oak Valley Health Markham-Stouffville was previously known as Markham-Stouffville Hospital

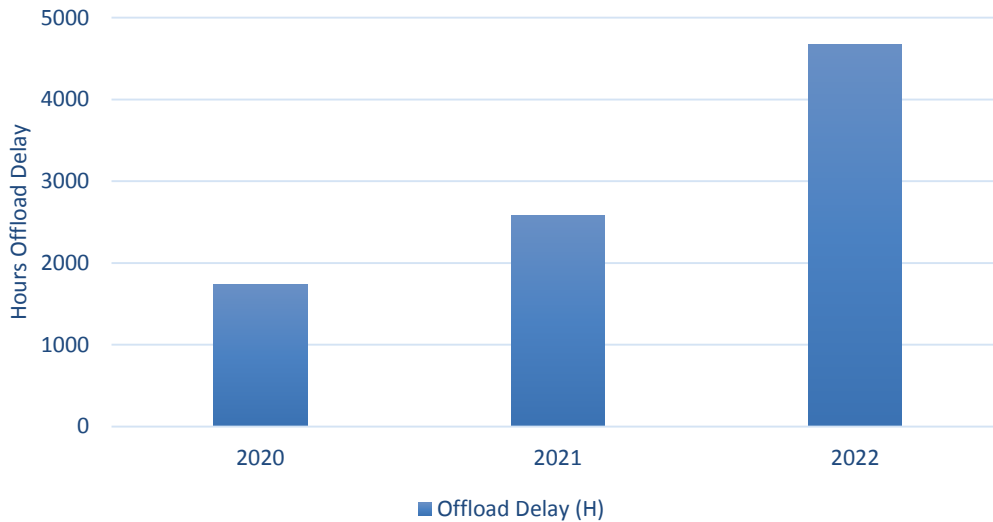
Despite remaining below the average 30-minute target, total hours spent in offload delay more than doubled from 2020 to 2022 impacting system efficiency

Figure 3 shows total hours spent in offload delay (the time paramedics spend over the 30-minute target) which more than doubled in 2022 compared to 2020. Every hour spent waiting in hospitals in offload delay is time that could have been spent responding to 911 calls. For example, 761 offload delay hours at Oak Valley Health Markham - Stouffville is equivalent to responding to potentially 544 calls. This is a significant measure of how paramedic resources could be better used to respond to 911 calls in the community instead of waiting in hospitals.

In recognition of the need to reduce paramedic time spent at the hospital, the Ministry of Health provides funding to paramedic services across Ontario to reimburse hospitals for the cost of providing a nurse dedicated to assuming care of patients received by ambulance to help reduce time spent at hospitals by paramedics.

Ministry of Health’s funding for the Dedicated Offload Nurse Program is not keeping pace with need. Except for a one-time funding allocation of \$327,000 in 2022, funding has remained at \$1.2 million annually since the program was funded in 2008. Despite that, over that same period of time annual call volume increased by 74% (39,845 calls) and a 4th emergency department was added in 2021. The Region advocated to the province in [February 2022](#) to fund the true costs of increased nursing hours needed at all the Region’s hospitals due to growth in transports. The requested funding would help to mitigate the increasing offload delay.

Figure 3
Offload Delay Hours at York Region Hospitals, 2020 to 2022



Note: DONP refers to the Dedicated Offload Nurse Program funded by Ministry of Health

While increased call demand and more complex needs (medical, psychosocial, etc.) continue to impact system capacity, offload delay has been an additional pressure impacting system capacity and response times as follows:

- Average time on calls:** the time paramedics are dispatched to the time the call is completed increased year-over-year from 2021 to 2022. In 2021 paramedics spent on average a total of 84 minutes on calls and 87 minutes in 2022, compared to 81 minutes in 2020. This is an increase of three to six minutes respectively which is significant considering the volume of calls to which paramedics must respond. Note, while total time on calls can be attributed to various factors (such as the complexity or type of call), offload delay is one significant contributor.
- Cross-border calls:** increased offload delays in nearby communities (such as Durham and Peel Regions), caused the Service to respond to more cross-border calls in 2022, impacting emergency coverage capacity in the Region. Paramedics responded to 1,114 more cross-border calls in 2022 compared to 2021 (in 2022, 5.3% (5,823) were cross-border calls, and 4.7% (4,709) in 2021. Compared to 2020 and 2019, only 3.3% (2,987) and 3.5% (3,612) of responses were cross-border calls, respectively. As the paramedic system is seamless in Ontario, neighbouring paramedic services also respond to calls within York Region when they are the closest available ambulance in a life threatening emergency. However, York Region Paramedic Services responded to a higher number of cross border calls in 2022 compared to neighbouring services responding to calls within York Region. York Region paramedics responded to 4,391 cross-boundary calls compared to 2,246 cross-boundary calls attended by other paramedic services in York Region, a difference of 2,145 calls in 2022.

In comparison to other areas of the province, the Region's four hospitals are performing well at maintaining the 30-minute transfer of care time target. In fact, the Region's hospitals are among the top ranked in Ontario for best ambulance offload times. York Region's [Hospital Memorandum of Understanding](#) was an important contributor to improving transfer of care performance. Paramedic Services monitors offload times and regularly meets with local hospitals to ensure transfer of care times continue to be met.

UPDATE ON IMPLEMENTATION OF THE MEDICAL PRIORITY DISPATCH SYSTEM

Roll-out of the new Medical Priority Dispatch System at the Georgian Central Ambulance Communication Centre is targeted for late winter 2024

In February 2023, the Ministry of Health confirmed, that due to staffing constraints, implementation of the Medical Priority Dispatch System at the Georgian Central Ambulance Communication Centre is delayed and now targeted for late 2024, following implementation in the City of Kenora in fall 2023 and the City of Thunder Bay in early winter 2024. Until then, York Region Paramedic Services will continue to follow the current response time framework established by Council in [2012](#).

Council first expressed the need for dispatch improvements in 2002. The introduction of this new triage tool is a significant milestone after many years of Regional Council advocacy ([April 2018](#), [April 2019](#), [February 2020](#)). Medical Priority Dispatch System is used worldwide, currently deployed in 45 countries and is available in 21 languages and dialects. In Ontario, it is already being used in the City of Ottawa, City of Toronto, Region of Peel and the Region of Niagara. The Ministry announcement sets into motion and supports the planning well underway by Paramedic Services to ensure all operational requirements are in place for transition to the system.

Expected benefits of the Medical Priority Dispatch System include:

- **Efficiency:** as noted in the [York Region Paramedic Services Master Plan, 2021 to 2031](#), modernization of the dispatch system could help mitigate the resource impacts of population growth. The new acuity scale allows calls to be better prioritized, dispatched and adequately queued for deployment so that paramedics resources are better matched to respond to the right patient at the right time. The system will ensure that patients receive a response time that better reflects their condition, compared to the current system that over prioritizes responses to low acuity patients. This will also help to reduce cross-border calls. For example, in the 30 days after the implementation of the Medical Priority Dispatch System in the Region of Peel, there was a 50% decrease in cross-border calls to York Region Paramedic Services to support Peel Region
- **Safety:** The system will reduce the need for paramedics to drive lights-and-sirens, improving paramedic and public safety by reducing the risk of traffic-related accidents
- **Innovation:** Dispatch will have additional supports (defibrillator locator, stroke diagnostic tool, trimester calculator, etc.) built-in to the Medical Priority Dispatch System tool which will provide a higher level of pre-arrival care to the patient, as well as improved consistency, and standardization

Once implementation is complete, response times and performance targets may be revisited and potential improvements to the response time framework would be brought to Council for consideration and approval.

5. Financial

Paramedic Services' budget is managed within the Council approved budgets of \$97.2 million gross and \$49.6 million net tax levy for 2021, and \$99.8 million gross and \$47.7 million net tax levy for 2022, excluding corporate and departmental support costs. Paramedic Services also received funding from other sources (such as the Federation of Canadian Municipalities and the Canadian Partnership Against Cancer), as shown in Table 3.

Table 3
Funding Received from Other Sources 2021 to 2022

Program	2021* (million)	2022* (million)
COVID-19 Response	\$3.3	\$2.2
COVID-19 Vaccination	\$0.4	\$0.02
COVID-19 Incident Management System Transport	\$0.3	\$0.3
Dedicated Offload Nursing Program	\$1.2	\$1.4
Community Paramedicine	\$0.9	\$0.1
Palliative Care	\$0.1	\$0.1
Anti-Idling	\$0.1	\$0.1
Community Paramedicine for Long Term Care	\$1.2	\$2.1**
Total of Other Sources	\$7.5	\$6.3

*Refers to actuals received/accrued, aside from the Land Ambulance Service Grant

** Includes \$0.2 million for capital vehicles

6. Local Impact

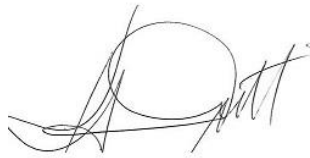
All local municipalities continue to receive reliable and responsive Paramedic Services. The Council approved [Paramedic Services Master Plan, 2021 to 2031](#) provides the long-term plan to ensure system capacity keeps pace with growing demand to provide equitable and consistent emergency coverage Region-wide, including each local municipality. Paramedic Services will continue to work with municipal fire services as well as other municipal partners to optimize the use of resources.

7. Conclusion

York Region Paramedic Services met most response time targets in 2021 and 2022, despite increased offload delays which impacted services across Ontario. The [York Region Paramedic Services Master Plan, 2021 to 2031](#) identifies the resources needed to build capacity to meet our response times. Further, the ongoing partnership with local municipal fire services is critical to maintaining response times for the most urgent emergencies, as well as collaboration with local hospitals to maintain transfer of care times.

To continue meeting response time targets and respond to the growing and diverse needs of the Region's communities depends on the implementation of new provincial dispatch technology for the Georgian Central Ambulance Communication Centre anticipated for 2024.

For more information on this report, please contact Lisa Gonsalves, General Manager at 1-877-464-9675 ext. 72090. Accessible formats or communication supports are available upon request.



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