



Report To:	Manitoulin-Sudbury District Services Board
From:	Robert Smith, Chief of Paramedic Services
Date:	February 28, 2019
Re:	<b>Paramedic Response Time Standard - Issue Report</b>

## **Purpose**

The purpose of this report is to provide the Board with background for the Ontario Ambulance Response Time Standards (RTS) and detailed compliance results for the 2018 period. A letter detailing our performance will be submitted to the Ministry of Health & Long-Term Care (MOHLTC) Emergency Health Regulatory & Accountability Branch (EHRAB) Director by the March 31<sup>st</sup> deadline.

## **Background**

In 2006 the provincial government, in conjunction with the Association of Municipalities of Ontario (AMO) and the Land Ambulance Committee (LAC), established a committee to review the current and future state for a number of subjects, including response time standards for Paramedics. On July 31, 2008, amendments were made to the Ambulance Act. One amendment related to Response Time Performance Plans and methods for measuring regulatory compliance. Following a number of delays, Response Time changes were finally implemented in 2013.

## **Response Time Performance Plan Design**

Under Regulation, each Direct Delivery Agent responsible for provision of land ambulance services are responsible to submit to the EHRAB Director a prepared Response Time Performance Plan no later than October 31 of each year. This plan shall detail expected compliance with response targets for the following calendar year. The report shall break out target compliance based upon patient acuity as set out in the Canadian Triage and Acuity Scale (CTAS). The CTAS scale ranks patient acuity from 1 to 5, with 1 being the most severe presentation and 5 being the least. A breakout of the acuity scale is detailed within this document.

By March 31<sup>st</sup> of each year, land ambulance service provider must also submit to the EHRAB Director a compliance report, detailing the efficacy of their Response Time Performance for the previous calendar year. Manitoulin-Sudbury DSB Paramedic Service reports response time metrics based upon district-wide performance. Response compliance is not defined by lower tier factors.

Additional details related to the RTS reporting have been documented in annual reports, and can be accessed on the DSB website. [2017 RTS Results - Issue Report](#), [2018 RTS Plan - Issue Report](#)

## **CTAS Reaffirmed**

To understand the RTS metrics process, it is essential that consumers understand the Canadian Triage and Acuity Scale (CTAS). CTAS is a method for grouping patients according to the severity of their condition, and is inclusive only of patients managed through the 911 emergency system. Interfacility movement of patients are not subject to the CTAS system. The CTAS layers are defined as follows:

### **CTAS 1: Severely ill, requires resuscitation**

- Requires resuscitation and includes conditions that are threats to life or imminent risk of deterioration, requiring immediate aggressive interventions (for example, cardiac arrest, and major trauma or shock states).

### **CTAS 2: Requires emergent care and rapid medical intervention**

- Requires emergent care and includes conditions that are a potential threat to life or limb function, requiring rapid medical intervention or delegated acts (for example, head injury, chest pain or internal bleeding).

### **CTAS 3: Requires urgent care**

- Requires urgent care and includes conditions that could potentially progress to a serious problem requiring emergency intervention, such as mild to moderate asthma, moderate trauma or vomiting and diarrhea in patients younger than 2 years.

### **CTAS 4: Requires less-urgent care**

- Requires less-urgent care and includes conditions related to patient age, distress or potential for deterioration or complications that would benefit from intervention, such as urinary symptoms, mild abdominal pain or earache.

### **CTAS 5: Requires non-urgent care**

- requires non-urgent care and includes conditions in which investigations or interventions could be delayed or referred to other areas of the hospital or health care system, such as sore throat, menses, conditions related to chronic problems or psychiatric complaints with no suicidal ideation or attempts.

The CTAS scale is a medically validated scale used by a myriad of emergency health professionals including Doctors and nurses in Emergency Departments.

## **2018 and 2019 Response Time Standard Targets**

As detailed earlier, Manitoulin-Sudbury DSB is required to report the projected response time standard targets to the MOHLTC by October 31<sup>st</sup> of each year. 2019 targets were submitted in October of 2018. Additionally, there is a requirement to submit actual results

by March 31<sup>st</sup> of each year for the previous year. The following table details Manitoulin-Sudbury DSB's 2018 RTS results which will be submitted.

MOHLTC Data Set

Patient Severity	Target Time	Actual Time	Target Response Met	Call Volume
SCA	6 minutes, <b>25%</b> of time	6 minutes, <b>41.6%</b> of time	Yes	24
CTAS 1	8 minutes, <b>30%</b> of time	8 minutes, <b>33.3%</b> of time	Yes	48
CTAS 2	15 minutes, <b>65%</b> of time	15 minutes, <b>66.2%</b> of time	Yes	772
CTAS 3	20 minutes, <b>75%</b> of time	20 minutes, <b>79.9%</b> of time	Yes	2,079
CTAS 4	25 minutes, <b>85%</b> of time	25 minutes, <b>85.6%</b> of time	Yes	1,369
CTAS 5	25 minutes, <b>85%</b> of time	25 minutes, <b>86.4%</b> of time	Yes	147

\* CTAS 1 volume exclusive of SCA calls

\*\*This report does capture a point of interest pertaining to the relatively number of low acuity calls assigned to Paramedic Services in 2018. This is something Paramedic Services asserts is likely correlated to efforts to increase utilization of the non-urgent patient transfer pilot resources (PTS Pilot project), something that has resulted in increased emergency coverage in the target areas. The effective non-urgent patient transfer program allowed for Paramedics to better respond to high acuity calls.

### Current Issues/Challenges

While the current process for calculating Paramedic Service response efficiency is far more appropriate than the “MOHLTC 1996 90<sup>th</sup> percentile” model, representatives of the profession acknowledge that the current process is also challenged. The earlier measures were simply based upon a level of effort solution where the success achieved in 1996, would be maintained at the 90<sup>th</sup> percentile in subsequent years. The system did not allow for measured improvements associated with system design changes. There remains a challenge with placement of a central focus on the reanimation of sudden cardiac arrest patients, patients who represent a minuscule cohort of our patient population.

It is important to note that formal data points utilized for assessment of RTS compliance are compiled by the MOHLTC Central Ambulance Communications Centers through a series of manual inputs during periods of extreme stress and while managing multiple activities. As such, a significant risk for input errors impacting outcomes exists. Despite this fact, the MOHLTC preferred data source remains the provincial Ambulance Dispatch Reporting System (ADRS) database, a product produced from the previously described manual data inputs. The migration set for 2018 to the Interdev I-Medic solution has allowed for a more accurate assessment tool and real time monitoring of performance of RTS compliance. Continued efforts to shift the compilation of data to the bidirectional Computer Assisted Dispatch Link currently in place in areas of southern Ontario.

The ability of a rural/remote Paramedic Services to achieve the 6 or 8-minute response timeframe a high percentage of the time is challenging due to the static deployment model

and geographic limitations. RTS success at distances beyond 6 to 8 KMs from a Paramedic Station, inclusive of the 2 minute on-site reaction time not achievable.

Sudden Cardiac Arrests (SCA) compose less than 0.5% of the total volume of Paramedic Service Activity and while these events are of significant risk to the patient, capacity to respond to these calls should not be the greatest organizational metric of success. Slight changes to response times in Manitoulin-Sudbury DSB geography have significant impacts on the current RTS benchmarks. Having just one additional response outside the response time target in 2018 would decrease compliance by more than 3% in the target percentage.

In 2013, the service reported the worst response times for SCA at only 18%. Success with efforts to improve RTS outcomes have surrounded a number of factors, including work with allied agencies, increased dependence on the non-urgent patient transfer pilot project and amended deployment modeling.

Reliance on allied agencies through tiered response agreements have allowed for improve access defibrillation, the volunteer nature of these agencies does pose a continued risk to success. Public access defibrillator programs have shown some success for our organization, and statistically present an opportunity for benefits, but the majority of SCA calls take place in private residences, away from the placement of most Automated External Defibrillator (AED) devices.

The 2018 amended deployment plan allowed for 24/7 on-site coverage at 2 additional stations, and increased on-site coverage at 3 more stations. These changes allow for specific target success by reducing the reaction time from 10 minutes to 2 minutes. Accepted reaction times (Chute Times) for on-site crews are set to a maximum of two (2) minutes while on call crews are afforded a maximum Chute Time of 10 minutes. A 6 or 8 minute response is actually 4 or 6 minutes of travel time. With a travel time of 4 minutes to a SCA response, success would require the call location to be within 6 km of the station. During on call staffing periods, RTS compliance success is not be possible.

The RTS system allows for Paramedic Services to choose both the response time target and the target percentage success for CTAS 2, 3, 4, & 5 calls. This multifaceted approach presents readers a challenge when performing service comparisons. It is evident that the MOHLTC has a desire to focus on measuring Paramedic Services against the SCA and CTAS1 data. It is also clear that the reporting design does not distinguish service delivery in urban, suburban, rural or remote communities.

Reporting based on the unique features of a Paramedic Services Direct Delivery Agent is not a part of the current reporting structure. It has been noted that there are differences between Direct Delivery Agents in terms of population density. Basically, there needs to be a methodology to denote urban, suburban, rural and remote services so that not all are painted with the same brush in the eyes of the public. If a population is spread out it becomes more difficult to focus limited resources in optimal locations in an effort to achieve the aggressive response times detailed within the provincial RTS. The vast difference between an urban and remote response needs to be factored into the RTS equation.

## Conclusion

The six years of data is suggestive of ongoing challenges with ideal target achievement, however, it is evident that our response times for 2018 have improved over the previous years. While proximity to Paramedic position at the time of the event presents a factor for improved success in 2018, several efforts implemented by Paramedic Services during the assessment period are believed to have assisted in the overall improvement.

The following charts depicts annualized trending of response time compliance against the established targets.

	Target	2013	2014	2015	Target	2016	2017	2018
<b>SCA</b>	6 minutes, <b>25%</b> of time	<b>16.8%</b>	<b>21.7%</b>	32.1%	6 minutes, <b>25%</b> of time	25.0%	37.9%	<b>41.6%</b>
<b>CTAS 1</b>	8 minutes, <b>30%</b> of time	32.1%	<b>28.3%</b>	35.7%	8 minutes, <b>30%</b> of time	<b>29.5%</b>	30.5%	<b>33.3%</b>
<b>CTAS 2</b>	25 minutes, <b>65%</b> of time	85.5%	83.6%	86.1%	15 minutes, <b>65%</b> of time	66.4%	66.2%	<b>66.2%</b>
<b>CTAS 3</b>	25 minutes, <b>75%</b> of time	87.7%	84.0%	89.3%	20 minutes, <b>75%</b> of time	82.3%	83.7%	<b>78.9%</b>
<b>CTAS 4</b>	25 minutes, <b>85%</b> of time	88.5%	<b>83.6%</b>	88.9%	25 minutes, <b>85%</b> of time	89.5%	91.4%	<b>85.0%</b>
<b>CTAS 5</b>	25 minutes, <b>85%</b> of time	93.5%	88.7%	88.9%	25 minutes, <b>85%</b> of time	90.6%	86.7%	<b>86.4%</b>

Community programs such as Public Access Defibrillation is demonstrative of system success where SCA events occur in proximity to the Automated External Defibrillator (AED), and Tiered Response initiatives can be effective where Paramedic resources are geographically challenged, and patient acuity warrants immediate care. The service will continue to collaborate with municipal partners to expand such programs where deemed necessary.

The Paramedic Service Deployment Plan, released in April of 2016 put forward processes with a goal of mitigating impact of resource loss for non-urgent patient transfers, and due to air ambulance avoidance for air indicated call types. The effort to ensure proper resource utilization by the Central Ambulance Communications Centers and integration of Paramedic Superintendent direction will continue to ensure right resource is assigned for the right patient. The newest version of this plan, being released in February of 2019, establishes an even stronger focus of Paramedic Services as a public safety agency, with community safety as its primary role

Regardless of recent success trending by Manitoulin-Sudbury DSB, the service will continue to the service review to advance potential reorganization in a manner to lead to system improvements and employee wellness.

24/7 on-site supervision along with continued efforts to allow collapsing of the Central Ambulance Communications Centres into a single site will, we believe, assist in ensure operational efficacy.