



Report To:	Program Planning Committee
From:	Robert Smith Chief of Paramedic Services
Date:	March 21, 2018
Re:	Paramedic Response Time Standard - Issue Report

Purpose

The purpose of this report is to provide the DSB Program Planning Committee with background on the Ontario Ambulance Response Time Standards (RTS) and detail the results of our 2017 Response Time Performance Plan. A letter detailing our performance was submitted to the Ministry of Health & Long Term Care (MOHLTC) Emergency Health Services Branch (EHSB) Director as dictated in the [Ambulance Act Regulations](#) by the March 31st deadline.

Background

In 2006 the provincial government established in conjunction with the Association of Municipalities of Ontario (AMO), a Land Ambulance Committee (LAC), to review a number of subjects including ambulance response time standards. Arising from that work on July 31, 2008 the provincial government made changes to the Ambulance Act, Response Time Performance Plans. These changes were to be phased in over three years and were expected to be fully in effect in 2011 however a series of delays caused the new standard to actually take effect in 2013.

Specifically relating to the standard, each Direct Delivery Agent (DDA) is to send their response time plan to the MOHLTC EHSB Director through their local Field Office no later than October 31 of each year. The report is to detail responses with targets for patients in sudden cardiac arrest, and patients presenting on the “Canadian Triage and Acuity Scale” (CTAS) 1, 2, 3, 4, & 5. Then, by March 31st of each year the DDA will submit the same table completed with the actual results achieved in the year previous.

As in the past, these response times are based upon district not on Paramedic Service. In other words, data is reported for all calls within the Manitoulin-Sudbury DSB area regardless of which Paramedic Service performed the call.

Greater details on the RTS have been documented in previous reports on the DSB website including [2017 Response Time Standard – Issue Report](#) and [Response Time Standard - Issue Report](#).

CTAS Reaffirmed

To understand the RTS it is essential to re-affirm the concept of the Canadian Triage and Acuity Scale (CTAS). CTAS is a method for grouping patients according to the severity of their condition 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.

2017 Response Time Standard Targets

As detailed earlier, Manitoulin-Sudbury DSB is required to report the targeted response time standard to the MOHLTC by October 31st of each year. 2017 targets were submitted in October of 2016. Additionally, there is a requirement to submit actual results by March 31st of the following year. The following table details Manitoulin-Sudbury DSB 2017 RTS results which have been submitted to the EHS-B Director.

MOHLTC ADRS Data Set

Patient Severity	Target Time	Actual Time	Target Response Met	Call Volume
SCA	6 minutes, 25% of time	6 minutes, 37.9% of time	Yes	30
CTAS 1	8 minutes, 30% of time	8 minutes, 30.5% of time	Yes	*72
CTAS 2	15 minutes, 65% of time	15 minutes, 66.2% of time	Yes	645
CTAS 3	20 minutes, 75% of time	20 minutes, 83.7% of time	Yes	1,686
CTAS 4	25 minutes, 85% of time	25 minutes, 91.4% of time	Yes	**1,029
CTAS 5	25 minutes, 85% of time	25 minutes, 86.7% of time	Yes	**75

* CTAS 1 volume inclusive 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 2017. This is something Paramedic Services asserts is likely correlated to efforts to increase utilization of the nonurgent pilot resources (PTS Pilot project), something that has resulted in increased emergency coverage in the target areas. The effective nonurgent program allowed for ambulances 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 90th percentile” model, something that set the actual response from 1996 as the future benchmark, the industry acknowledges that the current process is also challenged.

The formal data points utilized for assessment of RTS compliance are compiled by the MOHLTC Central Ambulance Communications Centers through manual inputs during high stress times. As such there exists a significant risk for input errors. Despite this fact, the MOHLTC preferred data source is the provincial ADRS database which is also subject to errors. The migration set for 2018 to the Interdev I-Medic solution will allow for a more accurate assessment tool and real time monitoring of performance of RTS compliance.

The ability of a remote and rural Paramedic Services to achieve the 6 or 8-minute timeframe a high percentage of the time is challenging due to the lack of abundant resources and geographic limitations. An assessment of times and distances would demonstrate that any distance greater than 8 KMs from a Paramedic Station would not allow for a response within 6 minutes form crew notified. The response time is inclusive of the reaction, or chute time of up to 2 minutes. As such, only 4 minutes, or 6 minutes travel is allowable within the metric.

Sudden Cardiac Arrests (SCA) compose less than 1% of the total volume of Paramedic Service Activity (0.38% in Manitoulin-Sudbury DSB), and while these events are of significant risk to the patient, capacity to respond to these calls should not be the organizational metric. Slight changes to response times in Manitoulin-Sudbury DSB geography will have a significant impact on the current RTS benchmarks. Having just one

additional response outside the response time target in 2017 would decrease compliance by more than 3% in the target percentage. In 2015, the service reported the worst response times for SCA at only 26.4%. A single successful response would have pushed that metric to nearly 30%. While a greater reliance on allied agencies and tiered agreements have been endorsed to improve access to earlier defibrillation, the challenge caused by the volunteer nature of these agencies does present a risk to success.

Public access defibrillator programs have the potential for improved target outcomes, but the majority of SCA calls are in residences, not in the public locations where AED devices are primarily located. The 2017 SCA events took place almost exclusively in private residences.

An additional challenge to target success for RTS levels relates to the nature of onsite versus on call deployment of Paramedic resources. The decision to assign resources as onsite versus on call is premised on volume workload and a balance of capacity to deploy personnel. While 5 of the 12 Paramedic Services stations are currently deployed on a 24/7 basis, 7 stations have some level of on call staffing. Accepted reaction times (Chute Times) for onsite 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 would 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 the DDA is not a part of the current reporting structure. It has been noted that there are differences between DDA's 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 five years of data is suggestive of ongoing challenges with ideal target achievement, however, it is evident that our response times for 2017 have improved over the previous years. While proximity to Paramedic position at the time of the event presents a factor for improved success in 2017, 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
SCA	6 minutes, 25% of time	16.8%	21.7%	32.1%	6 minutes, 25% of time	25.0%	37.9%
CTAS 1	8 minutes, 30% of time	32.1%	28.3%	35.7%	8 minutes, 30% of time	29.5%	30.5%
CTAS 2	25 minutes, 65% of time	85.5%	83.6%	86.1%	15 minutes, 65% of time	66.4%*	66.2%
CTAS 3	25 minutes, 75% of time	87.7%	84.0%	89.3%	20 minutes, 75% of time	82.3%**	83.7%
CTAS 4	25 minutes, 85% of time	88.5%	83.6%	88.9%	25 minutes, 85% of time	89.5%	91.4%
CTAS 5	25 minutes, 85% of time	93.5%	88.7%	88.9%	25 minutes, 85% of time	90.6%	86.7%

Community programs such as Public Access Defibrillation is demonstrative of system success where SCA events occur in proximity to the 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.

While the Paramedic Response Unit (PRU) program on both Manitoulin Island and the LaCloche corridor have afforded the citizens and improved response capacity, this has not directly translated to improved response times for SCA and CTAS 1 or 2 calls. A mitigation strategy implemented in 2017 that requires a review of all SCA responses will continue.

The most recent iteration of the Paramedic Service Deployment Plan was released in April of 2016. That document had a goal of mitigating impact of resource loss for non-urgent interfacility requests, 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.

To date challenges continue to exist surrounding resource loss as sending facilities shy away from consideration of air ambulance initiation. In 2018, additional strategies will be implemented with stakeholders to refocus resource allocation.

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.

The 2018 implementation of 24/7 onsite supervision along with the confirmation by the MOHLTC of their desire to collapse Ambulance Communications into a single center will assist in the efforts to ensure operational efficacy.