



Report To:	Program Planning Committee
From:	Robert Smith Chief of Paramedic Services
Date:	February 26, 2020
Re:	2019 Response Time Standard - Issue Report

Purpose

The purpose of this report is to provide the Manitoulin-Sudbury DSB Program Planning Committee with background for the Ontario Ambulance Response Time Standards (RTS) and detailed compliance results for the 2019 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 31st deadline, as prescribed in the [Ambulance Act Regulations](#).

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 (DDA) 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 31st 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](#).

CTAS Reaffirmed

To understand the Response Time Standard metrics, it is essential that readers have at minimum a rudimentary understanding of 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 captured in the CTAS system. The CTAS scores 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 hospital emergency departments across the Province.

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 31st of each year. 2020 targets were submitted in October of 2019. Additionally, there is a requirement to submit actual results by March 31st of each year for the previous year. The following table details Manitoulin-Sudbury DSB's 2019 RTS results which will be submitted.

MOHLTC ADRS Data Set

Patient Severity	Target Time	Actual Time	Target Response Met	Call Volume
SCA	6 minutes, 30% of time	6 minutes, 38.5% of time	Yes	26
CTAS 1	8 minutes, 30% of time	8 minutes, 30.5% of time	Yes	59
CTAS 2	15 minutes, 65% of time	15 minutes, 72.7% of time	Yes	1033
CTAS 3	20 minutes, 75% of time	20 minutes, 78.0% of time	Yes	2,104
CTAS 4	25 minutes, 85% of time	25 minutes, 85.6% of time	Yes	1,206
CTAS 5	25 minutes, 85% of time	25 minutes, 86.3% of time	Yes	95

CTAS 1 volume inclusive of SCA calls

The Ministry of Health ADRS Database was used as the source point for these findings

Current Issues/Challenges

The Response Time Standard process for calculating Paramedic Service response efficiency is far more appropriate than the historic "MOHLTC 1996 90th percentile" model, previously in place. That said, industry staff and Government officials acknowledge that the current process has challenges. The legacy system simply measured level of effort where the success achieved in 1996, would be maintained at the 90th percentile in all subsequent years. That system did not track improvements associated with demographic, or deployment model changes. The RTS system remains challenged. The current model places a greater focus on response to sudden cardiac arrest patients, patients who represent less than 0.5% of the total patient population, and one where successful resuscitation is rare when the event is not witnessed.

It is also 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. Such inputs are reasonably delayed from the point of notification, meaning that the data input and output, especially during periods of extreme stress and while managing multiple activities, lack the accuracy demanded by the system.

A more accurate assessment tool would be “real time” system monitoring, something that does exist, but something not considered by the MOH to be a product that would be their responsibility to deploy.

The ability of a rural/remote Paramedic Services to achieve the 6 or 8-minute response timeframe a high percentage of the time remains a challenge due to the static deployment model and vast geographic limitations. Successful response to the most serious calls, at distances beyond 6 to 8 KMs from a Paramedic Station, is 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 2019 would decrease compliance by almost 4%. In 2019, the service successfully responded to SCA calls in 10 of 26 events, with a 38.5% success. That number would swing down to 34.7% and up to 42.3% with just one altered response.

In 2013, the service reported response times for SCA at only 18%, the lowest capture in Ontario. Ongoing efforts to improve RTS outcomes have been implemented since that time. These efforts included work with allied agencies to have Medical Tiered Responses, an increasing use of the Manitoulin-Sudbury DSB non-urgent (PTS) pilot project, and amending of the Paramedic Service Deployment Plan to help maintain emergency coverage capacity in the communities.

Reliance on allied agencies through tiered response agreements have allowed for improve access defibrillation. While the volunteer Fire Department design does pose continued risk to success. Public Access Defibrillator (PAD) programs have shown some success for our organization, and statistically present an opportunity for benefits, but the majority of SCA calls to not occur in public locations, meaning that AED devices are not immediately available.

The increased use of a nonurgent system for interfacility movement of patients has resulted in a reduced dependency on Paramedic Services, leaving emergency resources available for use in emergency events within the deployed community.

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, or chute time from 10 minutes to 2 minutes. Paramedics who are at an “on call” state have 10 minutes to become mobile, while Paramedics who are at an “on site” state have 2 minutes to become mobile. The mandated 6 minute response to SCA events, or an 8 minute response to CTAS events are not achievable during an “on call” state.

Of the 10 events where Paramedics were able to respond within the mandated 6 minute timeline to SCA calls, the response was from the closest and most appropriate Paramedic Services station. Only once in 2019 was a Paramedic resource assigned from a station less appropriate. In that case, the appropriate Paramedics were being used for non-urgent work outside of the community.

Geography remains a significant challenge to effective RTS success. The average response to 2019 SCA calls where the 6-minute timeline was not met was 18.8 KM from the closest Paramedic services station, while the closest response where the established time was not met was 9.1 KM. Such distances cannot allow for success.

The Response Time Standard system allows for Paramedic Services to choose both the target response time, and the target response compliance percentage for CTAS 2, 3, 4, and 5 calls. This multi-axial approach presents a challenge to service comparisons.

Response Time Standard reporting that examines unique features of rural Ontario is not considered in the current structure. It has been noted that there are differences between urban and rural service delivery due to issues such as population density and overall health care design. This issue must be addressed resulting in a methodology to denote urban, suburban, rural and remote service models so that not all are painted with the same brush.

Conclusion

The last seven years of data confirms ongoing challenges with achievement of RTS success, however it is evident that Manitoulin-Sudbury DSB response times continue to trend to an improved compliance. While proximity to Paramedic position at the time of the event presents a factor for improved success in 2019, 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	2016	2017	2018	2019
SCA	6 min. resp	16.8%	21.7%	32.1%	25.0%	37.9%	41.6%	38.8%
CTAS 1	8 min. reps	32.1%	28.3%	35.7%	29.5%	30.5%	33.3%	33.5%
CTAS 2	25 min. resp 65% of time	85.5%	83.6%	86.1%	66.4%	66.2%	66.2%	72.7%
CTAS 3	25 min. resp 75% of time	87.7%	84.0%	89.3%	82.3%	83.7%	78.9%	78.0%
CTAS 4	25 min. resp 85% of time	88.5%	83.6%	88.9%	89.5%	91.4%	85.0%	85.6%
CTAS 5	25 min. resp 85% of time	93.5%	88.7%	88.9%	90.6%	86.7%	86.4%	86.4%

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.

The Paramedic Service Deployment Plan, released in February of 2019 put forward processes with 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 the right resource is assigned for the right patient. The next iteration of this plan will be released in 2020, and will further establish an even stronger focus of Paramedic Services as a public safety agency, with community safety as its primary role.