

**Subject: Ottawa Paramedic Service Implementation of the Medical Priority Dispatch System**

**File Number: ACS2024-EPS-OPS-0001**

**Report to Emergency Preparedness and Protective Services Committee on 21 March 2024**

**and Council 3 April 2024**

**Submitted on March 12, 2024 by Pierre Poirier, Paramedic Chief, Ottawa Paramedic Service**

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**Ward: Citywide**

## **REPORT RECOMMENDATION(S)**

That the Emergency Preparedness and Protective Services Committee recommend Council receive this report for information.

## **RECOMMANDATION(S) DU RAPPORT**

Que le Comité des services de protection et de préparation aux situations d'urgence recommande au Conseil de prendre connaissance de ce rapport.

## **EXECUTIVE SUMMARY**

After more than two decades of advocacy, the Ottawa Paramedic Service will be launching a new call triage tool for dispatching emergency medical responses. The current triage tool, Dispatch Priority Card Index, was developed in the 1980's and will be replaced by the Medical Priority Dispatch System, which is approved by the Ontario Ministry of Health, and globally recognized as an industry best practice for emergency call triage. The Medical Priority Dispatch System is expected to launch in the Ottawa Central Ambulance Communications Centre on April 10, 2024 and will serve more than 1.2 million residents across 10,000 square kilometres of eastern Ontario, including Ottawa, the United Counties of Prescott and Russell, the United Counties of Stormont, Dundas, and Glengarry, and Cornwall.

## **BACKGROUND**

The Emergency Health Services division of the Ministry of Health has the legal authority for emergency medical services in Ontario, which includes paramedics. The *Ambulance Act* includes regulations and standards that form the legal framework for the Ottawa

Paramedic Service and the Ottawa Central Ambulance Communications Centre. Together, the Ministry of Health and the City of Ottawa are responsible for delivering out of hospital patient care.

The Ottawa Paramedic Service is the designated delivery agent for the provision of land ambulance service in Ottawa. The Service provides patient care and emergency medical coverage to more than one million residents of the nation's capital across 2,800 square kilometres. Land ambulance service is equally funded by the Ontario Ministry of Health and the City of Ottawa (50/50).

The Ottawa Central Ambulance Communications Centre receives emergency medical calls through 9-1-1 and dispatches paramedic resources across 10,000 square kilometres of eastern Ontario including Ottawa, the United Counties of Prescott and Russell, the United Counties of Stormont, Dundas, and Glengarry, and Cornwall. The Ottawa Central Ambulance Communications Centre is 100 per cent funded by the Ontario Ministry of Health. A 2002 Transfer Payment Agreement specifies that the Ottawa Paramedic Service is responsible for the administration, staffing, reporting, and overall operation of the Communications Centre.

The Ontario Ministry of Health stipulates the triage tool for use by paramedic communications centres in Ontario for processing emergency medical calls. The current call triage tool is the Dispatch Priority Card Index (DPCI) that was developed in the 1980's when the Ministry of Health had exclusive control of land ambulance and dispatch services across the province. The DPCI has been the call triage tool used by most communications centres in Ontario, including Ottawa, since the 1990's.

The Medical Priority Dispatch System (MPDS) is a more effective call triage tool used by communications centres in more than 45 countries. In Ontario, MPDS was implemented in communications centres in Toronto in 1992 and the Niagara Region in 2007. Recently, MPDS was expanded to communications centres in Mississauga (2022), Kenora (2023), and Thunder Bay (2024). Several studies have demonstrated MPDS as a superior call triage tool that improves the ability of paramedics to attend calls of the highest priority. MPDS is more precise, accurate and efficient as compared to the DPCI. MPDS is globally recognized as an industry best practice for emergency call triage.

On several occasions, the Ontario Association of Paramedic Chiefs have requested that the Ministry of Health replace DPCI with MPDS in all communications centres in Ontario. For more than 20 years, the City of Ottawa has advocated for the

implementation of MPDS in the Ottawa Central Ambulance Communications Centre. A chronological overview of requests and recommendations for the implementation of MPDS in Ottawa follows.

2000: Prior to the amalgamation of the City of Ottawa, a consultant (Fitch & Associates) was retained to evaluate the existing regional ambulance services and develop a system design for a new land ambulance service. A key recommendation in Fitch & Associate's report was the implementation of MPDS in Ottawa.

2003: The Ottawa Paramedic Service wrote a letter to the Province requesting the implementation of MPDS noting that this tool would improve service delivery.

2005: Following a Coroner's inquest into the death of an Ottawa resident, Alice Martin, a Coroner's Jury recommended that the Ministry of Health immediately take steps to implement MPDS in Ottawa with a rollout to other communications centres across Ontario to follow.

2008: Council received the Office of the Auditor General's [Audit of the Ottawa Paramedic Service](#) which recommended the City consider replacing DPCI with MPDS. The Auditor General affirmed that the replacement of DPCI with MPDS in Ottawa should be a top priority for the Province.

2010: City Councillor Diane Deans, Chair of the Community and Protective Services Committee, submitted a detailed business case to the Province recommending that the Ministry of Health allow for the implementation of MPDS in Ottawa. Councillor Deans followed this up with a letter to Ontario Premier, Dalton McGuinty advising that the Ottawa Paramedic Service had been waiting for the Province to implement MPDS since 2003.

2014: The Office of the Auditor General of Ontario released its [2013 Annual Report](#) which recommended that the Ministry of Health assess and compare the effectiveness of the DPCI and MPDS. The Ministry committed to completing this recommendation by the end of 2018.

2015: The Provincial Municipal Land Ambulance Dispatch Working Group established in 2014 at the direction of the Minister of Health recommended the implementation of MPDS in all communications centres in Ontario.

April 12, 2023: The Province announced that the Ottawa Central Ambulance Communications Centre would transition to MPDS in 2024.

## DISCUSSION

The Ottawa Paramedic Service continues to experience challenges affecting overall service delivery to the community including increased response volume, hospital offload delay, and 'level zero' events, all of which pose a risk to public health and safety. Offload delay occurs when paramedics are not able to immediately transfer the care of a patient to hospital staff, and 'level zero' occurs when there are no ambulances available to transport a patient to hospital. As such, and as detailed in the Ottawa Paramedic Service 2021 and 2022 Annual Report (ACS2023-EPS-OPS-0001), in 2021 and 2022, the Ottawa Paramedic Service did not meet the Council approved percentile rank for life-threatening (CTAS 1), urgent (CTAS 2), and sudden cardiac arrest patients. The implementation of MPDS will improve the Ottawa Paramedic Service's ability to meet response time targets for life-threatening calls. The Ottawa Paramedic Service will continue to report its response time performance to the Emergency Preparedness and Protective Services Committee and Council annually.

MPDS has been subjected to several studies and evaluations by clinical researchers around the world, including Canada. In 2006, the National Library of Medicine published the abstract for a collaborative study<sup>1</sup> by the Sunnybrook Centre for Prehospital Medicine, Sunnybrook Health Sciences, and Toronto Paramedic Services. The research team assessed the performance of MPDS protocols by comparing the dispatch assessment of patient acuity (severity of illness or injury) with paramedic assessment of patient acuity (on scene). The study concluded that MPDS is exceptionally good at detecting high acuity of illness or injury (e.g., breathing or cardiac problems, cardiac or trauma arrest). In 2014, the Canadian Journal of Emergency Medicine referenced another Sunnybrook study<sup>2</sup> comparing MPDS and DPCI algorithms which resulted in a similar conclusion: The MPDS algorithm is more accurate at detecting patient severity of illness or injury. The study also concluded that DPCI significantly over-triaged 9-1-1 calls. MPDS is significantly better at determining which calls require a paramedic response with lights and siren. The proper triage of medical calls improves paramedic and public safety by reducing the risk of traffic-related accidents.

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<sup>1</sup> Feldman, M. J., Verbeek, P. R., Lyons, D. G., Chad, S. J., Craig, A. M., & Schwartz, B. (2006). Comparison of the Medical Priority Dispatch System to an Out-of-hospital Patient Acuity Score. *National Library of Medicine*, <https://pubmed.ncbi.nlm.nih.gov/16894004/>

<sup>2</sup> Feldman, M., Bryan, J., Turner, L., & Burgess, R. (2014). A Comparison of Two Structured Emergency Medical Dispatch Protocols in Ontario. *CJEM*, 16(S1), <https://doi.org/10.1017/s1481803500003171>

MPDS determines an appropriate response for all calls including the most severely ill or injured patients. The tool consists of 36 distinct triage protocols with prescriptive questions designed to elicit the most pertinent information about a patient's condition. These protocols lead communications officers to one of more than 2,000 determinant codes which is used to dispatch the most appropriate resource(s). MPDS requires communications officers to ask more detailed questions and callers may experience a longer call time. The increased call time with the communications officer will not delay a paramedic response to life-threatening calls. Paramedic resources will be dispatched to the highest priority calls while information is still being acquired from the caller.

The Ottawa Paramedic Service has developed a response plan for each of the more than 2,000 determinant codes which provides communications officers with dispatching instructions, including:

- The type of paramedic resource (emergency response vehicle, ambulance)
- The number of paramedic resources (one or more)
- The level of care (Primary Care Paramedic, Advanced Care Paramedic)
- Any specialty resources required (Paramedic Tactical Unit, Paramedic Support Unit, Paramedic Marine Unit)
- Tiered response requirements (Ottawa Fire Services, Ottawa Police Service)

The Ontario Ministry of Health has established five, colour-based call priority levels which rank from highest acuity (Purple) to lowest acuity (Green). Each determinant code is assigned a call priority. Each call priority is linked to the response plan developed by the Ottawa Paramedic Service. Table 1 defines each MPDS priority level.

Table 1: MPDS Call Priority Definitions

<b>Priority</b>	<b>Definition</b>	<b>Time Sensitivity for Response</b>
Purple	Emergent and immediate life-threatening conditions	Time critical
Red	Emergent and potentially life-threatening	Time sensitive
Orange	Urgent and potentially life-threatening	Time may be a factor
Yellow	Non-urgent and potentially serious and no immediate threat to life	Not time sensitive
Green	Non-urgent, not serious and no immediate threat to life which may be deferred without detriment to patient outcome	Not time sensitive

Currently, DPCI only uses two priority levels: Code 3, which indicates an urgent but not life-threatening issue, and Code 4, which requires an immediate lights and siren response. With only two priority levels to choose from, the DPCI tool over-triages low acuity calls. As an example, DPCI differentiates poorly between a patient with abdominal pain and an individual who is unconscious and unresponsive. In 2023, 77 per cent of 9-1-1 calls placed to the Ottawa Central Ambulance Communications Centre were triaged by DPCI as a Code 4 response. However, after a paramedic assessment on scene, only 12 per cent of those calls required emergency transport to hospital with lights and siren.

MPDS can successfully identify low acuity patients that may be deferred and high acuity patients who require an immediate response. Low acuity patients may wait longer for paramedics to arrive. Delaying the response for some patients is safe and clinically appropriate when retaining paramedics' availability to respond to life-threatening conditions. Communications officers follow-up with low acuity patients regularly to check on their health status. A patient check-in will be done at 30- or 60-minute intervals.

### **MPDS Implementation**

Following the Province's announcement in April 2023 that the Ottawa Central Ambulance Communications Centre would transition to MPDS, the Ottawa Paramedic Service has been working closely with the Ontario Ministry of Health to prepare for implementation on April 10, 2024. A successful transition is expected for the Ottawa Paramedic Service and paramedic services in the United Counties of Prescott-Russell (UCPR), and the United Counties of Stormont, Dundas, and Glengarry including Cornwall (SDG, Cornwall). Each paramedic service must develop new policies, procedures, and response plans, and update their existing deployment plans. The

project team, which includes representation from the Ministry, the Ottawa Paramedic Service, UCPR and SDG, Cornwall, will continue to work together post-implementation to ensure ongoing quality assurance and success.

Communications officers have received extensive training to prepare for the implementation of MPDS. Each communications officer has received approximately 100 hours of technical education and training on new regulations, policies, and local operating procedures. Additionally, the Ministry of Health requires all communications officers to attain certification as Emergency Medical Dispatchers (EMDs) from the International Academies of Emergency Dispatch (IAED). The IAED is a non-profit standard-setting organization promoting safe and effective emergency dispatch services worldwide. EMDs must renew their certification every two years and ensure ongoing compliance with audits, quality assurance programs, and continuing education. Communications superintendents have completed supplemental training including two additional certifications for ongoing quality improvement. Post-implementation, the Ottawa Central Ambulance Communications Centre will participate in a quality assurance process, as required by both the Ministry of Health and the IAED. Third party auditors will be engaged to audit the performance of communications officers for ongoing accuracy and compliance with call triage and dispatch instructions. Feedback will be provided for ongoing quality improvement at both the individual and organizational level.

Ottawa Paramedic Service staff have been engaged throughout the MPDS project and informed of upcoming changes through various communications. Paramedics have received training on MPDS and education on how it will improve the accuracy of the information they receive prior to arriving on scene or at the patient's side.

With the implementation of MPDS, the City of Ottawa's Tiered Response Agreement between the Ottawa Paramedic Service, Ottawa Fire Services, and the Ottawa Police Service may require modification. Local hospitals, long-term care, and retirement homes have been informed of MPDS implementation and associated impacts if they have to call 9-1-1. The Service is working with its partners to identify any process changes that may be required. Additionally, the Service has worked with the City's Public Information and Media Relations to develop a communications plan to inform and educate the public about MPDS and its impact on the Ottawa Paramedic Service's response to calls for service. The City will continue to proactively share information with residents through its website, social media channels, and other platforms, as appropriate.

## **Next Steps**

After more than two decades of advocacy, MPDS will go-live on April 10, 2024. This is a significant milestone that will benefit the Ottawa community. The implementation of MPDS will have an impact on the Ottawa Paramedic Service's response time performance. As such, the Service is collecting data and reviewing its Response Time Performance Plan. In June 2024, the Service will bring a report to the Emergency Preparedness and Protective Services Committee with recommendations to update the Response Time Performance Plan.

Looking ahead, in 2025, the Ottawa Paramedic Service will apply to become an Accredited Centre of Excellence (ACE) in public safety communications. Following that, the Ottawa Paramedic Service will explore supplementary call triage possibilities that can safely identify patients who would benefit from an alternate paramedic model of care.

## **FINANCIAL IMPLICATIONS**

There are no financial implications associated with this report.

## **LEGAL IMPLICATIONS**

There are no legal impediments to receiving the information in this report.

## **CONSULTATION**

Consultation activities are described in the report.

## **ACCESSIBILITY IMPACTS**

People with disabilities and older adults regularly access 9-1-1 requiring paramedic services. The implementation of MPDS does not impact how 9-1-1 calls are answered by the Ottawa Central Ambulance Communications Centre, rather MPDS will improve how calls are triaged. Further, the implementation of MPDS will improve the Ottawa Paramedic Service's ability to meet response time targets for life-threatening calls which will have a positive impact on these patients, including those with disabilities and older adults.

## **DELEGATION OF AUTHORITY IMPLICATIONS**

The Ottawa Paramedic Service reports annually to the Emergency Preparedness and Protective Services Committee on the use of delegated authority, as described in



Section 17 of Schedule F of the [Delegation of Authority By-law \(2023-67\)](#). There are no new delegated authority requirements associated with this information report.

## **RISK MANAGEMENT IMPLICATIONS**

As described in this report, MPDS is expected to improve the Ottawa Paramedic Service's ability to meet response time targets for life-threatening calls.

## **RURAL IMPLICATIONS**

The Ottawa Central Ambulance Communications Centre receives emergency medical calls through 9-1-1 and dispatches paramedic resources across 10,000 square kilometres of eastern Ontario, including Ottawa.

As per the Ambulance Act, ambulance service in Ontario is seamless, meaning that the closest available ambulance is dispatched to respond to emergencies regardless of municipal borders. The provision of seamless service requires neighbouring municipalities to provide care within the boundaries of Ottawa. Similarly, the Ottawa Paramedic Service also provides care in bordering municipalities.

## **TERM OF COUNCIL PRIORITIES**

The implementation of the Medical Priority Dispatch System aligns with the 2023-2026 Term of Council Priority, 'a city that has affordable housing and is more liveable for all', specifically, Strategic Objective 7: Improve emergency response times.

## **DISPOSITION**

The Ottawa Paramedic Service will action any direction received as part of consideration of this report.