2. Emergency Medical Services

WHAT IS THE SERVICE?

The Ambulance Act, 1990 and its regulations, as amended by Provincial legislation, set out the legislative framework for the funding and delivery of ambulance services in Ontario. Ambulance services were transferred to municipal responsibility in 2000-2001.

The traditional roles of Emergency Medical Services (EMS) focuses on paramedics providing emergency care to stabilize a patient's condition, rapid transport to hospital, as well as inter-facility transfers for both emergency and non-emergency situations.

The fundamental principles that all EMS service providers abide by revolve around an emergency medical services system that is:

- **Accessible** - All citizens should have equal access to ambulance services;

- **Integrated** - Ambulance services are an integrated part of the overall Emergency Health Care Services;

- **Seamless** - The closest available and appropriate ambulance will respond to a patient, regardless of political, administrative or other artificial boundaries;

- **Accountable** - Ambulance service operators are medically, operationally and financially accountable to provide service of the highest possible caliber; and,

- **Responsive** - Municipal ambulance services must remain responsive to the changing health care, demographic, socio-economic and medical needs in their area.

The primary customers of EMS are those with medical emergencies. Secondary customers include the families of the patients, and partners such as base and local hospitals, dispatch centres, long-term care facilities, and the Provincial Ministry of Health and Long-Term Care.

The funding for EMS is a shared Provincial and Municipal responsibility. The current plan is to reach a 50/50 split in funding by 2008. There is also a small user-pay element to Ambulance services.

EMS is generally an upper-tier or single-tier municipal responsibility. The OMBI reporting of data for the cities of London, Windsor and for the County of Brant actually represent an area larger than that represented by their municipal boundaries.
WHAT ARE THE MAJOR SERVICE DELIVERY ISSUES?

Ambulance services face many issues in the current context in which they operate including:

► An aging population, with the corresponding increases in demands on the services of EMS providers. Growing populations and continued urban sprawl, especially in the fast growing GTA and southern municipalities, are also increasing the demand on services;

► Offload delays, with hospital emergency services increasingly stretched, ambulances and paramedics are required to stay and care for patients at the hospital for significant periods of time before formal transfer can occur. Shortages in other components of the health care system, including lack of rural and family doctors in many areas, lead to increased demand for emergency services;

► A growing public demand for service by Advanced Care Paramedics, for lower response times to the emergency location and rural resident expectations of urban service and response levels;

► The changing nature of urban areas including, traffic congestion, increase in vertical growth (high-rises) in core areas, as well as continued growth of suburban areas into formerly rural land resulting in pressures on response times;

► A need for continued community education and direct participation of citizens in emergency response (for example, growth in Public Access Defibrillator and CPR training programs);

► In most services, there is continued separation in the control of dispatch and the local ambulance service operations; and

► The funding challenges of balancing increased service needs with the ability of municipalities to pay.

HOW ARE WE COLLABORATING?

The 15 OMBI municipalities have been actively sharing data and practices for seven years. A project such as a province-wide review of response times based on geographical density is one example of the results of this collaboration. OMBI municipalities also take a lead role in AMEMSO (Association of Municipal Emergency Medical Services of Ontario) and share the data and insights of OMBI with the broader group of Ontario ambulance services.

As mentioned above, services are mandated to collaborate in terms of service delivery to ensure that artificial municipal boundaries do not impede the response to patient calls.
HOW MANY HOURS OF SERVICE IS EMS PROVIDING?

FIG 2.1 Actual Weighted In-Service Vehicle Hours per 1,000 Population

Figure 2.1 illustrates the actual number of hours of service provided by ambulances and other EMS response vehicles on a per capita basis for 2006. The higher the bar, the more hours provided. The results are weighted to differentiate between first response units and supervisor units which, are generally staffed by only one paramedic and ambulances which are normally staffed by two paramedics – so to keep the measure comparable, response and supervisor unit hours are counted as a “half” in the weighted total vehicle hours.

The number of EMS in-service hours can be greatly affected by factors such as “urban form” (an area that is more rural in nature may require more ambulances to keep the response time at acceptable levels). Off-load delays at hospitals are another factor that can also increase the need for ambulance hours.
How many calls did we respond to?

FIG. 2.2 EMS Calls—Emergency and Non-Emergency per 1,000 Population

Figure 2.2 shows the number of both emergency and non-emergency calls that the service responded to (per thousand population) for 2005 and 2006. Emergency calls are high priority, considered to be of a life threatening nature at the time of dispatch. The higher the bar, the more calls responded to. Some services handle more of the non-emergency or patient transfer type calls while others have dispatched most of these calls to third-party providers. The results of this measure can be affected by many factors, such as the medical care system in the area (i.e., is there a need to move patients between facilities within the area or a need to move patients to tertiary care centres in larger urban areas). An aging population can also mean more calls, as can the number of day visitors, i.e., people who come into the municipality for either tourism or work purposes.

Note: Halton and Ottawa data not available for 2005.
How long does it take EMS to respond to an emergency call?

**FIG. 2.3 EMS T2-4 Code 4, 90th Percentile Response Time**

Figure 2.3 illustrates the response time for the years 2006, 2005 and 1996 by municipality. The lower the bar, the faster the response time achieved. The base year is considered to be 1996 and services are required by Provincial legislation to be working toward meeting or lowering their time in response to this standard.

The 90th percentile means that 90 per cent of all EMS calls have a response time within the period reflected in the graph. T2-4 time, represents the response time from the service getting the call until the first EMS vehicle arrives on scene. The time between a person making an emergency call and the call being received by the service is not reflected in these numbers.

Many factors contribute to the response time of services, such as:

- Increasing call volumes due to growing and aging population in many areas that can stretch resources;
- Increasing delays at hospitals transferring patients, which make those ambulances unavailable for calls;
- As municipalities increase in population, more vehicles on the roads make navigation more difficult; and
- Some municipalities are also experiencing densification (growth in vertical height of buildings), which can slow response times.

*Note: Times are read as minutes : seconds.*

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What is the operating cost of EMS vehicles?

**FIG. 2.4** EMS Cost per Actual Weighted Vehicle In-Service Hour

Figure 2.4 illustrates the cost per hour to have an EMS vehicle available to respond to patient calls. The lower the bar, the lower the cost per vehicle hour.

Factors that can impact the cost for EMS include:

- Where in the “cycle” of collective agreements a municipality is;
- The staffing mix between Advanced Care Paramedics (ACPs) and Primary Care Paramedics (PCPs) as ACPs receive a higher wage rate; and
- The overall demand for service (as seen above in call volume data).

WHERE DO WE GO FROM HERE?

The OMBI EMS Expert Group will continue to exchange performance measurement data, refine and analyze that data. OMBI’s EMS group will also continue to work within the broader context of AMEMSO and with other services nationally and internationally. Further collaboration efforts include the development of a common customer satisfaction survey.