

Report on the organization of emergency response services for accidents that occur off-road

Summary

Québec covers a vast area of more than 1.6 million km², a major portion of which is uninhabited and off the transportation grid. The sheer size and beauty of the territory make it ideal for a wide range of sports, recreational and tourism activities such as hiking, mountain biking, snowmobiling, all-terrain vehicling (ATVs) and more. Unfortunately, nearly a thousand injuries related to these activities occur each year, some 250 of which qualify as severe¹, and an average of 25 of which are fatal. Most of these injuries involve motor vehicles designed for off-road use, basically, ATVs or snowmobiles.

Severe injuries and deaths to be prevented

The purpose of pre-hospital emergency services is to prevent deterioration of the condition of a person who has had an accident, sustained an injury or is experiencing a health problem, and to take them, usually by ambulance, to a health institution for the required care. Since the aim of this kind of intervention is to save lives, it is crucial that it be just as effective at providing quality care as at acting quickly to do so.

In 1995, researchers found that the rate of mortality in Québec further to serious injury was 81% higher than it should be². The results showed that pre-hospital time over 60 minutes was associated with higher odds of dying. The researchers argued for the need for regionalization of trauma care in Québec in order to reduce the high mortality rate³.

Five years later, in the aftermath of the above study, the Ministère de la Santé et des Services sociaux published a report on pre-hospital emergency services (Dicaire Report)⁴ aimed at creating a pre-hospital emergency system based on an effective and efficient network able to provide Quebecers with quality pre-hospital care at the best possible cost.

Organization of pre-hospital emergency services has advanced since the release of the Dicaire Report's recommendations, but organization of off-road emergency response services has not changed significantly. Accessibility to ambulance services stops where the road system stops. In fact, the Dicaire Report did not address the issue of off-road emergency response services at all. Note that in this document, "off road" means any location that an ambulance cannot reach by road.

¹ Injuries with an Injury Severity Score (ISS) of 15 or more. The ISS is a method for describing a person with multiple injuries and evaluating emergency care. An ISS of 15 or more is assigned to a person who has sustained injuries to at least two body regions and who is considered to have suffered major trauma or polytrauma.

² Sampalis JS, Boukas S, Lavoie A, et al: "Preventable death evaluation of the appropriateness of the on-site trauma care provided by Urgences-Santé physicians," *Journal of Trauma* 39: 1029, 1995; Sampalis JS, Lavoie A, Williams JI, et al: "Impact of on-site care, prehospital time, and level of in-hospital care on survival in severely injured patients," *Journal of Trauma* 34: 252, 1993.

³ Sampalis JS, Lavoie A, Salas M, et al: "Determinants of on-scene time in injured patients treated by physicians at the site", *Prehospital Disaster Med* 9: 178, 1994; Sampalis JS, Lavoie A, Williams JI, et al: "Standardised mortality ratio analysis on a sample of severely injured patients from a large Canadian city without regionalized trauma care," *Journal of Trauma* 33: 205, 1992.

⁴ COMITÉ NATIONAL SUR LA RÉVISION DES SERVICES PRÉHOSPITALIERS D'URGENCE, *Urgences préhospitalières - Un système à mettre en place*, special report, Ministère de la Santé et des Services sociaux, Québec City, 2000, <http://www.sqees.ca/membres/publications/RapportDicaire.pdf>.

The Québec Ombudsman's intervention

The prognosis for survival of an individual depends on adequate organization of off-road emergency response services. The Québec Ombudsman's intervention is therefore aimed at saving as many lives as possible and reducing the risk of disability from off-road accidents or incidents. The intervention itself stems from a complaint from a citizen who became tetraplegic after falling in a cottage located in a remote area. In analyzing the complaint, the Québec Ombudsman found flagrant flaws in the organization of emergency response services. The sad event prompted the Québec Ombudsman to do some preliminary verifying, mainly with responders from that community, which revealed that this was not an isolated case but rather a systemic problem.

As part of its work, the Québec Ombudsman put together a team of experts to examine the organization of off-road emergency response services and to identify measures for improving it. Consultations were also held with the main responders concerned—ambulance, police and fire services. The purpose of these actions was to determine measures to optimize off-road coverage, and therefore, the accessibility and quality of the required services.

The Québec Ombudsman's main findings

Concerning prevention, intake of emergency calls, and organization of emergency response services:

- Sports and recreational activity enthusiasts and public and private promoters are not sufficiently aware of or accountable in terms of the risks associated with off-road activities.
- Telecommunications coverage (cell phone and emergency coverage) of Québec's land base is deficient; 75% of Québec is not covered by 9-1-1, which complicates the organization of off-road emergency response services.
- Responders are lacking in alerting and coordination skills.

Concerning the accountability of the main responders:

- Neither ambulance technicians' nor firefighters' mandates include the obligation to come to the assistance of citizens off-road.
- There are disparities in the organization of off-road emergency response services from region to region and among the municipalities within a same region:
 - There is confusion about the main responders' roles and responsibility sharing.
 - The fire safety cover plans that govern the work carried out by firefighters do not include off-road rescue; firefighters' mandate therefore does not include a formal obligation for them to come to the assistance of citizens off-road.
 - Often, no responder is mandated for rescues that call for specialized or highly specialized expertise (rescues at sea, on ice, in cramped spaces or by helicopter).

Concerning available material resources and required training:

- There are deficiencies in terms of accessibility to personal protective equipment for ambulance technicians and the equipment firefighters need to perform off-road rescues. This equipment and the training required for carrying out off-road rescues effectively and safely are not available to all responders or in every region.

Concerning volunteer accident insurance:

- Coverage of volunteers formally mobilized to participate in off-road emergency rescues is sometimes inadequate.

Concerning evaluation of the off-road emergency response system:

- There are no performance indicators for monitoring and evaluating the off-road emergency response system with a view to continuous service improvement.

The Québec Ombudsman's recommendations

Make enthusiasts and public and private promoters accountable

The Québec Ombudsman considers it crucial that sports and recreational activity promoters who operate off-road facilities be made accountable, notably by obliging them to have a response structure, including a prevention and intervention plan, for addressing the risks associated with their location.

Dissemination of information about the inherent risks of sports, recreational and tourism activities in isolated areas, the limits of cell phone coverage, and the dangers associated with the absence of cell phone and rescue coverage in these areas must be improved. The partners concerned, notably the Société d'établissements de plein air du Québec (SÉPAQ), the Ministère des Transports, the Ministère des Affaires municipales, des Régions et de l'Occupation du territoire and the Ministère des Ressources naturelles, must develop a joint communication strategy for this purpose.

Improve 9-1-1 coverage

Better 9-1-1 coverage would improve accessibility to emergency response services for off-road incidents, so the Québec Ombudsman recommends that the Ministère de la Sécurité publique actively pursue development of the coverage provided by 9-1-1 emergency centres.

Clarify alerting to emergency calls and improve coordination of emergency responses

So that the coordinates of the person who makes an emergency call are always transferred to the health communication centre responsible for managing the call, the Québec Ombudsman recommends that the Ministère de la Sécurité publique standardize Québec

9-1-1 centre operations and, as soon as possible, link all Sûreté du Québec emergency centres to the Service public d'appel d'urgence (SPAU).

With regard to coordination of emergency responses, the Québec Ombudsman is of the opinion that in order to optimize off-road emergency responses as a whole, the respective mandates of ambulance technicians, police officers and firefighters and sharing of responsibilities among them must be clearly defined. When tasks are well defined and the responders have a common understanding of their respective roles from the outset, things generally go smoothly in the field.

Mandate ambulance technicians to intervene off-road

The Québec Ombudsman recommends that the Ministère de la Santé et des Services sociaux give ambulance technicians the formal mandate to act when an incident that requires them to intervene occurs off-road by making it mandatory for them to go to the assistance of a victim to deliver care before and while they are being taken to an ambulance located on road. The necessary resources must be allocated to health and social services agencies for funding for the required training and for purchasing the personal protective equipment that is lacking.

Establish emergency service response protocols on a regional basis

The Québec Ombudsman believes that regional organization of emergency response services should be favoured so that anyone who is a victim of an incident or accident that occurs off-road can be tended appropriately, regardless of where they happen to be in Québec. It therefore recommends that off-road emergency response services be integrated within fire safety cover plans. The addition to fire safety cover plans of a regional organization protocol for these kinds of services that clarifies responders' roles and responsibilities and provides for ambulance technician and firefighter equipment and training would make it possible to ensure the quality of the services offered and to act effectively and efficiently during off-road rescues.

Provide volunteer accident insurance

Several municipalities benefit from the support of volunteers in the organization of off-road rescues. It is the viewpoint of the Québec Ombudsman that these volunteers, who are often indispensable to the success of rescue operations, must be covered for injuries sustained or damage caused during a rescue operation. The Québec Ombudsman therefore recommends that the Ministère de la Sécurité publique provide accident insurance for volunteers if they are formally mobilized by a police officer, a firefighter or the responder responsible for coordinating off-road emergency operations.

Evaluate the performance of off-road emergency response services

Lastly, the Québec Ombudsman notes the importance of having data on the performance of the off-road emergency response system in Québec. It also deems it to be just as essential to monitor and evaluate performance of this system with a view to continuous service improvement.

Reorganizing the current structure rather than a building a new one

The lack of clearly defined roles and of concerted action by the different players causes problems with response times and the quality of the action taken, problems that take a human toll.

Currently, even if responders are not formally mandated to come to the assistance of citizens off-road, rescues are still organized, with all the costs that this entails.

Starting from this general observation, the Québec Ombudsman considers that the cost of implementing its recommendations is negligible compared with what is already spent on off-road emergency responses. Rather, the recommendations would simply optimize the effects of the budgets already dedicated to these operations.

Basically, it would be a matter of providing ambulance technicians with personal protective equipment so that they can reach off-road destinations safely and efficiently and of encouraging regionalization that makes sharing of the basic equipment that firefighters need for carrying out off-road rescues possible. More than 90% of fire departments in Québec already have certain basic equipment, including an evacuation sled. The additional costs incurred by implementing new requirements with regard to fire safety cover plans and establishing a regional organization format across Québec could be sourced from existing budgets.

Given the estimated direct and indirect cost of paraplegia and tetraplegia of several million dollars per person, better organization of off-road emergency response services is a wise and socially responsible investment.

Considering that the Ministère de la Santé et des Services sociaux is charged to organize health services and social services in Québec through health and social services agencies, and that the Ministère de la Sécurité publique must foster sharing of responsibilities aimed at complementary and coherent action in matters of civil protection, the Québec Ombudsman's recommendations are intended mainly for these two government departments.