

## Emergency medical services controversies in British Columbia

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**RÉSUMÉ :** L'encombrement des salles d'urgence a atteint un niveau de crise et les retombées s'étendent au-delà des murs des hôpitaux. De plus en plus, le personnel des urgences surchargées utilise la tactique du «détournement des ambulances», obligeant les préposés aux SMU à se diriger vers le prochain établissement adéquat. Comme de plus en plus d'hôpitaux ont recours au détournement, les patients s'accumulent dans les établissements qui les acceptent jusqu'à ce que ceux-ci débordent également. Finalement, plus personne n'accepte de patients et les préposés aux SMU doivent attendre avec leurs patients dans les corridors de l'urgence qu'une civière se libère. En raison de cette situation, il y a moins d'ambulances disponibles pour répondre aux appels 911. Le principal mandat d'un service pré-hospitalier est de prodiguer des soins sur les lieux de l'incident et non dans les corridors d'une urgence et il est inacceptable qu'une pénurie de lits à l'urgence entraîne des retards de réponse au 911.

La plupart des gens sont d'accord pour dire qu'il est inacceptable que des patients malades aient à attendre dans les corridors de l'urgence pour des civières inexistantes; cependant, même si cette situation est dangereuse, elle l'est moins que le fait d'obliger ces mêmes patients à attendre indûment à la maison l'arrivée des SMU. Les hôpitaux devraient peut-être prendre un engagement moral d'accepter les patients peu importe la situation d'encombrement, puis d'assigner les ressources nécessaires pour les soigner; ou les services ambulanciers devraient peut-être embaucher et former du personnel pour traiter les patients dans les corridors des urgences. Quelle que soit l'approche adoptée, les hôpitaux et les préposés aux SMU doivent cesser de s'imputer mutuellement la responsabilité du problème et travailler à trouver des solutions.

**H**ospital and emergency department overcrowding, regionalization, diversion, bypass, staffing shortages, and funding cuts: these problems are as severe in BC as they are elsewhere in the country, and they are shaping the future of emergency medical services (EMS).

### Overcrowding and ambulance diversion

Emergency department (ED) overcrowding has reached crisis proportions. Many factors are blamed, but, regardless of the cause, the bottom line is that EDs are gridlocked. In most systems an overburdened ED can place itself on "bypass" status, forcing ambulances to divert to the next most appropriate facility. As more hospitals go on bypass, patients accumulate at the remaining facilities until those

facilities are also full and no one is accepting patients. Ambulance crews drive in circles and make multiple phone calls while patients suffer delays to definitive care. When an overcrowded ED finally accepts them, ambulance crews are often forced to wait in a corridor with their patient until a bed eventually becomes available. This is increasingly the norm in the Greater Vancouver area.

Controversy rages as to whether hospitals should be allowed to go on bypass at all. Some EMS proponents believe that ambulances should deliver their patients regardless of the level of overcrowding, then immediately return to service even if no ED bed is available. From an EMS perspective, the primary mandate of a prehospital service is scene care, and it is unacceptable if ED bed searches and waiting in hospital corridors produce 911 response delays.

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Hospital staff argue that they cannot provide adequate care when overcrowded, that patient safety is jeopardized and that, by definition, patients arriving by EMS are too ill to be left unattended in corridors where nursing staff cannot monitor them. People on both sides of the argument would agree that it is unacceptable for sick patients to wait in ED hallways; however, as dangerous as that is, it is less of an evil than leaving the same sick patient to wait at home for a delayed 911 response. I have had the unhappy experience of resuscitating a cardiac arrest victim in the waiting room after he had waited 90 minutes with no bed available. Fortunately my patient did well, but had he been at home waiting for an ambulance crew, he probably would have died.

“Bypass” is a contentious word in EMS. In a system with a central dispatch centre, only those at the centre can know the current status of all hospitals. Emergency physicians and ED staff should be aware that micromanagement by individual EDs is a major source of EMS problems, that the consequences of “bypass” extend far beyond their department walls and that, when they place their department on bypass, they unbalance the entire EMS system. Bypass should, therefore, be invoked only when an ED is incapable of coping with any further patients; it should be limited to short periods of time while the hospital makes arrangements to decompress; and it should be coordinated by the dispatch centre. If the entire system is overburdened (as usually seems to be the case), then all departments should share the load.

Patients are our collective responsibility, and we need creative solutions for cooperative care. Perhaps hospitals should make a philosophical commitment to accept patients regardless of overcrowding, then dedicate the resources necessary to ensure their care; or perhaps the ambulance service should hire and train crews to manage patients in ED corridors. Regardless of the approach, hospitals and EMS providers must stop fighting about who is responsible for the problem and start creating solutions.

### **Paramedics and preventative health?**

Much discussion focuses on expanded practice roles for paramedics.<sup>1,2</sup> Emergency medical attendants (EMAs) are often the first care providers to contact a patient and, in the case of “treat and release” protocols or noncompliant patients, they may deliver the only care the patient receives. In addition, EMAs are in a unique position to see patients’ living conditions first hand, and to identify social service and public health issues. Some in EMS feel that, for these reasons, and because many EMS calls are non-emergent, paramedics should take the opportunity to promote preventative health by screening for treatable conditions such as

hypertension, ensuring that children and adults are immunized adequately, and inspecting homes for health hazards. But given the current climate of diminishing resources, it is difficult to endorse such a move. It is already challenging enough to staff our systems adequately to meet response time standards. Why would we add a completely new job to our repertoire, especially when primary care physicians and public health nurses are already trained to provide these services? Rather than training EMS personnel to duplicate an existing service, a cooperative effort would be more fruitful. Paramedics could expand their role in the community and improve patient care by merely alerting public health and social service providers, or even making direct referrals in appropriate situations.

### **Air and ground critical care transport in response to regionalization**

Technological advances and tertiary care tend to concentrate in major centres. This necessitates a mechanism for transferring patients from rural to urban centres when specialist consultation or specific tertiary care modalities are required. The British Columbia Ambulance System (BCAS) has had a successful air ambulance service since 1978, staffed by advanced life support (ALS) paramedics who are trained and certified to provide ICU-level care in concert with critical care transport advisors.

Recently, health ministries have attempted to reduce health care costs by concentrating specialty services within designated hospitals. This has created an additional requirement to transfer patients between tertiary care facilities, even within the same city. Because BCAS’s primary responsibility has traditionally been to provide emergency 911 response, inter-hospital transfers have played a secondary role. The system was simply never designed to do transfers.

In 1996, BCAS was funded to establish a 16-car inter-facility basic life support (BLS) fleet to transfer stable patients within the BC lower mainland. But a problem was left unsolved: for ALS-level patients the onus remained with the sending facility to provide a transfer team and, unfortunately, given physician and nurse staffing shortages, this is often not an option. In fact, it is sometimes more difficult to transfer an intubated patient 2 km across town than to transfer the same patient 1000 km across the province. Recognizing this issue, and with the knowledge that regionalization will continue to grow, BCAS is developing creative ways to ensure high level care within the pre- and inter-hospital systems. A promising concept is the establishment of critical care transfer teams that can provide ALS-level care for short- and long-distance inter-hospital ground transfers.

## Research

Much criticism has been levelled at EMS directors and providers for their failure to generate prehospital care research — and, more specifically, for their failure to produce classic double-blind, randomized controlled trials (RCTs),<sup>3</sup> since other research designs are generally dismissed as unreliable or invalid. With the relative paucity of high quality prehospital research, much of our practice has, of necessity, been based on evidence gathered in other areas or has been based on the dangerous reasoning that “it makes intuitive sense,” or “it works in the ED, so it will work in the field.” Without research that is directly applicable to the prehospital setting, we cannot practise evidence-based medicine. The lack of compelling evidence makes it difficult for prehospital systems to adapt protocols in response to medical advances. Moreover, it detracts from our credibility and limits our ability to compete with other health disciplines for much needed funding.

But there is light on the horizon. Recent efforts have been directed at producing classic RCTs and reassessing the value of other research methodologies. After a great deal of work, and with the cooperation of multiple agencies, including several Greater Vancouver hospitals, the Multicentre Emergency Medicine Research Group, the BCAS and the ALS street paramedics, BC now has a structure for enrolling prehospital patients into well-designed randomized, controlled trials. The first trial, “t-PA in pulseless electrical activity,” has just completed patient accrual using this structure,<sup>4</sup> and future studies are now in the design phase.

While RCTs are optimal for assessing new drugs, or old drugs in new applications, valid scientific evidence can be produced using other research designs. In 1998, the BCAS performed a sequential study in prehospital patients with presumed opioid overdose, using traditional intravenous naloxone for a month, then subcutaneous naloxone the following 2 months. The study showed that subcutaneous naloxone is safer, easier to use, and just as effective as intravenous naloxone.<sup>5</sup> Despite being a non-traditional design, its results have been accepted by the prehospital community as valid, and its recommendations have been adopted by other EMS systems. In similar fashion, the results of a 1997 modified randomized crossover study on airway intervention were instrumental in designing protocols for airway management within the BCAS.<sup>6</sup>

Time and funding are the main barriers to research. Busy emergency physicians and paramedics are often hesitant to

commit the time required to complete a clinical study, and funding sources are few. The answer to this is communication and collaboration. If EMS stakeholders can define critical prehospital questions and agree on regional and national research agendas, then multicentre collaborations can be established and resources can be targeted, shared and distributed to achieve the most with the least.

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