

Services and Transportation

Public Pressure and a Scientific Approach to Evaluate the Potential Benefits of a Full-Scale Paramedic Program

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Problem: In the province of Quebec, Canada, primary care paramedics (PCP) provide basic life support, administer a limited number of medications, and supply semi-automatic external defibrillation. The system does not provide advanced prehospital paramedical care. Following PCP union and media pressure, the health minister mandated the "Agence d'évaluation des technologies et des modes d'intervention en santé" to provide official scientific advice on the added value of introducing paramedic-administered, full advanced life support.

Methods: The effectiveness and safety of advanced emergency care was analyzed through a comprehensive scientific literature review.

Results: Examination of the scientific data on the efficacy and safety of advanced life support led to four major findings: (1) there is not enough solid evidence to support the introduction of a generalized advanced-care program; (2) preliminary data show that advanced care could be beneficial for respiratory distress and cardiac chest pain; (3) limited evidence indicates that it is neither beneficial nor detrimental for non-traumatic cardiopulmonary arrest; and (4) advanced care is associated with adverse effects in the case of endotracheal intubation in young children and in the on-scene treatment of trauma in general.

Conclusion: Despite media pressure in favour of the introduction of a full scale paramedic program, the official scientific report recommended to increase basic training of PCP and to introduce a limited number of advanced procedures. The advice was well received and is currently incorporated into an official policy by the Quebec ministry of health.

Keywords: Canada; emergency medical services; evaluation; paramedic; science

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Ergonomics of Inter-Hospital Transfers of Critically Ill Patients: A Qualitative Study Using Grounded Theory

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Introduction: Inter-hospital transfer of critically ill patients is an integral part of healthcare systems. Ambulance services are a key element of these transfers. Within the seemingly straightforward clinical scenario exist a variety of organizational pitfalls and equipment, health, and safety dilemmas. Most ambulance services in the UK do not have dedicated critical care transfer trolleys available to provide a smooth transfer for the patient. Current trolleys are often small for the patients and lack

manoeuvrability. There are no dedicated panels to accommodate the numerous monitoring equipment, ventilators, and drug infusion devices. The resulting hazards to patients and medical personnel are manifold. Ambulance staff, doctors, and nurses would benefit from better interface design and ergonomics. In order to achieve this, multi-agency working groups with wide representation of experts in biomedical engineering are required.

Methods: A qualitative review based on interviews and observations is being conducted using a grounded theory approach to assess the present state of critical care transfer ergonomics in the pre-hospital environment, specifically referring to transfer trolleys in the UK. This review will address the problems faced by medical staff during such transfers, and the potential and prevalence of critical incidents. A set of recommendations will be constructed using information derived from the study.

Conclusions: Close cooperation with the ambulance service and equipment engineers can result in high quality, ergonomically desirable transfer systems which comply with regulations. This should reduce injury to patients, transfer teams, and ambulance staff.

Keywords: ambulance; equipment; ergonomics; grounded theory; recommendations; transfer trolleys

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Introduction: A retrospective, descriptive analysis was performed for all of the medical-emergency air transports carried out by the Hellenic National Emergency Medical Service (HNEMS) during 2005 (just one year later from the three fatal crashes of medical-Helicopters in the area of Greece).

Methods: All calls received by HNEMS concerning a medical-emergency air transport (medevac) and all medevac operations made by the HNEMS in 2005 were abstracted.

	Minimum	Maximum	Mean	95% CI
distance (km)	43	1,930	470	261–1,824
time of flight (min)	0	1,197	1,185	70–34,419
Total distance covered	>330,000 km (>8 time Ecuador)			

Table 1—Distance that patients fly