

Assess, Treat and Refer Initiatives and Trends in EMS:

A Review of Literature.

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Background.

Increasing public use of the EMS system for non-emergency calls which often result in transport to Emergency Departments has created a need for new initiatives to help alleviate the building pressure. In *Becoming the Best: Alberta's 5-Year Health Action Plan 2010-2015*, Alberta Health Services' strategy 1 is to "Improve Access and Reduce Wait Times." Point 1.8 states that EMS will have a role in reducing wait times in Emergency Departments by developing the ability to

- *Treat patients on-site instead of taking them to an emergency department as appropriate.*
- *Identify older, at risk, individuals who may need screening for falls, home care, and other services.ⁱ*

EMS has responded to this by committing to enhancing the role of its practitioners through Assess/Treat/Refer initiatives as well as by integrating with other health services such as Home Care and Mental Health.ⁱⁱ The problem of over-burdened EMS systems and Emergency Departments is not unique to Alberta, nor is the idea of Assess, Treat and Refer. A great many projects have been undertaken and planned within the UK's National Health Service (NHS) as outlined in their document *Taking Healthcare to the Patient: Transforming NHS Ambulance Services*. The following paper serves to review the literature on research into trends and initiatives internationally, the majority of which are focused in four areas:

- EMS Initiated Refusal of Transport (EMS-IROT) and transport by alternative means
- Assess/Treat/Refer
- Paramedic integration with other health providers
- Expanded Paramedic training and role.

All four of these trends, in addition to others, have been discussed at length by K.W. Neely et al starting in the mid-1990s. A general summary can be found in the concept paper *Managed Care and EMS: An Interrogatory Model to Assist Communities in Evaluating Innovative Partnerships*.

EMS Initiated Refusal of Transport (EMS-IROT).

Over the last 15 years, the ability of EMS crews to determine the necessity for patient transport has been studied sporadically. Currently, AHS EMS provides transport to an appropriate facility unless it is refused by the patient. Protocols that allowed EMS to initiate non-transport, or transport by alternate means, for non-emergent patients would have obvious benefit to the EMS system as ambulances would remain free to respond to the critically ill. EMS-IROT in combination with alternate destination policies could result in a benefit to emergency departments. A 2005 US study by Knapp et al. found that out of “200 EMS systems surveyed, 14 (7%) allowed some form of EMS-IROT. EMS-IROT without direct medical oversight is sanctioned in only five of these 14 systems...In all five of these systems, the agency has specific written protocols governing the appropriate use of the policy.”ⁱⁱⁱ The study authors compare this to a very similar 1996 study by Jaslow et al. which found that 34 out 200 (17%) US EMS systems had some form of EMS-IROT. Knapp et al suggest that the decline in EMS-IROT policies may be attributed to cancellation of unsuccessful programs as well as misunderstanding of the original study questioning by the EMS services.

The actual practice of EMS-IROT or “field triage” for ambulance transport has been studied by Pointer et al^{iv}, Schmidt et al^v, Silvestri et al^{vi}, and Gratton et al^{vii}. Study methods were similar, asking attending EMS crews to complete a questionnaire regarding necessity for transport or assessment by an ED after their own patient assessment. Regular treatment and transport proceeded as normal, and patients had to meet extensive inclusion/exclusion criteria as outlined in each study. Much of the inclusion criteria centred on “low acuity” patients. The impression and triage decision of the EMS crew was then compared with that of a group of physicians as well as the patient outcome. All studies found an EMS undertriage rate of between 9-11%. The Silvestri study concluded that an undertriage rate of 9% was not acceptable, while other studies concluded that acceptability would have to be determined by EMS services and their medical direction. All noted that compliance to protocol was a major factor in the undertriage rate and suggested that more rigorous education regarding “occult” conditions and specific protocols would be helpful. As well, further developments of “uniform triage criteria and outcome measures” are necessary. Knapp et al also conducted a study regarding alternative transport protocol in the event of EMS-IROT; in this case transport to an ED via taxi was provided within 1 hour. While none of the patients in the study required emergent procedures once seen in the ED, the study authors state “At present, it would be difficult to recommend the implementation of a prehospital alternative transport policy as designed in our study.”^{viii} This is due to a very small sample size and difficulties with the inclusion/exclusion criteria. Recommendations were made for further study and perhaps the use of an EMS staffed non-emergent transport vehicle.

Assess/Treat/Refer.

“Treat and Release” protocols which allow paramedics to leave a patient at home after assessment and treatment have a longstanding history in many EMS services. AHS EMS continues to use such protocols for patients with a chief complaint of hypoglycaemia and SVT. Literature regarding the safety and efficacy of these specific protocols seems to be in line with

current practice, and very little research has been done to initiate new protocols for other complaints. The last 10 years have seen a move away from traditional ideas of “treat and release” in EMS and toward “assess, treat and refer.” A greater focus is being brought on in-depth assessment of the patient’s condition and referral for follow up and community care, as well as immediate treatments provided by the EMS crew. Assess, treat and refer hopes to ensure a continuum of care for patients who do not necessarily need attention in an emergency department.

K. W. Neely, writing for the National Association of EMS Physicians Managed Care task Force, asks “Can protocols be developed and paramedics sufficiently trained to identify patients who may be safely assigned non-EMS resources?”^{ix} The group recommends the following:

The ideal guideline for referring patients to alternative resources probably would be accompanied by specific language paramedics would use to explain this alternative assignment, a specific description of the alternative resource, when to expect it (or how to access it if the resources are not being sent to the patient), specific instructions for when and how to recontact the EMS system if necessary, and appropriate self-care instructions if the patient is release to remain at home.

In the UK, the NHS Ambulance Service began assess, treat and refer initiatives, particularly surrounding senior’s health. The paper *Developing a community paramedic practitioner intermediate care support scheme for older people with minor conditions* reported research conducted by the NHS which “evaluated the use of ‘treat and refer’ protocols for minor conditions by ambulance staff” and found that this practice was “acceptable to patients with no safety concerns identified.” In the case of seniors, the paper also reports that “Older people are particularly affected by travelling to hospital after a comparatively minor event. Treatment of some minor conditions in the community has been shown to be possible and preferable to hospital attendance provided the service is medically and socially equipped for this purpose.”^x These practitioners are trained in local anaesthesia and wound care, as well as enhanced physical and social assessment; they are also able to dispense some analgesics and antibiotics, refer to primary care and social services and request radiological exam. The safety and efficacy of these practitioners was studied in the Sheffield area for patients over 60 years old. It was shown that “paramedics trained with the appropriate skills working in the community assessing and treating older people with minor acute conditions are doing so in a manner that is at least as safe as the standard of care provided by EMS and the ED.”^{xi} Another UK initiative, in the Nottinghamshire area, saw protocols developed for referrals to “intermediate care services.” These provide “short-term intensive support to promote independence” and keep the patient in their own living environment.^{xii} Health providers included nurses, therapists and geriatricians, and care was provided within 2-4 hours of referral by EMS. It was found that even if a patient was eventually found to be inappropriate for intermediate care, referrals were often made to other community services; it should also be noted that EMS crews were found to be capable of following written protocol in order to make referrals. A similar study in New York also concluded that EMS crews are capable of screening seniors for community referral, though the screening in that study was specifically related to vaccinations and falls.^{xiii} All literature noted the potential for paramedics to be utilized as community practitioners, though it should be pointed out that

some of the initiatives focused on specialty training for select practitioners rather than enhanced training for all.

Paramedic integration with other health providers.

A number of more recent projects have centred on paramedics working collaboratively with other health providers such as nurse practitioners. These pilots have become common in recent years in the UK. A pilot run in 2003/2004 saw a paramedic teamed with an emergency nurse practitioner in a mobile response unit to visit “low-priority” calls. This study was primarily for the purpose of judging the cost effectiveness of such a system; it found that overall cost to the health care system could be lowered as a result of such a response which had significantly less ED transports than the traditional ambulance.^{xiv} A similar pilot in Scotland referred to a nurse and paramedic as a “See and Treat” team with the combined ability to assess and treat a number of minor illnesses and injuries without transport to the ED, and reported generally positive patient outcomes.^{xv} A focus group questionnaire study was conducted with both the staff and patients involved in such a program. It found that both patient and staff satisfaction was high, with patients being happy to receive treatment at home and staff excited at the opportunity to combine skill sets and learn from one another.^{xvi} Though more research and study is likely needed, it is worth considering such partnerships as an adjunct to increased paramedic education and training.

Expanded paramedic training and role.

The studies cited in the three major trends described previously all call for rigorous training in order to safely and effectively expand the role of EMS practitioners. Though much of the training is specific to new protocols and procedures, there is also a shift toward higher education in attaining paramedic credentials. The UK’s NHS ambulance service has a number of levels of training such as ‘Paramedic Practitioner’ and ‘Advanced Paramedic Practitioner’. These practitioners are often able to mitigate the need for transport to ED by using skills such as advanced clinical assessment, wound care and administration of medications. The aim of the APP education is to develop an autonomous practitioner.^{xvii} These levels of training coincide with degree credentials, with the PP having a BSc Hon, and the APP achieving an MSc in Advanced Clinical Practice.

Conclusion.

Mitigating transport to ED’s by providing at home treatment and referral to community support is an important part of the AHS strategy to reduce wait times. Goals can be achieved by working towards utilizing EMS to its full potential through new protocols, multidisciplinary partnerships and intensified education programs.

Works Cited

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- ^v *Hospital Follow Up of Patients Categorized as Not Needing an Ambulance Using a Set of Emergency Medical Technician Protocols*. Schmidt et al. *Prehospital Emergency Care*, 2001; 5:366-370.
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