

Manitoulin Sudbury Social Services Administration Board

Report on Advanced Care Paramedics (ACP)

August 2009

Purpose of Report

This report is an overview of the issues related to Advanced Care Paramedics (ACP) as recommended in the Strategic Plan.

Excerpt from Strategic Plan

There was a strong argument put forward by a municipal politician that DSSAB should look at the upgrading of the EMS service to include staffing with ACPs. The ACP training allows a paramedic to perform specified care procedures designed to control pain and save lives. The ACP has all the qualifications of a Primary Care Paramedic (PCP), plus has successfully completed an additional training program of up to one year. The function of an ACP includes all the responsibilities of the PCP and is further enhanced with additional advanced life support skills. Given the size of the jurisdiction, the nature of the industries present and the length of time patients can be in transport, it was felt by this individual that a higher level of care was more important here than in cities.

Moving to the ACP level of care would be a significant change to the local EMS and one which would require full discussion. Any move to ACP level of service would require extensive planning, consultation with staff and determination of costs.

222 Recommendation: That the EMS Director provide a report on Advanced Care Paramedics to include the pros and cons of such a change.

Background

An Advanced Care Paramedic (ACP) as defined by the Ontario Ambulance Act is a Paramedic who is certified to perform controlled medical acts by the base hospital physician to the level of schedule two in Ontario Regulation 257/00. These controlled acts include the controlled act performed by a Primary Care Paramedic (PCP) and are additional Acts such as Peripheral intravenous therapy, endotracheal intubation, non-automatic external defibrillation, and an increased scope of drug therapy.

In order to train PCP's to become ACP's the candidates must attend a six to eight month community college program in which they spend approximately four months in classroom two or three days per week. Once the classroom sessions are completed the Paramedic will spend the rest of the time completing hospital clinical studies and EMS preceptorship.

Ontario Prehospital Advanced Life Support (OPALS) Study

The Ministry of Health and Long Term Care (MOHLTC) in 1998 initiated a long term research study called Ontario Prehospital Advanced Life Support (OPALS). The purpose of OPALS was to determine the impact on the survival and quality of life related to four types of patient conditions. The study looked at patients suffering from cardiac arrest, respiratory diseases, major trauma and chest pain. The OPALS study is now complete although researchers continue to mine the data to further understand the results. The analysis of the OPALS data was completed by arms length research institutes and not by the Ministry. The actual demonstrable results of receiving the ACP level of care from a survival and quality of life perspective were mixed.

Results

Attached to this report are abstracts or summaries of the results related to all four conditions. The research to date shows some benefits to ACP level of training but does not show an overwhelming case for the introduction the ACP level of service province wide.

See: Appendices

Summary

The Ministry presently provides financial support and ongoing training for the basic level of paramedic service province wide through legislation. It should be remembered that the present level of service is considerably higher than the level in place at the transfer of Land Ambulance service in 2001. Prior to 2001 it was possible to be an ambulance attendant with Grade 12 and 60 hours of training. Since January 2002, the educational standard has been dramatically raised to a two year college diploma. There was a temporary provision that allowed for the employing or a person with the old minimum training on a part-time basis during the period from January 2002 to December 31, 2005 if they were in the college level retraining.

The Ministry position is that it will consider funding its share of the advanced level of care based on requests from the Designated Delivery Agents. Presently,

there is no Ministry plan to rollout ACP service levels province wide. None of the DDAs in Northern Ontario are introducing the ACP level of service at this time.

The implications of moving to ACP coverage across the DSSAB are significant. ACP qualified staff are paid more than regular paramedics. As result, there would be a financial impact for member municipalities.

Since a very few part time paramedics of the existing staff have the ACP qualifications the Board would be faced with very large retraining costs. The costs to retrain existing staff would need to include: replacement coverage while training, costs of trainers, training materials and travel costs.

If the ACP level of training became the new criteria for hiring, there would be an increase in the difficulty in hiring new staff with those qualifications since they are scarce. Overcoming the staff shortages following the change in educational requirements has finally occurred but this move would reintroduce the issue of scarcity which would impact on collective bargaining.

Recommendation: The EMS Director monitor and advise the EMS Planning Committee of any province wide movement to introduce the ACP level of service.

ORIGINAL ARTICLE

Advanced Cardiac Life Support in Out-of-Hospital Cardiac Arrest

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ABSTRACT

BACKGROUND

The Ontario Prehospital Advanced Life Support (OPALS) Study tested the incremental effect on the rate of survival after out-of-hospital cardiac arrest of adding a program of advanced life support to a program of rapid defibrillation.

METHODS

This multicenter, controlled clinical trial was conducted in 17 cities before and after advanced-life-support programs were instituted and enrolled 5638 patients who had had cardiac arrest outside the hospital. Of those patients, 1391 were enrolled during the rapid-defibrillation phase and 4247 during the subsequent advanced-life-support phase. Paramedics were trained in standard advanced life support, which includes endotracheal intubation and the administration of intravenous drugs.

RESULTS

From the rapid-defibrillation phase to the advanced-life-support phase, the rate of admission to a hospital increased significantly (10.9 percent vs. 14.6 percent, $P < 0.001$), but the rate of survival to hospital discharge did not (5.0 percent vs. 5.1 percent, $P = 0.83$). The multivariate odds ratio for survival after advanced life support was 1.1 (95 percent confidence interval, 0.8 to 1.5); after an arrest witnessed by a bystander, 4.4 (95 percent confidence interval, 3.1 to 6.4); after cardiopulmonary resuscitation administered by a bystander, 3.7 (95 percent confidence interval, 2.5 to 5.4); and after rapid defibrillation, 3.4 (95 percent confidence interval, 1.4 to 8.4). There was no improvement in the rate of survival with the use of advanced life support in any subgroup.

CONCLUSIONS

The addition of advanced-life-support interventions did not improve the rate of survival after out-of-hospital cardiac arrest in a previously optimized emergency-medical-services system of rapid defibrillation. In order to save lives, health care planners should make cardiopulmonary resuscitation by citizens and rapid-defibrillation responses a priority for the resources of emergency-medical-services systems.

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ORIGINAL ARTICLE

Advanced Life Support for Out-of-Hospital Respiratory Distress

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ABSTRACT

BACKGROUND

Respiratory distress is a common symptom of patients transported to hospitals by emergency medical services (EMS) personnel. The benefit of advanced life support for such patients has not been established.

METHODS

The Ontario Prehospital Advanced Life Support (OPALS) Study was a controlled clinical trial that was conducted in 15 cities before and after the implementation of a program to provide advanced life support for patients with out-of-hospital respiratory distress. Paramedics were trained in standard advanced life support, including endotracheal intubation and the administration of intravenous drugs.

RESULTS

The clinical characteristics of the 8138 patients in the two phases of the study were similar. During the first phase, no patients were treated by paramedics trained in advanced life support; during the second phase, 56.6% of patients received this treatment. Endotracheal intubation was performed in 1.4% of the patients, and intravenous drugs were administered to 15.0% during the second phase. This phase of the study was also marked by a substantial increase in the use of nebulized salbutamol and sublingual nitroglycerin for the relief of symptoms. The rate of death among all patients decreased significantly, from 14.3% to 12.4% (absolute difference, 1.9%; 95% confidence interval [CI], 0.4 to 3.4; $P=0.01$) from the basic-life-support phase to the advanced-life-support phase (adjusted odds ratio, 1.3; 95% CI, 1.1 to 1.5).

CONCLUSIONS

The addition of a specific regimen of out-of-hospital advanced-life-support interventions to an existing EMS system that provides basic life support was associated with a decrease in the rate of death of 1.9 percentage points among patients with respiratory distress.

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The OPALS Major Trauma Study: impact of advanced life-support on survival and morbidity

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ABSTRACT

Background: To date, the benefit of prehospital advanced life-support programs on trauma-related mortality and morbidity has not been established.

Methods: The Ontario Prehospital Advanced Life Support (OPALS) Major Trauma Study was a before–after systemwide controlled clinical trial conducted in 17 cities. We enrolled adult patients who had experienced major trauma in a basic life-support phase and a subsequent advanced life-support phase (during which paramedics were able to perform endotracheal intubation and administer fluids and drugs intravenously). The primary outcome was survival to hospital discharge.

Results: Among the 2867 patients enrolled in the basic life-support ($n = 1373$) and advanced life-support ($n = 1494$) phases, characteristics were similar, including mean age (44.8 v. 47.5 years), frequency of blunt injury (92.0% v. 91.4%), median injury severity score (24 v. 22) and percentage of patients with Glasgow Coma Scale score less than 9 (27.2% v. 22.1%). Survival did not differ overall (81.1% among patients in the advanced life-support phase v. 81.8% among those in the basic life-support phase; $p = 0.65$). Among patients with Glasgow Coma Scale score less than 9, survival was lower among those in the advanced life-support phase (50.9% v. 60.0%; $p = 0.02$). The adjusted odds of death for the advanced life-support v. basic life-support phases were nonsignificant (1.2, 95% confidence interval 0.9–1.7; $p = 0.16$).

Interpretation: The OPALS Major Trauma Study showed that systemwide implementation of full advanced life-support programs did not decrease mortality or morbidity for major trauma patients. We also found that during the advanced life-support phase, mortality was greater among patients with Glasgow Coma Scale scores less than 9. We believe that emergency medical services should carefully re-evaluate the indications for and application of prehospital advanced life-support measures for patients who have experienced major trauma.

Une version française de ce résumé est disponible à l'adresse [www.cmaj.ca/cgi/content/full/178\(9\)/1141/DC1](http://www.cmaj.ca/cgi/content/full/178(9)/1141/DC1)

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