

The Roles and Responsibilities of Physicians in Pre-Hospital Emergency Medical Services

A Caribbean Perspective

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ABSTRACT

A Pre-hospital Emergency Medical Service (PHEMS) is a vital component of a country's health service because it provides early medical care to critically ill and injured persons in the field. There is evidence to show that early care reduces mortality and morbidity and offers the patient the best chance of survival and improved quality of life. Caribbean territories have been developing their PHEMS as part of a programme of health sector reform. In a study of PHEMS in 12 Caribbean countries, the Pan American Health Organization reported that there were no clear guidelines with respect to the roles and responsibilities of the physician in PHEMS in the majority of countries. In fact, a few countries had services where there was no direct physician involvement. We present a brief review of the internationally recognized roles and responsibilities of physicians in PHEMS, and make recommendations with particular reference to the Caribbean. We suggest that there is a need for direct and active involvement of physicians in the development of PHEMS because the Emergency Medical Technician is recognized as an extension of the physician in the field and is supposed to be protected by the physician's licence to deliver medical care.

Funciones y Responsabilidades de los Médicos en los Servicios Médicos de Emergencia pre-hospitalaria

Una Perspectiva Caribeña

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RESUMEN

El servicio médico de emergencia pre-hospitalaria (SMEPH) es un componente vital del servicio de salud de un país, porque provee atención médica temprana y sobre el terreno a personas accidentadas o enfermas en estado crítico. Las evidencias indican que la atención temprana reduce la mortalidad y la morbilidad, a la vez que ofrece al paciente la mejor oportunidad posible de sobrevivir y mejorar la calidad de vida. Los territorios caribeños han estado desarrollando su SMEPH como parte de un programa de reforma del sector de la salud. En un estudio del SMEPH en 12 países caribeños, la Organización Panamericana de la Salud informó que no había directrices claras con respecto a las funciones y responsabilidades del médico en el SMEPH en la mayoría de países. De hecho, unos países tenían servicios en los que no había participación directa del médico. Presentamos aquí una revisión breve de las funciones y responsabilidades reconocidas internacionalmente para los médicos en el SMEPH, y hacemos recomendaciones con referencia particular al Caribe. Sugerimos que hay necesidad de que los médicos participen de manera activa y directa en el desarrollo del SMEPH, porque el técnico médico de emergencia es reconocido como una extensión del médico sobre el terreno, y se supone que esté amparado por una licencia para impartir atención médica.

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INTRODUCTION

Caribbean countries need to address the provision of a Pre-hospital Emergency Medical Service (PHEMS) for their citizens. The majority of countries in the Caribbean embarked on a programme of health sector reform in the early 1990s. Included in this initiative is the development of a Pre-hospital Emergency Medical Service (1).

Pre-hospital Emergency Medical Services refers to a service that responds to specific health needs of persons outside of a hospital setting. These needs include, but are not confined to, attention to acute life-threatening events, transportation of ill or injured persons to special facilities for investigation and treatment, inter-facility movement of the ill and injured, and standby assignments at events that pose health risks to participants or spectators (2).

Over the past 30 years, there has been significant growth and development of PHEMS in the United States of America (USA), Europe and Canada. These countries have been instrumental in influencing trends in the Caribbean. The United States Department of Transportation (DOT), in its publication *EMS Agenda for the Future*, articulated fourteen attributes for an efficient and effective PHEMS. These attributes reflect changing epidemiological profiles, advancing technology, and varying demands from clients; while, at the same time, improving health outcomes (3).

In a recent review of PHEMS in twelve Caribbean countries, the Pan American Health Organization (PAHO) reported that in the majority of the countries studied there was no legal requirement for a Medical Director/Medical Control, and that the role and responsibilities of the physician were ill-defined with respect to PHEMS (4).

This paper reviews briefly the internationally recognized roles and responsibilities of the physician in PHEMS and makes recommendations for the Caribbean, bearing in mind the geographical terrain, limited resources and legislation.

DISCUSSION

The Emergency Medical Technician (EMT) is recognized as the extension of the physician in the field. In many services, the EMT is covered by the physician's licence to practice. Therefore, it is in the best interest of the physician concerned to ensure that acceptable standards of care are delivered by the EMTs.

There are two general functions of the PHEMS physician: to direct operations of the service and the performance of the EMTs and to be available immediately by telephone or radio communication in times of need. These areas may be expanded into seven key functions: 1) quality assurance/continuous quality improvement, 2) protocol development, 3) EMS scope of practice, 4) educational content, 5) research, 6) standards of care, 7) and response planning (5).

Quality Assurance/Quality Improvement

This refers to a comprehensive, coordinated, and effective programme for the ongoing monitoring, evaluation, and improvement of pre-hospital patient care. An effective quality assurance programme is based on the success of the following components using clinical indicators as variables (6):

- § Structure – standards of care, scope of practice, policies and procedures.
- § Process – monitoring of care delivered, including indicators that objectively evaluate the process.
- § Outcome – measurement and evaluation (through additional indicators) of the efficacy of care delivered.
- § Feedback – alterations in structure and process based on analysis of outcome and evaluation (commonly called “closing the loop”).

The goal of the quality assurance programme is to assure safe and effective delivery of pre-hospital care according to recognized and accepted standards. To achieve this, the medical director has to take the lead in the development, implementation and evaluation of clinical indicators that measure the delivery of pre-hospital healthcare services. Such a director must promote individual professional accountability by providing an environment that facilitates participation in quality assurance activities, and develop effective verbal/written information systems to communicate quality assurance activity outcomes to appropriate individuals and committees.

Medical Protocols

A medical protocol may be defined as a plan for a course of medical treatment and should be guided by the current accepted standard of medical practice. It represents a standing order in the absence of direct communication with the Emergency Medical Services (EMS) Physician and is referred to as “off-line medical control”. Protocols allow EMTs to function without direct “on-line” contact with the physician. The protocols guide practice and, if followed correctly, serve to improve patient outcome and protect the EMTs if there is litigation. The physician is responsible for developing and approving protocols that delineate the currently recognised steps in patient management. This is a dynamic process which requires constant assessment and re-evaluation of the protocols to ensure that they reflect advances in EMT training and practice, medical knowledge, science, and technology and is tailored to the Caribbean environment. In Jamaica in 2002, 80% of EMTs had access to protocols, with 20% operating without. At the time, most EMTs felt that protocols would be useful (7).

EMS Scope of Practice

The scope of practice of EMTs is governed by the legislation of their respective countries and close medical control. In the English-speaking Caribbean, most services provide basic life

support, with the Cayman Islands and the Bahamas providing advanced life support in the field. As training continues, with the advent of Paramedic training in Barbados and Intermediate training in Jamaica, legislation needs to be enacted to respond to the widened scope of work so that the EMTs are allowed to appropriately respond to the needs of the population and perform at their full potential.

The Bahamas is the only country in the group studied that has legislation which governs the EMS. Three countries, Jamaica, Barbados and Trinidad and Tobago, are working on the legislation while the others either have none or are in the very preliminary stages of discussion (4).

It is important that legislation is passed and enforced soon, so as to ensure protection of patients from non-monitored EMTs and physicians, and to protect legitimate EMTs and physicians from inappropriate litigation. The role of the PHEMS physician is to work closely with the legislators to formulate the law, and be tireless advocates for its formalization in order to enforce high standards of care.

Educational Content

It is important for all EMTs to be educated to standards that are internationally recognizable. This is to ensure that we provide excellent care to our own people. There is free movement of persons throughout the region, and a large number of foreign visitors to the islands. These visitors expect a recognized level of good care wherever they go. Internationally recognized standards for training have been established by the following organizations: the US Department of Transportation, the US National Registry of Emergency Medical Technicians, the American Heart Association, and the US National Association of Emergency Medical Educators. In the PAHO report, it was found that most of the countries used the USA standards which are similar to those of Canada and the United Kingdom (4).

Medical personnel must be involved in education programme planning, presentation, and evaluation, including evaluation of faculty and participants (3). The PHEMS physician should also be subjected to evaluation processes that ensure that he/she is up to the required standards.

In Jamaica, the University of the West Indies (UWI), through the Department of Community Health and Psychiatry, has been training EMTs to the basic level since 1995 (7, 8). This linkage with an academic institution is desirable, as it facilitates development of EMS as a professional discipline. It also results in an increase in the availability of educational opportunities and augments management skills among EMS professionals.

In 2000, it was noted that the majority of EMTs in Jamaica reported that exposure to continuing medical education (CME) was irregular, and 27% of the EMTs interviewed reported no CME at all (7). Barbados has a formal programme in existence for training EMTs under the direction of Emergency Department physicians and, as of 2004, an EMT

paramedic programme was started (Pitts G, personal communication).

Research

In the Caribbean, there is a scarcity of published research on PHEMS. There is a wealth of information available that needs to be marshalled and disseminated. Physicians should develop expertise in writing research papers and working with EMTs. This would serve to drive and direct policy and tailor operations and training suited to the specific needs of the Caribbean population.

Five major impediments to the development of quality PHEMS research have been described by the US DOT. They are: inadequate funding; lack of integrated information systems that provide for meaningful linkage with patient outcomes; paucity of academic research institutions with long-term commitments to PHEMS systems research; overly restrictive informed consent interpretations; and lack of education and appreciation by PHEMS personnel regarding the importance of PHEMS research (3).

In the Caribbean, it has been recognized that the UWI is under-performing in the area of research and publication, and an initiative has begun to encourage each department, centre, institute and faculty to identify the unmet service, research and training needs in its area of work (9). As part of this process, the physician must be pivotal in driving research in the area of PHEMS.

Standards of Care

The PHEMS physician is responsible for ensuring that the level of care provided meets internationally accepted standards. The physician's role is to monitor and evaluate the service offered. This is done by frequently visiting the service (announced and unannounced), riding along with the team on the ambulance from time to time, reviewing the "run-sheets" and checking the timeliness of activities, and by interviews with clients and EMTs.

It is the PHEMS physician's responsibility to hold regular and frequent discussions and de-briefings with EMTs. This includes critical incident stress debriefing which promotes the well-being of the EMTs.

The American College of Emergency Physicians, in an article "Medical Direction for Interfacility Patient Transfers" 1997, stress the importance for both on-line and off-line medical direction, and states that the relevant physician must have authority commensurate with responsibility in medical matters concerning the patient, EMTs, and overall quality of the care provided.

Online control may be directly – *via* radio or telephone, or indirectly – by means of protocols or standing orders.

PHEMS physicians may monitor all transmissions between the EMTs, their base station and the hospital to which they are transporting their patient. The EMTs may contact the doctor when they feel the need for advice or

reassurance regarding the care they are providing. In the majority of cases on-line medical direction does not result in orders for care beyond what has been directed *via* protocol, but such communication is nevertheless felt to be helpful by EMS personnel (3).

In Jamaica, only 80 per cent of the EMTs stated that they had access to protocols, and only 45 per cent of the EMTs reported that they had medical control (7). Only six of 12 Caribbean countries have designated persons responsible for medical direction; while six have assistance as needed, but no designated person. Services operated by the Fire Department communicate with doctors as needed. However, they have no formally appointed physicians directing PHEMS (4). There is a need for greater input by medical staff.

Response Planning

This involves preparing for circumstances which may be: foreseen and unforeseen; man-made or natural, or at an individual or mass casualty level. To be effective at national and regional levels there must be coordination between the EMS services (both public and private), government agencies (police, military, fire, and airport), Ministry of Health, Disaster Management Agencies, and non-governmental organizations (Salvation Army, Red Cross, *etc*). The PHEMS physician should be part of the strategic planning team, and be thoroughly familiar with the entire plan. He or she has the responsibility for the performance, and well-

being of the EMTs and should ensure that communication systems are in place and operational. In the case of major events, the PHEMS physician should be immediately available on-line.

Physicians play a vital role in the development and maintenance of Pre-hospital Emergency Medical Services. The Caribbean is in the early stages of PHEMS development and does not have significant physician input. Caribbean physicians must play a direct and active role so as to ensure first-class care for the region.

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