



International EMS Systems: the Nordic countries

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Abstract

Emergency medicine service (EMS) systems in the five Nordic countries have more similarities than differences. One similarity is the involvement of anaesthesiologists as pre-hospital physicians and their strong participation for all critically ill and injured patients in-hospital. Discrepancies do exist, however, especially within the ground and air ambulance service, and the EMS systems face several challenges. Main problems and challenges emphasized by the authors are: (1) Denmark: the dispatch centres are presently not under medical control and are without a national criteria based system. Access to on-line medical advice of a physician is not available; (2) Finland: the autonomy of the individual municipalities and their responsibility to cover for primary and specialised health care, as well as the EMS, and the lack of supporting or demanding legislation regarding the EMS; (3) Iceland is the only country that has emergency medicine (EM) as a recognised speciality but there is a need for more fully trained specialists in EM; (4) Norway: the ordinary ground ambulance is pointed out as the weakest link in the EM chain and a health reform demands extensive co-operation between the new health enterprises to re-establish a nation-wide air ambulance service; (5) Sweden: to create evidence based medicine standards for treatment in emergency medicine, a better integration of all part of the chain of survival, a formalised education in EM and a nation wide physician staffed helicopter EMS (HEMS) cover.

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Keywords: Emergency medical services; Emergency treatment; Advanced life support (ALS); Ambulance; Trauma; Triage

Resumo

Os Serviços de Emergência Médica (EMS) nos cinco países Nórdicos têm mais semelhanças que diferenças. Uma das semelhanças é o envolvimento de Anestesiologistas como médicos pré-hospitalares e a sua forte participação em todas as situações de doentes críticos e traumatizados no hospital. No entanto, existem discrepâncias, principalmente com os serviços de ambulâncias terrestres e aéreas e, os sistemas de EMS enfrentam vários desafios. Os principais problemas e desafios enfatizados pelos autores são: (1) Dinamarca: os centros de coordenação actualmente não estão sob controlo médico não têm um sistema de critérios nacional. O acesso a conselho médico on-line não está disponível; (2) Finlândia: a autonomia individual dos municípios e a sua responsabilidade para cobrir os cuidados de saúde primários e especializados, bem como o EMS e a sua falta de apoio ou exigência de legislação em relação ao EMS; (3) A Islândia é o único país que tem a Medicina de Emergência (EM) como especialidade reconhecida, mas existe a necessidade de mais especialistas treinados em EM; (4) Noruega: o serviço normal de ambulâncias terrestres é apontado como o elo mais fraco na cadeia da EM e uma reforma da saúde exige uma cooperação extensa entre as novas empresas da área da saúde para restabelecer um serviço nacional de ambulâncias aéreas; (5) Suécia: para criar padrões médicos baseados na evidência para tratamento em medicina de emergência, é necessária melhor integração de todas as partes da cadeia de sobrevivência, uma formação formal em EM e uma cobertura nacional de serviço de helicópteros com pessoal médico.

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Palavras chave: Serviços médicos de emergência; Tratamento de emergência; Suporte de vida avançado (ALS); Ambulância; Trauma; Triage

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Resumen

Los Servicios de emergencias médicas (EMS) en 5 países nórdicos tienen mas semejanzas que diferencias. Una semejanza es que involucran médicos anestesiólogos como médicos prehospitalarios y su fuerte participación para todos los pacientes críticamente enfermos o lesionados en el intrahospitalario. Sin embargo existen discrepancias, especialmente en el servicio de ambulancias de terreno y aire, y los sistemas de EMS enfrentan varios desafíos. Los principales problemas y desafíos enfatizados por el autor son: (1) Dinamarca: los centros de despacho en este momento no están bajo control médico y no tienen un sistema basado en un criterio nacional. El acceso a consejo médico en línea no está disponible; (2) Finlandia: Autonomía de las municipalidades individuales y su responsabilidad para dar cobertura de cuidados médicos primarios y especializados, al igual que los EMS, y la falta de legislación de apoyo o demanda con respecto a los EMS; (3) Islandia es el único país que tiene medicina de emergencia(EM) como una especialidad reconocida pero existe una necesidad de especialistas mas completamente entrenados en EM; (4) Noruega: la ambulancia terrestre está enfocada como el eslabón mas débil en la cadena de EM y la reforma de salud demanda una cooperación extensa entre las nuevas empresas de salud para reestablecer un servicio de ambulancias aéreas a lo largo de la nación; (5) Suecia: crear estándares médicos basados en evidencia para tratamiento en medicina de emergencia, una mejor integración de todas las partes de la cadena de sobrevida, una educación formalizada en EM y cobertura nacional de EMS con helicópteros con médico a bordo. © 2004 Elsevier Ireland Ltd. All rights reserved.

Palabras clave: Servicios de emergencias médicas; Tratamiento de emergencia; Soporte vital avanzado (SVA); Ambulancia; Trauma; Triage

1. Introduction

The Nordic countries encompass Scandinavia (Denmark, Norway, Sweden) together with Iceland and Finland. This region shares some common geographical, climatic and historical phenomena making it natural to give a united account of the Emergency Medical Service (EMS) system. The EMS system in this region has gone through major changes during the last few years and has common features, but also obvious diversities. The EMS system for some Nordic cities and counties has been described previously [1–5] but a mutual national description has not been given before. We give a collective update of the EMS system in the five Nordic countries.

2. Background

2.1. Denmark

This description of Denmark does not include the Faroe Islands and Greenland, which, though part of the Kingdom of Denmark, are self-governing overseas administrative units.

Denmark has 5.4 million inhabitants (2003) (Table 1). 18.7% of the population are from 0 to 14 years old, and 15% of 65 years or more. Birth rate is 11.74 per 1000 population. Life expectancy is 79.7 years for females and 74.3 years for males. Population growth rate is 0.29% [6].

Denmark is a small (43,093 km²) and flat country, which consists of one part contiguous with the continent of Europe and two main islands. The capital Copenhagen is located on the biggest island, which is connected to the rest of the country and to Sweden by bridges. The average temperature is 20 °C during summer and minus 2.9 °C during winter.

The total population density is 123 per km². Denmark is divided into 14 administrative counties and two boroughs. However, 1.2 million people live in the capital and its suburbs. A special administrative authority, the Copenhagen Hospital Corporation, covers the municipalities of Copenhagen and Frederiksberg.

The health care services are divided into two sectors: primary health care and the hospital sector. The general practitioners (GPs) provide essential primary care and act as gatekeepers referring patients as appropriate for hospital or specialist treatment. In case of immediate need of hospital treatment a referral from a GP is not required. In Denmark the vast majority of health services are free of charge for the users. Public funds contributed 82% of the total expenditure on health care in 1999. The total public and private health care expenditure was 8.4% of the gross national product in 1999.

The Danish health care sector has three political and administrative levels: the State, the counties and the municipalities, (i.e., national, regional and local levels).

Table 1
Demographic data, level of physicians involved in the EMS system and number of hospitals with emergency departments

	Denmark	Finland	Iceland	Norway	Sweden
Inhabitants (mill)	5.4	5.3	0.288	4.5	8.9
Land area (km ²)	43,093	337,000	103,000	385,155	486,661
Main category of physicians in EMS	Anaesthesiologist	Anaesthesiologist	Emergency medicine	Anaesthesiologist	Anaesthesiologist
National standard or curriculum for EMS physicians	No	No ^a	Yes	No	No
Emergency medicine as recognised speciality	No	No	Yes	No	No
Hospitals with emergency department, <i>N</i>	55	25	2	45	67

^a Special competence program available.

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