ORIGINAL ARTICLE

Development of the specialty of emergency medicine in Israel: comparison with the UK and US models

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Emerg Med J 2004;21:533–536. doi: 10.1136/emj.2003.004895

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Accepted for publication
28 February 2003

Objectives: To describe the development of emergency medicine (EM) in Israel and review the specific problems faced by the discipline and describe the solutions that were found.

Methods: A comprehensive literature search was conducted for data on development of EM in the UK and in North America, and the personal knowledge of two of the authors (PH and YW) was used in preparing the article.

Results: There are differences in development of EM between Israel and the UK/US models. In Israel the specialty developed within the context of established high quality clinical practice and consequently it met resistance from the system, which did not wish to invest in what it felt might be marginal improvements in patient care. The economics of Israeli medicine also dictated that EM be made into a super-specialty rather than a primary specialty. Certified specialists from family medicine, paediatrics, internal medicine, general surgery, anaesthesia, and orthopaedic surgery can access training positions in EM. Currently there are seven active EM programmes of 2.5 years duration and 16 residents. The curriculum is flexible and a national certification examination is being developed.

Conclusions: Development of EM can and should take different paths according to the specific local needs and realities. There is no single ideal model suitable for all circumstances. The practice of clinical EM in Israel is comparable with that of any developed country and daily progress is being made in the academic areas of teaching and research. There are worldwide similarities in the process of developing EM as a distinct discipline.

Emergency medicine (EM) was officially recognised and accepted as a distinct discipline in the 1970s. The USA, Canada, Australia, and the UK pioneered the efforts to distinguish it among other branches of medicine, and EM has now evolved into an independent specialty. As of 2000, at least 18 countries have recognised this area of expertise and established training programmes, 13 countries have formal board certification, four have fellowships earmarked for EM, 28 have national organisations, and 27 are actively conducting research in the field.¹ In Israel, official recognition of EM took place in 1999, and the academic aspects of the field have been slowly developing ever since.

This review compares the development and recognition of EM in a leading European and North American model with EM in Israel. The article will delineate the rationale for the special choices that went into creating the Israeli model compared with the options used in the other two long established prototypes.

DEVELOPMENT AND CURRENT STATUS OF EM The UK

In the UK, the Casualty Surgeons Association (CSA) later renamed the British Association for Accident and Emergency Medicine (BAEM) was created in 1967. In 1972 the Department of Health appointed the first 30 consultants for the specialty and organised the training and accreditation infrastructure.² The national specialist accrediting body in the UK is currently the Specialist Training Authority (STA) but during the next year will be the Postgraduate Medical Education and Training Board (PMETB) (table 1). The first specialty examination was established in 1983. A professorial chair in accident and emergency (A&E) was created in 1990, and today there are four in the country; these represent the highest faculty academic level in the UK system.

The course of postgraduate training for A&E in the UK starts with a one year introductory training programme as house officers, followed by two years of general professional training as a senior house officer. A certification of higher qualification must be obtained in one of the following disciplines: surgery, internal medicine, anaesthesia, or A&E to have access to the specialist registrar training spots in A&E. Competition for these positions is robust. After a minimum five year training period, the specialist registrar can sit the examinations in A&E. The Fellowship of the Faculty of Accident and Emergency (FFAEM) examination is administered on behalf of the Faculty of A&E Medicine by the Intercollegiate Specialty Board (ISB). The examination is only a part of the assessment required before a doctor can be recommended to the STA as having completed specialist training and be recognised as a consultant in the UK.

Training in EM takes place in designated hospitals and junior level learners move around from one geographical area to another. Specialist registrar work in at least two hospitals and participate in the clinical duties of A&E. Formal teaching for junior learners takes place weekly at scheduled times. Weekend training courses for senior house officers exist, and there are many other educational opportunities, such as life support courses and examination preparation.

Subspecialty areas of interest had been developed in critical care, paediatrics, sports medicine, and internal medicine departments. Formal fellowships exist only in the domain of research.^{2,3}

Continuing medical education (CME) and faculty development courses that are A&E specific are not at the same level presently as those in the US in terms of numbers and

Abbreviations: ED, emergency department; EM, emergency medicine; TC, trauma centre; CME, continuing medical education; EP, emergency physician

Table 1 UK, US and Israeli residency training programmes in emergency medicine: current status

	UK	US	Israel
National specialist accrediting body	STA/PMTEB	ABEM	IAEM
Certification	Specialty	Specialty	Super-specialty
Examination	National	National	In development
Training programmes*	30	124	7
Annual graduates	319	1136	16†
Fellowships (types)	1	21	0
Curriculum/objectives	Mixed	Standardised	Flexible
Administrative authority	Programme director	Programme director	Programme director

*Active programmes.

content. Active efforts are currently being undertaken to further develop this area. The *Emergency Medicine Journal* provides a uniquely British opportunity for academic publications relevant to the practice of EM (<http://www.emjonline.com>).

The US

In the US, The first formal EM residency training programmes started at the University of Cincinnati and the Medical College of Pennsylvania in the early 1970s, and soon evolved into formal three year duration programmes.⁴ "The Guidelines for Residency Training in Emergency Medicine" developed by the Royal College of Physicians and Surgeons of Canada in 1973, served as a resource for early US programme development.⁵ The American Board of Emergency Medicine (ABEM) was established with a mandate to develop criteria for eligibility and certification in EM. In 1987, when there were 67 residency programmes ABEM specified that the minimum length of approved training programmes would be three years, and that an alternative programme length of four years was also approved.^{6,7} By 1991, fellowships in medical toxicology and paediatric EM evolved and currently there are 21 along with subspecialties in paediatric EM, medical toxicology, and sports medicine^{8,9} (<http://www.abem.org>) (table 1). Various master level programmes are also available in areas of clinical epidemiology, education, public health, and others.

The EM core content education has been standardised and was well described.¹⁰ Clinical rotations for residents are complemented by a variety of other teaching activities, for example, rounds, academic half days, journal clubs, etc. The teaching staff is comprised of board certified emergency physicians (EP). Board certification in EM can be obtained for allopathic and osteopathic physicians through ABEM, and for osteopathic physicians through the American Board of Osteopathic Emergency Medicine (ABOEM). The American Board of Medical Specialties recognises these two EM boards as the only approved organisations for EM specialist certification.¹¹

Over the years, many CME and faculty development courses have been developed for practising EPs as well as faculty members. Research and academic activities are published in 17 different adult or paediatric EM publications in the US alone.¹²

Israel

In Israel, all 27 general hospitals are mandated to provide EM care.¹³ The population of Israel is 6.5 million, and there are 2.3 million annual emergency department (ED) visits. In the early 1990s, EDs were small in size, under-equipped, chronically understaffed, and comprehensive, 24 hour seven days a week EM care did not exist. EDs were staffed with physicians with diverse training backgrounds, who could not find employment elsewhere. On-call residents from medical and surgical departments, often without direct supervision,

were responsible for all patient care related decision making after hours and on weekends. The ED was compartmentalised, and specialties such as internal medicine, paediatrics, obstetrics and gynaecology, general and orthopaedic surgery, were providing primary patient care in their specific domain.

The Gulf war in 1991 exposed many inadequacies of EDs in terms of accommodating massive numbers of casualties and this triggered major changes in the ensuing years. After 1993, a national trauma system was created; six institutions were designated as level 1 trauma centres (TCs) and 12 others as level 2 TCs. The trauma units in these EDs are staffed continuously by qualified trauma surgeons. After 1994, EDs were redesigned, modernised, and most of their directors were replaced with career EPs who had Israeli board certification in internal medicine, anaesthesiology and intensive care, paediatrics, or surgery.

The Israeli Association for Emergency Medicine (IAEM) was created in 1992. In 1994 IAEM formed a committee with the Israeli Medical Association (IMA) the national organisation responsible for the recognition of specialties in Israel and with the Scientific Committee (SC) of the IMA with the mandate to look at the various specialty options. In 1999, EM was recognised as a "super-specialty". To become an EM specialist in Israel, a board certified physician in internal medicine, general surgery, anaesthesiology, paediatrics, orthopaedic surgery, or family medicine must undergo another 2.5 years of training in EM. Thus, the EM resident is a specialist being "retrained" in the horizontal discipline of EM.

Between 1999 and 2002, 63 EPs from the six accredited primary specialties were granted specialist status through a "grandfather clause". A national examination process for certification in EM for residents has been developed and implemented. The IAEM has developed formal residency programme accreditation guidelines that comply with SC requirements. A committee of peers approved each prospective hospital based EM programme. Full official approval required that, over the 2.5 years training period, all training objectives be met in that institution. Partial approval was granted to those institutions that had to send residents to other centres for training in major trauma or other domains. To date, nine EDs have been fully and seven partially approved. Currently, seven of the EDs have residency programmes with one to four residents in each (table 1). Fellowships or areas of subspecialties in EM do not exist in Israel.

The objectives and content of the curriculum focus upon exposure to areas of EM training not covered during their primary specialty training. Active participation in departmental and extra-departmental educational activities is mandatory. The residents are encouraged to participate in other academic and educational endeavours of the IAEM, including the internationally attended annual meeting.

Programme directors are board certified in EM, and instruction is currently provided by full time EPs with or

without EM certification. On off-service rotations, the residents are trained by specialists in those domains. Residents in EM will gradually take over from the attending physicians the clinical education in the ED of medical students and residents from other disciplines.

CME in EM has been provided annually to 35–40 physicians by the Sackler Faculty of Medicine at the Tel Aviv University. Faculty development was funded by the Dreznick-Gottlieb families and four EPs were sent annually to US academic EDs for four to six week mini-fellowships.

The *Israeli Journal of Trauma, Intensive Care and Emergency Medicine*, created in 2001, is the official journal of the IAEM and it offers a forum for the dissemination of academic, clinical, and research initiatives for Israeli EPs thus providing a higher academic profile for the discipline.

DISCUSSION

In the process of developing EM, Israeli EPs had to deal with similar and dissimilar problems from those encountered by colleagues from other parts of the world. The security needs of the state of Israel dictate the priorities of funding allocations. Money for health care and education in Israel is provided exclusively by the national government. This is similar to the UK, whereas funding for patient care and education fall under a mix of private and governmental jurisdiction as in the US.

There are fundamental differences between the Israeli approach to EM training and that of the UK and US specialists (table 1). The SC has recognised EM as a super-specialty because it doubts that EM is able to produce through a straight post MD programme a clinically experienced and mature physician for the specific needs of Israel. Financial considerations also played a factor. Hospital based EPs have fixed hospital salaries and an exclusively ED based physician is non-competitive with incomes generated by specialists in private practice. To attract high calibre people EPs need to achieve economic parity by supplementing their income through private practice in their primary discipline. The list of primary specialties that can access EM training is specific to Israel and was developed as a compromise between IAEM and the representatives of the 54 existing specialties.

In the UK preliminary training in traditional disciplines is also required before accessing the EM specific track, but EM is still a primary specialty. The US model requires that specific training starts immediately after MD and EM is considered a primary specialty.

The objectives of EM residencies in Israel are less detailed or subject to formal national guidelines and the curriculum is flexible because the trainees are already specialists and they need to acquire knowledge and skills in other specific domains. The UK model has strict guidelines for the general training however it offers some flexibility in education for the A&E registrar portion. This flexibility, much like in the Israeli model, is there because of the variety of training backgrounds of the registrars. The US on the other hand has formal national objectives, guidelines for training, and the curriculum is somewhat standardised.

The philosophy of national certification in the three countries is similar: each requires that prospective specialist candidates meet minimum standards.

Lastly, the emergence of national EM journals also shows agreement between the three models on the requirement to advance the academic discipline. The difficulties encountered by Israeli EM in establishing its academic credibility is probably more acute because of the lack of time to develop a critical number of knowledgeable clinicians, respected educators, and researchers and the journal should help. In

Israel for example there are only a few people with junior and mid-level academic appointments. Protected academic time and funding is unavailable. While the situation in the UK is not well recorded, the presence of four professorial chairs and the ever increasing EM specific publications by British authors would suggest that A&E in the UK is progressing well. The situation in the US is enviable: 36% of the EM faculty is on an academic tenured track, and academic workloads and protected time are better defined.^{14–17} Academic productivity of EPs is high as judged by the quality and volume of publications.

CONCLUSION

National differences in culture, economy, medical economics, medical tradition, and geo-political reality may necessitate the implementation of different solutions to the same problems and EM development in each jurisdiction across the globe will reflect this reality. Those contemplating developing EM as a distinct discipline should note that in terms of evolution there are at least two important similarities found not only in the three models described but also in other world leaders. Firstly, a national association was created in each setting with the goals to spearhead the development of EM and to play a leading part in promoting the discipline. Secondly, the political victory in the quest for recognition of EM as a distinct discipline was won in all instances in the arena dealing with advocacy on behalf of quality patient care. Once this battle was over, the other steps, such as the formalisation of the accreditation process, the development of training programmes, and the creation of a national certification examination need to follow expeditiously and efficiently, to preserve the momentum.

ACKNOWLEDGEMENTS

Ms Esther Eshkol for editorial assistance. For support in kind: Department of Emergency Medicine, Tel Aviv Medical Center, Tel Aviv and the Sackler Faculty of Medicine Tel Aviv University, Tel Aviv, Israel; Unit of Emergency Medicine, Schneider's Children Hospital, Petach Tikva, Sackler Faculty of Medicine Tel Aviv University, Tel Aviv, Israel; Israeli Association for Emergency Medicine, Tel Aviv, Israel; Department of Family Medicine and Division of Emergency Medicine University of Alberta, Edmonton, Canada.

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