



International Developments in Emergency Medicine

Many countries around the world practice emergency medicine in ways that are different than the US model. The lecturer will describe a variety of emergency medicine practices from around the world and discuss some of the advantages and disadvantages compared with our model. The discussion will include both out-of-hospital and emergency department care.

- Describe the practice of emergency medicine around the world.
- Identify some of the advantages and disadvantages compared with our system of practice.
- Describe the unique methods of EMS delivery in different countries.

WE-179
Wednesday, October 13, 1999
4:00 PM - 5:55 PM
Room # N236
Las Vegas Convention Center

**Samaritans Purse International Relief*

FACULTY

Michael J VanRooyen, MD, MPH,
FACEP

Associate Professor, Department of
Emergency Medicine, Johns Hopkins
University School of Medicine,
Baltimore, Maryland

1999 SCIENTIFIC ASSEMBLY

International Developments in Emergency Medicine

Course #WE-179

Instructor:

Michael J. VanRooyen, MD, MPH, FACEP

1999 ACEP Scientific Assembly
Wednesday, October 13, 1999
Las Vegas

Course Description:

Course Title: International Developments in Emergency Medicine

WE-179

2 hours

Faculty: Michael J. VanRooyen, MD, MPH, FACEP

Many countries around the world practice emergency medicine in ways that are different than the US mode. This lecture will describe a variety of emergency medicine practices from around the world and discuss some of the advantages and disadvantages compared with our model. The discussion will include both out-of-hospital and emergency department care.

The objectives of this course are to:

1. Describe the practice of emergency medicine around the world
2. Identify some of the advantages and disadvantages compared with the US system of practice
3. Describe unique methods of EMS delivery in different countries

International Developments in Emergency Medicine

I. Introduction:

It is an interesting time for those of us working in international emergency medicine. Emergency physicians have entered the field of international health development and relief only recently, and have since become a dominant subgroup in humanitarian assistance and global health development.

The specific objectives of this two hour lecture are to:

The objectives of this course are to:

1. Describe the practice of emergency medicine around the world
2. Identify some of the advantages and disadvantages compared with the US system of practice
3. Describe unique methods of EMS delivery in different countries

II. Global Emergency Medicine Needs

A. Global Health Trends

The disparity of health care availability between the developing world and the affluent western world continues to grow. There remain major gaps in the availability and distribution of health care resources around the world. Emergency health services are no exception, and there are several factors, such as changing global demographic and population trends that have led to the need for development of emergency systems in both industrialized and less industrialized settings.

1. Economic Factors

The health of a country's *economy* has much to do with the health of its people. As economies merge, such as the Pacific Rim countries, the European Union, and the World Trade Organization, perspectives on development of health services, and emergency health services are following suit and shifting from a local and national perspective to a global perspective.

2. Urbanization

By the year 2010, over 60% of the world's population will be living in the urban centers. In 1960, the largest cities were concentrated in developed countries. This shift toward urbanization in developing countries has led to a host of public health problems, and accidents become predominant health risks.

3. Inadequacies of emergency services internationally

As emergency needs have increased in both industrialized and less developed countries, emergency services often not kept pace. In developing countries, there is a lack of training of primary care providers in first aid and basic emergency medicine, and a lack of organized hospital-based emergency services in urban centers.

III. The Evolution of International Emergency Medicine

Despite changing global health needs due to urbanization and population trends, there are several other factors which characterize a health system which is ripe for the development of organized, comprehensive emergency services.

1. Increasing urbanization and population density
2. Increasing death and disability from accidents

3. Increasing capacity for curative health care, typically in urban centers
4. Growth in the number of trained health professionals
5. Increased economic capacity for health system enhancement
6. Interaction, exchanges and enhanced exposure to western health workers

A. Worldwide Development of Emergency Medicine

Interest in the development of emergency medicine internationally has increased greatly over the last decade. Several initiatives by emergency physicians and institutions have developed to assist developing health systems address emergency medicine needs

B. The Need for System-wide Improvements

While the propagation of emergency medicine internationally is taking place on an unprecedented scale, this development is typically done on a case by case, ad hoc basis. There are a multitude of exchange programs and visiting groups working internationally. Many of these programs have recognized the need for system wide improvements and addressing larger organizational issues. This necessitates an understanding of the various approaches to the provision of emergency medical services.

C. Comparing EM Systems Worldwide

In a recent article in *Annals of emergency medicine*, Dr. Jeff Arnold made the observation that two models for development have emerged; the Anglo-American Model and the Franco-German Model. The Anglo-American Model is based around the premise of “bringing the patient to the hospital” and the Franco-German Model operates by “bringing the hospital to the patient.”

1. The Anglo-American Model: In the Anglo-American model, patients access the pre-hospital system and care in the field is initiated by emergency medical technicians and paramedics. They are provided with short term interventions on-scene and en route to a hospital facility. The emergency department is therefore typically well equipped to receive and manage acutely ill patients. Countries which utilize the Anglo-American System are: Australia, Canada, China, Hong Kong, Ireland, Israel, Japan, New Zealand, Philippines, South Korea, Taiwan, the United Kingdom and the United States.

2. The Franco-German Model: In the Franco-German Model, the “hospital is brought to the patient” by means of higher level providers, most often physicians with anesthesia, critical care and/or emergency medicine training. Emergency Medicine is practiced predominantly in the pre-hospital setting, and patients are triaged and admitted to inpatient specialty units. In this model, emergency medicine is not recognized as a discrete specialty, and emergency care is under the direction of anesthesiologists. Countries which utilize this system are: Austria, Belgium, France, Germany, Latvia, Norway, Poland, Portugal, Russia, Slovenia, Sweden and Switzerland.

D. Stages of EM Development

For countries who are developing emergency medicine systems, either from very rudimentary stages or refinement of existing system, most newer emergency care systems are using the Anglo-American model. It is interesting to note, as pointed out in the *Annals* article, that the progression and maturation of emergency medicine in a given country takes place in the same sequence as EM development did in the US over the past two decades. The progression is noted below:

Stages in the Development of Emergency Care Systems (Arnold J, Annals of Emergency Medicine, 1999)

Features	Underdeveloped	Developing	Mature
Specialty systems			
National organization	No	Yes	Yes
Residency training	No	Yes	Yes
Board certification	No	Yes	Yes
Official specialty status	No	Yes	Yes
Academic Emergency Medicine			
Specialty Journal	No	Yes	Yes
Research	No	Yes	Yes
Databases	No	No	Yes
Subspecialty training	No	No	Yes
Patient-care systems			
Emergency physicians residency-trained	House staff, other physicians	Emergency medicine residency-trained	Emergency medicine
ED Director	Other physician	Emergency physician	Emergency physician
Prehospital care ambulance	Private car, taxi	BLS/EMT ambulance	Paramedic/physician
Transfer system	No	No	Yes
Trauma system	no	No	Yes
Management System			
Quality assurance	No	No	Yes
Peer review	No	No	Yes

BLS, Basic life support.

- 1. Undeveloped Emergency Care Systems:** Undeveloped emergency systems are those which do not have any formal emergency medicine structure. This is the case with several countries in Africa and southeast Asia, with intake of patients being variable.
- 2. Underdeveloped Emergency Care Systems:** In emergency health systems considered to be underdeveloped if emergency medicine is not recognized as a medical specialty, and specialty systems do not exist. There may be some form of prioritization system, of triage system, but there is little consistency of care, standardization of treatment or specialized training of staff. Countries with underdeveloped EM programs: Jamaica, Lebanon, Malaysia, Nepal, New Guinea, Pakistan, Trinidad/Tobago and Vietnam.
- 3. Developing Emergency Medicine Systems:** In this setting, emergency medicine is recognized as a specialized area of medicine, with some form of specialty practitioners and recognized society, perhaps even a formal board. The level of development throughout the country may be variable, and there may be no formal governmental recognition of EM as a distinct medical specialty. Countries with developing systems: Bosnia-Herzegovina, China, Hong Kong, Philippines, Saudi Arabia, S.Korea and Taiwan.
- 4. Mature Emergency Medicine Systems:** In mature systems, there is close integration of pre-hospital care, emergency medical care and follow-up and admission. Specialty boards certify and monitor emergency physicians. There are advanced subspecialties and fellowship programs, training programs and residency programs, reviewed by a central body. This system is exemplified by Australia, Canada, the UK and the United States.

IV. Current Practice of Emergency Medicine in Relief and Humanitarian Assistance

International emergency medicine entails the broader scope of emergency system development on a world wide scope. International Emergency Medicine not only encompasses the promotion and development of Emergency Medicine in countries around the world, but it involves the provision of services for

“International Emergencies.” This forms a separate but complimentary role in the promotion and development of emergency health systems.

A. International Relief and Humanitarian Assistance

Interest in improving access to health care in underdeveloped countries has grown, and the field of international medicine has experienced a tremendous surge of growth over the past several years. There are currently several hundred organizations in over 100 countries that coordinate health care workers to practice medicine overseas, often in underdeveloped or disaster prone regions. The NGO community is large and diverse. The international humanitarian aid community can be divided into four general groups:

1. Multinational Organization and UN Agencies:

The UN emergency response program includes the UN Department of Humanitarian Affairs (UNDHA), the UN High Commissioner for Refugees (UNHCR), the World Food Program (WFP, UNICEF), the World Health Organization (WHO).

2. National governmental agencies and donor agencies.

Donor agencies are primarily national government funding organizations that provide official resources for development and relief. The principal donor agencies which represent national governments include the U.S. Agency for International Development (USAID), Canada’s International Development Agency (CIDA), the UK’s Overseas Development Agency (ODA), and the European Community Humanitarian Organization (ECHO), which coordinates the efforts of several ECs government agencies.

3. International and national NGOs.

There are thousands of NGOs operating around the world. Private international organizations include worldwide and regional institutions involved in humanitarian missions such as the International Committee of the Red Cross (ICRC), World Vision, CARE, Save the Children, and Catholic Relief Services, Oxford Famine Relief (OXFAM) and *Medicins sans Frontiers* (Doctors Without Borders).

4. Individual or small group programs:

There is also an increasing popularity of individual or small group foreign medical exchanges, for the purpose of academics, research, clinical interaction or simply cultural exposure.

B. International Disaster Relief: Current and Future Trends

A special area within international health is disaster response. International disaster relief provides us with an example of many of the trends in health management in the international setting. Much of international health intervention occurs in the midst or aftermath of humanitarian crisis and understanding the changes in the approach to disaster assessment and surveillance may be useful as you work abroad.

1. Natural disasters:

There are major differences in the consequences of natural disasters in the developing world vs developed countries. The health consequences of a flood, hurricane, or earthquake in developing countries are far greater because of the poor basic health of victims and the fragility of the national economy.

2. Man-made Disasters:

The most devastating human disasters, however, are man-made. There are over 40 active war zones around the world today, from continued crisis in the Balkans to civil war in the Congo. Civil conflicts can tip the delicate balance between health and sickness, between life and death for millions of people.

3. The Relief-Development Continuum:

When a crisis, whether a natural or a complex humanitarian emergency strikes, the international community may respond with large-scale assistance. This response temporarily substitutes for ongoing

international efforts to promote development. During a period of crisis many organizations, particularly the development organizations, will reduce their presence or shift their emphasis, while relief organizations will increase their level of activity.

4. Roles of EM physicians in Disaster Relief:

There are several roles that emergency medicine physicians are playing in the realm of international humanitarian assistance.

Clinical care providers
Organization of emergency clinical operations
Training and educational programs
Assessment of acute needs and prioritization of illness
Disaster epidemiology

V. Emergency Medicine Development

A. Systematic Approach to Emergency Medicine Development

While the number of exchanges and educational programs has increased, there has been little development of standardized approaches for the assessment and stepwise development of emergency medicine systems.

B. Framework for Emergency Medicine Systems Development

Some recent attempts at providing a framework for system assessment and design have been presented in the literature (Holliman, et al).

1. Provide a general evaluation scheme and uniform methodology for medical personnel and project evaluators to assess and compare the quality, work ability, benefit, and longevity of emergency medicine assistance projects, and emergency medicine development and training projects in other countries.
2. Provide a mechanism to compare, contrast, and prioritize different emergency medicine assistance or development projects.
3. Provide a pre-established format to evaluate and report on different projects related to emergency health care.
4. To provide a mechanism for evaluating the progress of international emergency medicine development and assistance projects.
5. To stimulate further discussion and research on outcome studies of emergency medicine assistance and development projects.

C. Core Features for International EM Development

A major component of assessing emergency medicine programs is to acquire some general system information regarding the state of emergency medicine in a target country. These characteristics may determine the initial feasibility of planning and integrating a collaborative relationship.

1. Interest, participation, and support by health care personnel in the host country.
2. Cooperation with the Ministry of Health or other similar governmental branch concerned with supervision of health matters in the country.

3. Full compliance with the laws and health regulations of the host country.
4. Mechanisms to ensure local input and control in planning and implementation of the project.

D. Programs Contributing to EM Development:

The majority of efforts contributing to sustained improvement of emergency services internationally are developmental efforts. We are seeing greater adoption of the western style of emergency care, and more attempts to evaluate systems and transplant aspects of emergency care into other countries.

1. ACLS, APLS, ATLS course instruction:

ACLS courses and its various cousins are among the most easily translatable courses into another culture.

2. EM related training programs (toxicology, wilderness rescue):

Other EM sub-specialties may be exported abroad as we expand the scope of EM globally.

3. Emergency medicine residency development:

The investment of developing and promoting emergency medicine as a specialty in another country is a substantial commitment. It requires committed individuals from both sides and a long-term relationship.

4. EM physician exchanges:

This is an excellent way to assess the current status of emergency medicine in another country. Taking the time to work clinically in another setting will give you a clearer picture of needs.

5. Conferences and Organizational Promotion: Promoting formal emergency medicine structure in a county by supporting its societies and fledgling training programs and recognizing the validity of such efforts can be a big boost to the professional status of EM in a given country.

VI. International EMS: Overview

Changing health needs in countries experiencing economic and social growth are creating a greater demand for EMS systems. EMS development in the US was impacted by a combination of urban growth, economic expansion, medical and technological advancements, and public demand. In addition, other countries have EMS systems in varying degrees of function, which may be in need of reconstruction or updating.

A. The Fifteen Essential EMS Components:

The Fifteen essential components of EMS systems was proposed by the EMS Services Act, and give us a basis by which we can compare the level of development of EMS in other countries. They are as follows:

1. Manpower
2. Training
3. Communications
4. Transportation
5. Facilities
6. Critical care units
7. Public safety agencies
8. Consumer participation
9. Access to care
10. Patient transfer
11. Coordinated patient record keeping

12. Public information and education
13. Review and evaluation
14. Disaster Plan
15. Mutual

The US system, while unique in many aspects, contains basic pre-hospital system elements which may be beneficial and can be transposed to other developing programs. The development of new EMS systems and the evaluation of existing systems provide those interested in promoting international EMS with the opportunity to assist in the promotion of EMS programs abroad.

B. Health Care System Changes

Countries affected by the population explosion and subsequent urban health problems are forced to address emergency care needs to developing or revising their EMS systems. These system changes may be further precipitated by either developmental changes or by a national crisis.

C. Pre-hospital System Models

In order to evaluate the structure and function of an international pre-hospital system, it is important to determine the model-type in which a particular system may be categorized.

The Five Model Types for EMS Systems

Hospital based systems
Jurisdiction provided systems
Private systems
Volunteer Systems
Complex systems

D. Comparing Common EMS Systems Components

A starting point for assessing another EMS program is a comparison to the 15 Essential EMS components outlined in the Emergency Medical Service System Act. Despite regional differences, many of these components are present, to a certain degree, in developing pre-hospital programs.

E. Approach to System Development

Developing an EMS system in a country where there is an incomplete system or where EMS services are nonexistent, can be approached in phases. These phases include analysis, planning and implementation.

F. Future EMS Needs: Where to look for opportunities:

Given the prior discussion on the factors which precede EMS system development, the most likely candidates for requiring systems are those countries which are experiencing economic growth and also contending with increased urbanization.

VII. The Result of International Emergency Medicine Initiatives: Successes and Lessons Learned

We have discussed global health needs and the evolving health needs both in emergency medicine and in other aspects of international health such as disaster relief. The results of which have been both positive and negative.

A. The Good News

There are substantial positive effects of the increased Western interest in global health. Intervention from developed countries can bring much needed funding and expertise into areas which have unmet needs.

1. Increasing access to curative health care: Proliferation of primary health programs can promote developing emergency access to tertiary care networks and resource sharing by region

2. Increasing institutional links: Linkages with academic institutions assists with the development of emergency medicine initiatives.

3. Medical education development: Through academic exchanges, education development and overall improvement of national standards.

4. Organizational Promotion: International conferences and give smaller, less developed programs a forum for discussion and development.

B. And Now, the Bad News:

Western intervention is not without its negative consequences. Development of emergency medicine overseas is fraught with the same issues as relief agencies face.

1. Organizational Issues

Many NGOs rely heavily on donor support for project funding. This means that the degree to which an organization can function in a certain region or during a particular crisis is determined by donor awareness, much of which is linked to the media

2. Individual Issues

More people working in the international setting often means more people who don't know what they are doing. In general, Western physicians are thoroughly unfamiliar with international health topics, such as tropical medicine, hygiene, community health, and cultural factors which impact medical care.

C. Limitations and the need for additional training:

The limitations of EM physicians center around the same limitations of any western physician. These are primarily related to:

1. Lack of experience in tropical environments
2. Limited knowledge of local endemic diseases
3. Lack of public health training.
4. Lack of familiar and available resources

VII. Emergency Physicians in International Health

A. Emergency Physicians in Leadership Positions in International Health:

As mentioned at the beginning of this talk, emergency physicians are well represented in many of the major relief and development organizations

B. Emergency Physicians Groups Involved in International Emergency Medicine

1. Emergency International
2. International Medical Corps (IMC)
3. SAEM International Emergency Medicine Committee
4. World Association for Disaster and Emergency Medicine (WADEM)

C. Training Programs in International Health

Many emergency physicians who wish to work abroad may look for training in topics related to international health and disaster relief in order to expand their abilities in the field.

1. Public health training programs and MPH programs:
2. Infectious disease and tropical medicine training:
3. Fellowships in international emergency medicine
4. Specialized training curriculum for health workers abroad
5. Conferences and educational assemblies

VIII. The Challenges of Work Abroad:

As a health provider in the international setting, you will encounter some interesting and often frustrating cultural challenges while working abroad. I'd like to illustrate these with some examples.

A. Examples of challenges in working abroad:

Cultural and language barriers

Overwhelming needs

Security problems and other logistic concerns

Limited supplies, medications and diagnostic and treatment modalities

Lack of adequately trained medical personnel

Lack of inpatient facilities to admit and treat patients

Financial dependency

There are also limitations in our own clinical abilities. Emergency medical skills can be extended to care for medical and pediatric patients in unfamiliar surroundings, but when was the last time you did an appendectomy or a C-section without a little practice or a little clinical assistance.

B. Universal Principles for working Internationally:

1. The need for appropriate care: Providing appropriate care entails a knowledge of endemic illnesses and a familiarity with available resources.
2. The proper attitude of service: Even more than your day to day practice, it's important to develop a attitude of helpfulness and service which allows you adapt to your surroundings and remain patient in often frustrating clinical situations. Flexibility is key.
3. Necessity to recognize cultural barriers: Cultural considerations have everything to do with the way people view you as a foreign physician, and how they respond to you as a healer.

C. Cultural Factors

Cultural considerations remain a very important factor in the overall health status of individuals living in tribal environments. The social and cultural influence which traditional healers and "witch doctors" wield is substantial not easily overcome by a western health worker with odd customs and unproven methods.

X. The Future of International Emergency Medicine:

A. Systems Development:

The need for organized and sustained developmental efforts in promoting emergency medicine is growing substantially, with a growing number of emergency programs developing. Future efforts will need to focus on specialized needs of developing systems to assist in their maturation, and promotion of a global emergency medicine body and the role it can play in promoting a global EM agenda.

B. Research

The lack of quality comparable data make comparisons between systems difficult if not impossible, and it is likewise difficult to perform outcomes and process research in the clinical realm in a developing setting. The CDC and WHO do a lot of surveillance and may sponsor certain projects. Research overseas is culturally complex, methodologically difficult and requires close ties with researchers abroad.

C. Telemedicine

Telemedicine has been a slow and inconsistent tool for promoting practice standards and engendering communication between systems. There are a variety of reasons why telemedicine has not greatly expanded, including cultural issues and resource issues at "field sites"

D. The Internet:

The internet shows great promise in the international collaboration and expansion of emergency medicine. The world wide web is becoming ubiquitous through out the world, with recent counts of 800 million web pages. The challenge for internet users will not be access to information, but the access to the right information and using the net for education, research, clinical practice and beyond.

IX. Myths and Realities of International Emergency Medicine and Humanitarian Assistance

Myth: Emergency medicine is not appropriate for developing countries (in Africa, for example) because other health priorities dominate.

Reality: Accidents and their consequences are a major public health risk, and basic treatment and prevention techniques are appropriate for any country.

Myth: The United States has the most advanced system, and other systems should emulate ours.

Reality: There are parts of each system which may work in a given country, and a workable blend should be the priority.

Myth: Developing effective emergency medicine services abroad requires the infusion of high tech equipment.

Reality: Most interventions, from the most basic to more complex systems, can be accomplished without bringing in new machinery or equipment.

X. Conclusion

International emergency medicine is a rapidly growing and changing field. There are many ways to address the growing emergency health needs around the world. Working in emergency medicine in the international setting provides emergency physicians with an opportunity to work and study abroad, develop productive, collaborative relationships and invest in the medical future of a country.

References and Resources

International Health Newsletters

Health Exchange

International Health Exchange
8-10 Dryden Street
London WC2E 9 NA, United Kingdom
0171-836-5833

Healthlink

National Council for International Health

1701 K Street, NW
Washington, DC 20006
202-833-5900

Newsletter from the Sierra Madre

The Hesperian Foundation
PO Box 1692
Palo Alto, CA 94302
415-325-9017

Options

Project Concern
3550 Afton Road
San Diego, CA 92123
619-279-9690

Residents & International Health

St. Joseph's Medical Center
International Health Program
801 East La Salle Avenue
South Bend, IN 46617
219-237-7256

Traveling Healthy

Traveling Healthy, Inc.
108-48 70th Road
Forest Hills, NY 11375
718-268-7290

Update

International Health Medical Education Consortium
Office of International Affairs
CB#7403, Medical Building 52
Chapel Hill, NC 27599-7403
919-962-0000

USAID Developments

U.S. Agency for International Development
Bureau for Legislative and Public Affairs
Washington, DC 20523-0056
202-647-1850

World Wide Web Sites (international health-related)

American Medical Student Association: <http://med-amsa.bu.edu/AMSA.html>
Canadian Society for International Health: <http://hpbl.hwc.ca:8500/default.html>
Center for Disease Control Travel Page: <http://www.cdc.gov/travel/travel.html>
CIA World Factbook 1995: <http://www.odci.gov/cia/publications/95fact/index.html>
Foreign Language and Culture: <http://www.speakeasy.org/~dbrick/Hot/foreign.html>
Foreign Languages for Travelers@: <http://insti.physics.sunysb.edu/~mmartin/languages/languages.html>
International News: <http://www.es.vu.nl/~gerben/news.html>,
<http://www.nando.net/epage/htdocs/links/newspapers.html>
International Traveller's Clinic: <http://www.intmed.mew.edu/ITC/Health.html>
Student and Budget Travel Guide: <http://asa.ugl.lib.umich.edu/chdocs/travel/travel-guide.html>
TravelWeb: <http://www.travelweb.com/>
UNICEF: <http://www.unicef.org/>

United Nations : <http://www.un.org/>
United Nations Development Programme: <http://www.undp.org/>

International Emergency Medicine Groups:

Emergency International: (formerly SIAEMC):
SAEM International Interest Group
Center for International Emergency Medicine Studies (Johns Hopkins)
Institute for International Emergency Medicine (U of Pittsburgh)
International Health Studies: (Loma Linda)
Office of International Health Studies: (U of Illinois)

International Emergency Medicine Fellowship Opportunities

Johns Hopkins Center for International Emergency Medicine Studies
Fellowship Director: Michael VanRooyen, MD, MPH: 410-847-3511 mvanrooy@jhmi.edu or
Chayan Dey cdey@jhmi.edu

Penn State-Hershey Medical Center: International Emergency Medicine
Fellowship Director: Jim Holliman: 717-531-8955

University of Illinois @ Chicago:
Interim Director: Timothy Erickson, MD: 312-413-7393

Loma Linda University Department of Emergency Medicine
Fellowship Director: Tamara Thomas, MD: 909-824-4344

Harvard/ Beth Israel
Contact Mark Davis: 617-667-1381

Rhode Island Hospital/Brown University SOM: Bruce M. Becker, MD, MPH:
Phone: (401) 444-6654 Fax: (401) 444-6662 bmbecker@igc.apc.org

International Organizational Contacts:

Gorgas Course in Clinical Tropical Medicine
Gorgas@geomed.dom.uab.edu

Adventist Development and Relief Agency
12501 Old Columbia Pike
Silver Spring, MD 20904

American Refugee Committee
Archq@archq.org

AmeriCares Foundation Inc
Info@americares.org

Doctors to the World
P.O. Box 37167
Denver, CO80237
Doctors of the World -USA, Inc
Dow@igc.apc.org

Doctors without Borders USA
Dwb@newyork.msf.org

Health care Ministries
Ivainio@hcmdfm.org

International Rescue committee
Intrescom.org

InterServe USA
<http://www.interserve.org/>

OPTIONS
Postmaster@projcon.cts.com

Physicians for Human Rights
Phrusa@phrusa.org

World Concern
www.worldconcern.org

Financial Resources for International Study
P.O. Box 2123
Princeton, NJ 08543

Physician Service Opportunities Overseas
JAMA 1987; 257; 2542-2550

Soma International Health Care Clerkship Guide
(800) 237-SOMA or (215) 871-1860

International Health Electives for Medical Students
Dr. Preston White
(703) 620-6600

Center for Educational Development
University of Illinois at Chicago
Health Sciences Center 808 South Wood
Chicago, IL 60612

Center for International Education
Hills House South- Room 285
University of Massachusetts
Amherst, MA 01002

Christian Medical Fellowship
Residential Refresher Course for Medical Missionary Doctors
157 Waterloo Road
London SE1 8XN, England

Continuing and Vocational Education
208 Agricultural Hall
University of Wisconsin-Madison
Madison, WI 53760

Dean School of Public Health and Tropical Medicine
Tulane University
1430 Tulane Avenue
New Orleans, LA 70112

London School of Hygiene and Tropical Medicine
Keppel Street
London, WC1 E7HT
London, England

Institute of Child Health
30 Guilford Street
London WC1N 1EH, UK

Prince Leopold Institute of Tropical Medicine
Nationalestraat 155
B-2000
Antwerp, Belgium

INSTITUTO Oswaldo Cruz
Department of Tropical Medicine
Av. Brasil, 4365, Caixa Postal 926
Rio de Janeiro 20000, Brazil

National Council for International Health
1701 K St NW, Suite 600, Washington, DC 20006
(202) 833-5900

American Red Cross: International Services, 5th Floor
431 18th St NW, Washington, DC 20006
(202)639-3318

CARE
660 First Ave, New York, NY 10016
(212) 686-3110

International Medical Corps
5933 W Century Blvd., Suite 310, Los Angeles, CA 90045
(213) 670-0800

Samaritan's Purse International Relief
Route #4 Bamboo Road, Boone, NC 28607
(704)-262-1980

Health Volunteer Overseas
c/o Washington Station, PO Box 65157, Washington, DC 20035-5157
(202) 296-0928

Peace Corp: Volunteer Partner Program
1990 K St NW, Washington, DC 20526
(202) 606-3940

Christian Medical and Dental Society
Medical Group Missions Department
PO Box 830689, Richardson, Texas 75083
(214) 783-8384

World Medical Mission
PO Box 3000, Boone, NC 28607
(704) 262-1980

Resources for Disaster Assessment:

Office of Foreign Disaster Assistance: Field Operations Guide
United Nations High Commission for Refugees: Handbook for Emergencies
USAID publication of International Disaster Assistance
UNICEF's Assisting in Emergencies
WHO's Emergency Health Kit

Travel Health Guides:

Health Information for International Travel: US Department of Health and Human Services/CDC; Division of Quarantine, Atlanta, GA 30333 ph: (202) 783-3238.

Rose S: International Travel Health Guide 6th edition. Travel Medicine Inc. 1995: 1-800-872-8633

Bibliography

Acheson D: Health, Humanitarian Relief, and Survival in Former Yugoslavia. *Br Med J* 1993; 307:44-48.

Aghababian RV, Levy K, Moyer P, Mottley L, Ciottone G, Freitas R, Minasian A: Integration of United States Emergency Medicine Concepts Into Emergency Services in the New Independent States. *Ann Emerg Med* 1995; 26:3, 368-375.

Arnold J. International Emergency medicine and the recent Development of Emergency Medicine Worldwide. *Ann emerg Med* 33(1). 1999 97-103

Burkle, Jr. FM, Zhang X, Patrick W, Kalinowski E, Li Z: Emergency Medical Services Systems in the United States and China: A developmental comparison. *Prehosp & Disaster Med* Oct.-Dec. 1994; 9:4, 244-251.

Clem KJ, Green SM: Emergency medicine expeditions to the developing world: the Loma Linda University experience in Papua, New Guinea. *Acad Emerg Med* 1996; 3(6): 624-633.

de Boer J: Selected Topics: Disaster Medicine: An introduction to disaster medicine in Europe. *J Emerg Med* 1995; 13:2, 211-216

Dick B, Elo O. Disaster preparedness and response. *Trop Doct.* 1991; 21 (1):9-14.

Erickson TB, VanRooyen MJ, Werbiski D, et al: Emergency medicine education intervention in Rwanda. *Ann Emerg Med* 1996; 28(6): 648-651.

Geiger JH, Cook-Degan RM: The Role of Physicians in Conflicts and Humanitarian Crises. Case studies from the field missions of physicians for human rights, 1988 to 1993. *JAMA* 1993; 270:616-620.

Goldsmith MF, Gunby P. Physician Service opportunities Abroad. *JAMA.* 1993; 270 (5): 567-571.

Halbert RJ, Simon RR, Leshuk L et al. Logistics of medical care in rural Afghanistan. *Ann Emerg Med.* 1988;17(8):770-774.

Holliman CJ, Kirsch TD, Green GB, et al Guidelines for Evaluation of International Emergency Medicine Assistance and Development Projects. *Ann Emerg Med* 1997; 30(6): 811-815.

Kelly N; Volunteering Overseas Hospital Physician 12/91 49-52

Kirsch TD, Hilwig WK, Holder Y. et al: Epidemiology and practice of emergency medicine in a developing country. *Ann Emerg Med* 1995; 26(3): 361-36.

Maren M. *The Road To Hell: The Ravaging Effects of Foreign Aid and International Charity.* 1-12: The Free Press, NY. 1997.

Pan American Health Organization: Emergency Health Management after Natural Disaster, WHO 1981

Pirrallo RG, Wolff M, Simpson DE, Hargarten SW: Analysis of an international emergency medical service train-the-trainer program. *Ann Emerg Med* 1995; 25(5): 656-659.

Pretto E, Angus D, Abrams J, et al: Prehospital Deaths in an Earthquake. *Prehosp & Disaster Med* 1994; 9:107-117.

Raftery RA: Emergency medicine in southern Pakistan. *Ann Emerg Med* 1996; 27(1): 79-83.

Revel JPVH. Training for disaster preparedness and response. *Trop Doct.* 1991;21 (17):15-23.

Rutherford WH, Evans RC: Accident and Emergency Medicine in the United Kingdom. *Am J Emerg Med* 1983; 1:107-109.

Sandler RH, Jones TC; Medical Care of Refugees Oxford University Press, 1987,

Simmonds S, Vaughan P, Gunn W, et al. Refugee community health care. Oxford Medical publications. University Press 1983.

UNHCR: Handbook for Emergencies. United Nations High Commissioner for Refugees. Geneva. 1982; 23-45.

VanRooyen M, Sloan EP, Ward ES Penetrating and Blunt Trauma in War-torn Bosnia: The Nova Bila Hospital for War Wounded: *J Trauma*, 1995

Waekerle JF: International reports provide opportunity. *Ann Emerg Med* 1995; 26(3): 355-356.

Waisman Y, Amir L, Or J: Emergency medicine in Israel: state of the art. *Ann Emerg Med* 1995; 26(5): 640-642.

Walton, H. Medical Education Worldwide. A global strategy for medical education: partners in reform. *Medical Education*. 1993; 27: 394-398.

Werner D. Where there is no doctor. A village health care handbook. Hesperian Foundation. Palo Alto, CA. 1992; 1-29.

WHO study group on problem-solving education for health professions. Increasing the relevance of education for health professionals. WHO Tech Rep Ser. 1993; 838: 1-29.

WHO: The community health worker. Working guide. Guidelines for training, guidelines for adaptation. WHO, Geneva. 1987.
