SPECIAL REPORT

International Guidelines and Standards for Education and Training to Reduce the Consequences of Events that May Threaten the Health Status of a Community

A Report of an Open International WADEM Meeting, Brussels, Belgium, 29–31 October, 2004

Frank Archer, MBBS, MEd, MPH, FAFPHM;[1] Geert Seynaeve, MD[2*]

1. Department of Community Emergency Health and Paramedic Practice, Monash University, Melbourne, Australia
2. Chief Medical Officer, Emergency Medical Services, Ministry of Health, Belgium

Both authors are members of the WADEM Education Committee Working Group and GS is its Convener and Chair and are members of the WADEM Board of Directors. FA is one of three Vice Presidents of WADEM. Funding for the Open International Meeting was received from the Norwegian Government, the European Society for Disaster Medicine and the NGO Medipar. Individual participants paid a registration fee to attend.

***On behalf of the WADEM Education Committee Working Group members:[1]**

Dr. Geert Seynaeve (Belgium)-Convenor
A/Prof. Frank Archer, (Australia)
Dr. Judith Fisher (UK/USA)
A/Prof Brigitte Lueger-Schuster (Austria)
Dr. Alison Rowlands (UK)
Mr. Phillip Sellwood (UK)
Dr. Karel Vandevelde (Belgium)
Dr. Anastasia Zigoura (Greece)

Correspondence:
Geert Seynaeve
Huart-Hamoirlaan 68
1030 Brussels, Belgium
E-mail: geert.seynaeve@health.fgov.be

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Abbreviations:
ACEHSA = Accrediting Commission on Education for Health Services Administration
ASPHER = Association of Schools of Public Health in the European Region
NGO = non-governmental organization
OCHA = United Nations Office for the Coordination of Humanitarian Affairs
WADEM = World Association for Disaster and Emergency Medicine

Abstract

The continued professionalization of the humanitarian workforce requires sound underpinning by appropriate educational programs. The international disaster medicine and emergency health community requested the World Association for Disaster and Emergency Medicine (WADEM) develop international standards and guidelines for the education and training for disaster medicine. The Working Group of the WADEM Education Committee prepared and circulated an Issues Paper to structure input on this significant international task. Subsequently, the Working Group facilitated an Open International Meeting convened in Brussels, Belgium, 2004. The "Issues Paper" also was used as a framework to structure this International Meeting, which utilized case studies selected to represent the scope of disaster medicine, and prepared a meeting consensus on a framework for disaster health and for related educational programs.

The two-day Brussels meeting attracted 51 participants from 19 countries, representing 21 disciplines. Participants reinforced the need to address the development of international standards and guidelines on education and training in this emerging discipline. Participants supported the view that the term "Disaster Health" suggested a multidisciplinary approach that is a more inclusive contemporary and appropriate term to describe this field, although there were dissenting views.

The meeting formulated a consensus view in support of a framework for "Disaster Health", which included: (1) primary disciplines; (2) support disciplines; (3) community response, resilience, and communication; and (4) socio-political context. The participants considered that this model lends itself to facilitating the development of educational programs in this field and believed that standards and guidelines initially should be developed in the "Core of Disaster Health" for undergraduates in relevant professions, for practicing professionals wishing to expand their practice in this field, and in the "Breadth of Disaster Health" for those wishing to be recognized as "Disaster Health Specialists" as academics, professionals, or policy leaders in this field at a University multidisciplinary Masters Degree level. A community-level and higher-specialist doctoral level would follow.

Although the view of the participants was that the establishment of international approval/endorsement processes for education programs may have some benefits, there was less comfort in identifying which body/agency should be charged with this responsibility. The WADEM, the United Nations Office for the Coordination of Humanitarian Affairs, and the World Health Organization were identified as potential lead agents.

The outcome of this international meeting is an important step toward meeting the challenge given the WADEM and will be developed further in consultation with the international disaster and emergency health community in order to improve education and training standards and professional practice.

Archer F, Seynaeve G: International standards and guidelines for education and training to reduce the consequences of events that may threaten the health status of a community. *Prehosp Disast Med* 2007;22(2):120–130.

Introduction

Background

The 13th World Congress on Disaster and Emergency Medicine (WCDEM-13), convened in Melbourne, Australia, in May 2003, requested that the World Association for Disaster and Emergency Medicine (WADEM) lead the development of "International Standards and Guidelines on Education and Training for Disaster Medicine".

In response to this request from the international disaster medicine and emergency health community, a Working Group of the WADEM Education Committee (The Working Group) developed and led a widespread, international consultation process. The Working Group frequently communicated electronically and also convened four, two-day, face-to-face meetings in Brussels (July 2003), Barcelona (October 2003), Athens (January 2004), and Edinburgh (May 2004).

The Working Group prepared an Issues Paper (July 2004)[1] which was distributed in hard copy to all WADEM members, all participants at the WCDEM-13, and other international leaders in disaster medicine and emergency health. In addition, a short version of the Issues Paper was published in WADEM's MEDLINE indexed journal, *Prehospital and Disaster Medicine* (PDM).[2] The short and long versions were available on the WADEM Website, **http://wadem.medicine.wisc.edu**, and, with permission of the WADEM President and PDM Editor-in-Chief, the long version was published in the international, peer reviewed, electronic journal, *Journal of Emergency Primary Health Care* **http://www.jephc.com**. A total of 29 responses to the circulation of the Issues Paper were received, which contributed to the International Meeting. This Open International Meeting was designed to widen the consultation process with the international disaster medicine and emergency health community.

Terms of Reference

The Working Group's tasks were to: (1) conduct an open, international meeting within 12 months of WCDEM-13; (2) consider the Terms of Reference given at WCDEM-13; and (3) prepare a report to WCDEM-14, to be conveyed in Edinburgh, Scotland, in May, 2005.

The specific Terms of Reference were to: "Investigate and report to WCDEM-14, Edinburgh, Scotland, May, 2005, on "fostering the development of international standards and guidelines for the education, training, and recognition of disaster and major incident managers and other members of the healthcare community, who contribute to the multi-disciplinary, health response to major events that actually or potentially threaten the health status of a community"'.

Participants

The Brussels Meeting attracted 51 participants, from 19 countries on five continents. A list of participants is included as Appendix 1.

Notably, a wide range of disciplines were represented. These included: anesthetics, anthropology, clinical epidemiology, emergency planner, emergency manager, family medicine, immediate medical care, intensive care medicine, nursing, neurosurgery, non-government organizations, pediatric emergency medicine, paramedic, physical medicine and rehabilitation, public health, psychology, psycho-traumatology, social geography, sociology, rescue medicine, and toxicology.

Definition and Changing Context of Disaster Medicine

The Working Group recognizes that the definition of disaster medicine is dynamic and currently lacks international consensus. To facilitate communication at this Brussels Meeting, "Disaster Medicine" was to be interpreted in a generic and inclusive sense. The contemporary view is that of a multi-disciplinary health response to major events that threaten the health status of a community, including the prevention and mitigation of future events, and taking account of the broader context in which these events occur.

Principles

The Working Group believes that the resulting "Guidelines and Standards" should be: (1) applicable internationally; (2) evidence-based; (3) developed in a broad sense, for all members of the healthcare community; (4) presented in a conceptual framework, explaining a general approach and clarifying important principles; and (5) descriptive of the education and training requirements of "acceptable" courses.

Disclaimer

This report has been prepared in good faith to accurately reflect the process, discussions, and outcomes of the meeting. To the best of our knowledge, it does not contain copyright or privileged material unless so identified in the text. The views expressed do not necessarily reflect the views of the WADEM, the Working Group, individual members of the Working Group, or individual participants at the meeting, unless identified in the text.

Methods

Program Overview

Opening and Case Studies (Plenary)

This Open International Meeting was convened at the Hotel Metropole, Brussels, Belgium. In 1911, the main meeting room had hosted a meeting that included Mme. Marie Curie and M. Albert Einstein—an added stimulus for this international meeting. The Meeting Convenor, Dr. Geert Seynaeve (Belgium), welcomed participants, outlined the background to the meeting, and provided an overview of the meeting objectives and program (Appendix 2).

The first two sessions, co-chaired by Dr. Geert Seynaeve (Belgium) and Dr. Alison Rowlands (UK), addressed the theme of "Learning from Case Studies of Recent Major Events". In these sessions, a number of speakers were invited to present case studies representing a selected range of recent major events to set the scene for the meeting and as a basis for further discussions on the previously circulated Issues Paper. The case studies were selected to represent the range of events that usually are included in the scope of "Disaster Medicine". It was not possible to include all typical events in these sessions. The presenters were asked to highlight specific issues from the Issues Paper. The case studies and their presenters included:

1. Dr. Anastasia Zigoura (Greece)—"Athens 1999 Earthquake: In the Framework of the Conceptual Model for 'Disaster Medicine'".[3]

2. Dr. Nicholas Petropoulos (Greece)—"Athens 1999 Earthquake: A Follow-up Study from the Sociological Perspective".[4]
3. Dr. Judith Fisher (UK/USA)—"Mass Gatherings".[5]
4. Dr. Ignace Demeyer (Belgium)—"Technological Disasters: Fire".[6]
5. Mr. John Colman (New Zealand)—"Health Emergency Planning in New Zealand".[7]
6. Dr. Christine Rodriquez (USA)—"Hazard Vulnerability, Media Construction of Disaster and Risk Management".[8,9]
7. Dr. Claude de Ville de Goyet (Belgium/USA)—"Natural Disasters in Developing Countries".[10–12]

1. Defining the Domain—Small Groups

Participants were assigned into three small groups to address the first main question: "How do we define or describe the domain we are talking about?" The groups were asked to explore and record views, not necessarily to achieve consensus.

The groups were asked to consider the following sub-questions:

1. The Working Group's definition of "Disaster Medicine" is included in the introduction to the Issues Paper. "Disaster Medicine" is used as a short hand to the long version of the definition. Is this appropriate? Is it acceptable to you? An acceptable definition is needed for effective communication;
2. A useful reference is the "Final Report of the Blue Ribbon Task Force" prepared by the Accrediting Commission on Education for Health Services Administration (ACEHSA) and the National Centre for Healthcare Leadership (NCHL).[13] Pages 10–12, on definitions and scope, could be seen as a framework prepared by a kindred group who have "been there" and which may be useful for these discussions. Is this framework applicable to "Disaster Medicine"?
3. The Bradt *et al* model[14] has been previously distributed in the Issues Paper. Does this model help structure the domain? Definitions?—Is this the way ahead?
4. Two papers distributed at the meeting from Professor Alexander, "Towards the Generation of Standards in Civil Protection"[15] and "The Structure of Training Courses in Disaster Management"[16] also may aid your discussion on this question.

These questions addressed the following related issues from Issues Paper: (1) *Issue 1*—Terminology and Definitions; (2) *Issue 2a*—Scope; (3) *Issue 2b*—Conceptual frameworks; (4) *Issue 4a*—Scientific frameworks; and (5) *Issue 4b*—Bradt et al model. The 90-minute, group discussion was followed by a plenary session of 30 minutes.

2. Need for International Standards and Guidelines for Education and Training Programs—Small Groups

Again working in three small groups, participants were asked to address the second main question: "Is there a need for international standards and guidelines for education and training programs in this domain?" "Why?" The groups were asked to explore the philosophy and an overview of a framework, not the detail, which was to be considered in the next session. Participants were asked to emphasize a global approach, although allowing for regional and local flavors.

The groups were asked to consider the following sub-questions:

1. Note the Terms of Reference from WCDEM-13, Melbourne, and use these to focus the discussions. The task relates to developing standards and guidelines for education and training programs—NOT for clinical or operational practice. The first question is, "Is there a need for international standards and guidelines for education and training programs in 'disaster medicine'"? If so, why?
2. Is there concern regarding the quality of an increasing number and diversity of programs under the banner of "Disaster Medicine" in your region? What are the strengths and weaknesses of these current programs?
3. Where do you get advice and guidance when setting up a course?
4. Should "Disaster Medicine" programs be accredited? Endorsed? What are the pros and cons to individuals, institutions, and users of the graduates?
5. Schools of Public Health in both the US and Europe have, separately, introduced external accreditation of public health courses in their respective regions. The "Accreditation Framework" developed by the Association of Schools of Public Health in the European Region (ASPHER)[17] may provide useful models to assist your discussions. Are these frameworks useful to us? Do these frameworks help guide the road ahead?
6. The two papers distributed at the meeting from Professor Alexander and referred to above, may aid your discussion on this question.

These questions addressed the following related issues from the Issues Paper: (1) *Issue 6d*—Credentialing (Individual's issues); (2) *Issue 6e*—Endorsement and Quality (Institution's and users of graduates issues); (3) *Issue 5*—Strengths and weaknesses of current programs; and (4) *Issue 6f*—What does a set of international standards and guidelines for education and training look like? The 90-minute, group discussions were followed by a plenary session of 30 minutes.

Learning from Developing Standards in Kindred Disciplines—Plenary

The next plenary session, co-chaired by Dr. Geert Seynaeve (Belgium) and Dr. Alison Rowlands (UK), addressed the theme of "Learning from developing standards in kindred disciplines" and was based on a paper presented by Professor Alexander, "Towards the Creation of Standards in Civil Protection".[18]

At the end of the second day, participants were asked to think overnight about:

1. The unresolved discussions of Day 2; and
2. If we are going to proceed, how do we get there? What are the objectives, steps, and challenges? Some of the remaining issues from the "Issues Paper" to resolve include: (1) *Issue 6b*—What levels of training should we consider?; (2) *Issue 5a*—What courses are currently offered?; (3) *Issue 5b*—What is the current pedagogy used in these courses?; (4) *Issue 6c*—What education principles should underpin these courses?; (5) *Issue 5d*—What other frameworks should be explored?; (6) *Issue 7b*—Where could the authority base lie for these standards and guidelines?; (7) *Issue*

7b—What structure and processes should be developed?; (8) *Issue 7a*—What barriers and solutions need to be considered?; and (8) *Issue 8*—How do we develop effective collaborations?

Meeting Consensus—Plenary

The final two plenary sessions prepared the meeting consensus and closing statement by considering a PowerPoint (Microsoft, Inc., Redmond, WA) presentation of a summary of the previous two days with participants debating each slide. The participants were asked to achieve "general support", not final agreement, of each word in the text. It was intended that there would have been similar meetings held in other geographical regions subsequent to this Brussels meeting; however, these have not yet taken place.

Results—Meeting Consensus

The meeting consensus is presented as a series of "focus statements", supplemented by associated "explanatory statements" where applicable.

Focus Statement 1—Accepting the Task

Whilst it is recognized that research should underpin education and that there is a case to be made to improve the research base of this field, and whilst it is recognized that education underpins practice, and that there is a case to be made for standards to be developed in emergency management operations, the participants accepted the specific request to address standards and guidelines for education programs in this field.

Focus Statement 2—Considering the Terms of Reference

Whilst the meeting accepted the challenge of the given task, on further consideration, the participants endorsed a rewording of the specific Terms of Reference, to foster the development of;

"International standards and guidelines on education and training to effectively manage the health sector's multidisciplinary activities to reduce the consequences of major events, which actually or potentially threaten the health status of a community." (Underlining indicates the amendments to the given task.)

Explanations

1. *Supporting the Need for Standards and Guidelines*—The participants supported the position that standards and guidelines for education and training programs should be developed with the view that they will:
    a. Facilitate international integration;
    b. Guarantee minimal levels of training;
    c. Ensure levels of professional competence;
    d. Tackle risks more systematically;
    e. Improve the quality of education programs; and
    f. Provide authoritative guidance to developers of new programs.

    The participants were encouraged that there was evidence to support the benefits of external accreditation of education, programs in professional settings, and that this process is common in the education of health professionals.[13,15,17,18]
2. *Defining Standards and Guidelines*—Whilst it is recognized that standards can be written as a single statement, which also contains the rules for their application, participants prefer that, for this field, the Standards be prepared as "Principles" and that Guidelines accompany each Standard as a companion statement on how to implement the standards.
3. *Standards and Guidelines to be International*—Whilst it is recognized that there are global commonalities and interdependencies in the setting of "Disasters", disasters affect the "Global Community", and are of increasingly complex and difficult, participants supported the view that attempts should be made to develop international standards and guidelines for education in this field with the view that they will:
    a. Facilitate international integration operationally;
    b. Contribute to international collaboration in research and education; and
    c. Include consideration of the needs of both developed and of developing countries.
4. *Standards and Guidelines to Include Education and Training*—Whilst it is recognized that there is debate on terminology in education, participants accepted the view that both "Education" and "Training" be included in education programs in this field, and that they include both initial and continuing education.
5. *A Need to Define the Scope of "Disaster Health"*—Whilst the meeting recognized that there are different opinions regarding the definition and scope of the field, or domain, of "Disaster Health", the participants considered the views expressed by a kindred professional body examining similar issues in Health Services Administration, and took the view that:
    a. A formal definition was needed to help identify the scope of the field and facilitate communication;
    b. The definition should have a broad scope, adequately inclusive of the field;
    c. Current labels do not adequately identify the field; and,
    d. It is likely that the term will need to be revised with time, hence, the definition needs to be dynamic and flexible.
6. *"Disaster Medicine" versus "Disaster Health"*—Whilst it is recognized that WADEM includes "Medicine" in its name, the participants acknowledged that "Disaster Medicine" is multidisciplinary, that the WCDEM-13 "Melbourne Statement" urged WADEM to "focus more of its energies on the Public Health aspects of disasters and emergencies"; and that the WADEM's statement of purpose focuses on "Human Health", the participants supported the view that "Disaster Health", or "Health Sector", suggested a multidisciplinary approach, and is a more inclusive, contemporary, and appropriate term to describe this field.

    Although this was the prevailing view, there were dissenting views based on the use of these related terms in different countries. This will require further discussion at the WADEM Board level.

Whilst not claiming to have recorded every view, the following comments were made on this controversial statement during discussion and are included here as an explanatory statement on the differing perspectives on use of these terms:

a. "Health" is not a discipline;
b. "Disaster health" may be multidisciplinary, but it doesn't imply restoration to health after disasters;
c. "Disaster Medicine" implies illness. Is it a "discipline" or a field of practice?;
d. Everyone knows the term" Disaster Medicine" and has a general appreciation of its meaning;
e. In preparing the WADEM Utstein Guidelines, a similar discussion concluded to use the term "Disaster Health Management"—but this implies a focus on management;
f. Something is needed because the list of "major events" is too long to use in a definition;
g. Disaster "Medicine" implies that it is only for medical doctors, yet in some countries, doctors do not provide the leadership in disasters;
h. "Medicine" doesn't necessarily imply preparation, system management, and other components of the "Disaster Cycle";
i. To have broader political and international acceptance, it should not be "Disaster Medicine";
j. A new major thrust of the field is a multidisciplinary emergency preparedness; and
k. The doctors will have to learn about and be involved in management in disasters.

The participants considered the target audience of the intended education and training programs in "disaster health" be regarded as "consumers". They were confident that the domain was multidisciplinary, as suggested by the range of disciplines represented by participants at this Open International Meeting.

7. *Definition and Scope of "Disasters"*—Whilst it is acknowledged that the term "Disaster" has value in a generic sense and should continue, the literature suggests that this term is ill-defined, dynamic, lacks international consensus, and will continue to be interpreted from the perspective of the specific user of the term, participants accepted the more descriptive approach of "major events that actually or potentially threaten the health status of a community".

In the absence of a readily available, international "disaster epidemiology" database, the meeting was influenced by the classifications used by the WHO Centre for Research in the Epidemiology of Disasters (CRED),[19] based at the Catholic University of Louvaine, Brussels, Belgium, the World Disasters Report,[20] and expanded by the WCDEM-13 Melbourne Statement,[21] and the emerging approach through risk assessment and risk reduction,[22] and considers the scope of "Major Events" to include, but not necessarily limited to, the following:

a. Mass gatherings;
b. Major incidents, e.g., transport incidents;
c. Technological disasters, e.g., fires;
d. Deliberate e.g., Terrorism;
e. Natural disasters;
f. Public health crises, e.g., potential infectious diseases; and
g. Complex emergencies.

8. *Health Sector to be More Proactive*—Whilst there is international evidence to suggest that the health consequences of "Disasters" have been reduced, not only by improved immediate response and health management, but also by an increased health involvement and activity in all phases of the "Disaster Cycle", i.e.,

a. Prevention, including risk assessment and risk reduction;
b. Mitigation;
c. Preparedness;
d. Response;
e. Rehabilitation/recovery; and
f. Reconstitution/reconstruction.

Whilst it is acknowledged that the health sector's response to "disasters" often is "reactive", participants supported the view that the health sector should manage activities proactively by:

a. Leading and managing, not merely administering;
b. Developing guidelines, i.e., minimal requirements;
c. Establishing benchmarks;
d. Identifying best practices;
e. Establishing the evidence base for practice;
f. Evolving standards informed by the above; and
g. Utilizing a preventive, risk management paradigm.

Focus Statement 3—WADEM to help lead the construction of the "Science"

Whilst considering the Issues Paper and during discussions, it was noted that the science of "Disaster Medicine" is evolving and currently lacks not only recognized mature theories, but also a readily accessible, up-to-date evidence-base and epidemiological data sets, the development of both is essential to be developed in parallel with the education programs, the participants recommended that the WADEM seek to:

a. Facilitate an international, collaborative network of Centres of Excellence in Disaster Health Research and Education, e.g., the WHO Collaborative Centres, or voluntary consortia of Universities and NGOs, to help construct the "Science" and the evidence-base of the discipline in a systematic manner; and
b. Lead the development of an international "Research Agenda" in this domain.

Focus Statement 4—Developing a framework for "Disaster Health"

Whilst it is recognized that there is a lack of mature scientific theories, there is evidence of emerging principles, models and frameworks to help structure "disaster health management".[18] Although participants had difficulty in endorsing a single visual model, they discussed and further developed the model suggested by Bradt *et al*,[14] previously distributed in the Issues Paper.

This conceptual model examined and finally agreed upon by the Brussels Meeting, sustains different scenarios

and allows a better preparedness both for the (affected) community itself including their health agencies and for the professionals involved in the response to major events. It allows for integration, flexibility, coherence, clarity, context and different circumstances.

The exchange and discussions focused on the education and training requirements at different levels which are specifically related to major events/incidents (disasters, major incidents, public health crises) and which differ from those for "normal" routine activities.Inclusion of the following components was seen as being useful in developing a conceptual model, which was sustained in different scenarios. They identified that doctors in this field needed more training and involvement in the management of "major events":

1. Primary disciplines:
    a. Clinical and psychosocial;
    b. Public health; and
    c. Emergency and risk management;
2. Support disciplines:
    a. Geography, engineering, anthropology;
3. Community response, resilience and communication; and
4. Context;
    a. Social, cultural, political, economic, and level of health care.

The primary disciplines were adopted from the Bradt model. The clinical and psychosocial disciplines were intended to be inclusive of all the diverse clinical disciplines that may contribute to "Disaster Health". It was considered best to not name specific disciplines; however, the importance of recognizing the psychosocial domain in disasters was acknowledged by inclusion in the primary clinical discipline title. Likewise, the public health discipline was seen to be inclusive of all components of contemporary public health, for example, surveillance, data collection, disease outbreak control and water, nutrition, shelter, and safety. The emergency management discipline was seen as a particular weakness in providers in the clinical disciplines. The meeting also sought to strengthen the importance of a risk management approach throughout all phases of the disaster cycle and emphasized this domain by inclusion in this component of the primary disciplines.

The primary disciplines play different roles in different phases of the disaster cycle, and in different causes of disasters. For example, in the initial response phase, during a transport incident, the clinical disciplines and emergency management play key roles, whilst in an infectious disease outbreak, public health plays the key role.

The primary disciplines are represented diagrammatically in Figure 1.

The participants viewed the breadth of "Disaster Medicine" as being broader than the original Bradt model. Whilst agreeing that all primary disciplines required the core knowledge of the other primary disciplines represented by the intersection of the three circles, the participants felt that each primary discipline required more knowledge and skills of its own discipline with respect to disasters, and also of the main interface with each of the other two primary disciplines. This is represented diagrammatically in Figure 2 and viewed as a better and clearer definition of the scope of "Disaster Health". Fortuitously, it also offers the opportunity to diagrammatically include representation of the multiple support disciplines.

Finally, the participants decided to add the additional important perspectives of community preparedness, response, and resilience to the Bradt model, as well as the overarching perspective of the social, cultural, political, economic, and existing level of health care in the setting of the specific disaster (Figure 3).

Participants believe that it is crucial to take into account that major events are not dealt with by formal agencies, health professionals, emergency responders and/or officials alone. People affected, bystanders, family, and the wider community often are the first to respond, and the long-term consequences depend essentially on their resilience and restoring capacity.

Preparedness, therefore needs to include the community level. The education and training requirements of health professionals must also include socio-cultural awareness and the skills and competencies to involve and communicate with communities.

The participants again considered the controversy over the terms "Disaster Medicine" and "Disaster Health" and suggested the framework focus on "Health", even if the term "Disaster Medicine" continues to be used.

The participants considered that, at least in first analysis, the evolving framework could be applied to all phases of the disaster cycle.

Finally, in developing this framework for "Disaster Health", the participants added representation of the major events that define the scope of "Disaster Health" to which the framework can be applied. This also would include resolution of issues relating to definitions and terminology, scope, and classification, and an examination of the global and regional disaster epidemiology.

The full framework that evolved at the Meeting is illustrated in Figure 4.

Focus Statement 4—Applying the framework to education programs

Whilst it is recognized that the field is complex, diverse, and cited in specific contexts in different countries, participants, considered that the model lends itself to:

a. Facilitating a modular approach to developing education programs—these modules would be designed to "fill the gaps" for the different professions and could be undertaken individually as short courses, or as the full program;
b. Facilitating the development and consensus of a "common language" for use by the different professions working in this field;
c. Commercialization to support its development and sustainability of the education programs and the process of external accreditation; and
d. Flexible delivery methods including the use of distance methods.

Focus Statement 5—Development of Initial Educational Levels

Whilst Appendix 3 of the Issues Paper included a draft of an overview of a range of levels to be considered for developing educational programs, from the community level to

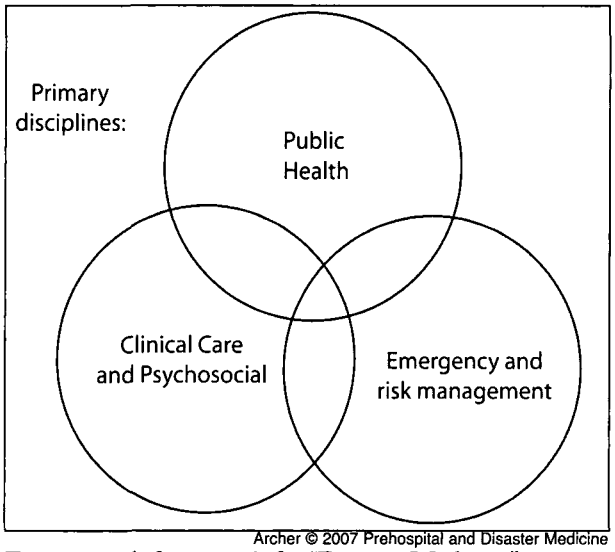

Figure 1—A framework for "Disaster Medicine" Ref: After Bradt *et al*, 2003

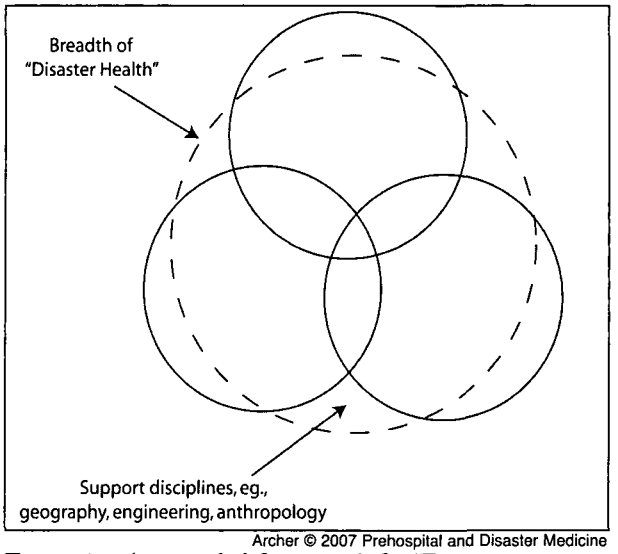

Figure 2—A expanded framework for "Disaster Medicine" Ref: After Bradt *et al*, 2003

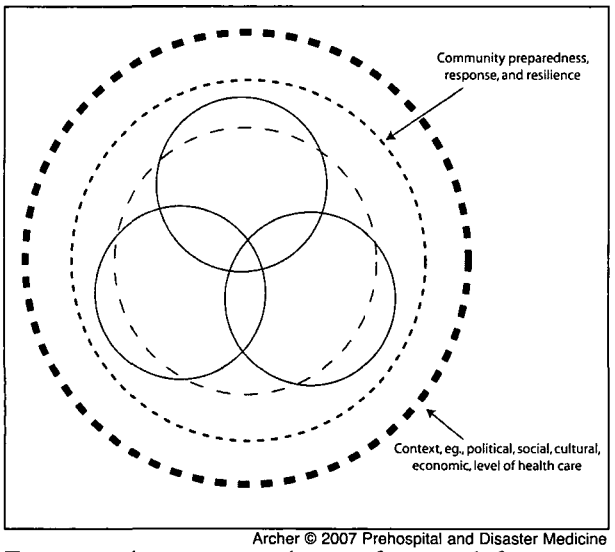

Figure 3—A more comprehensive framework for "Disaster Medicine" Ref: After Bradt *et al*, 2003

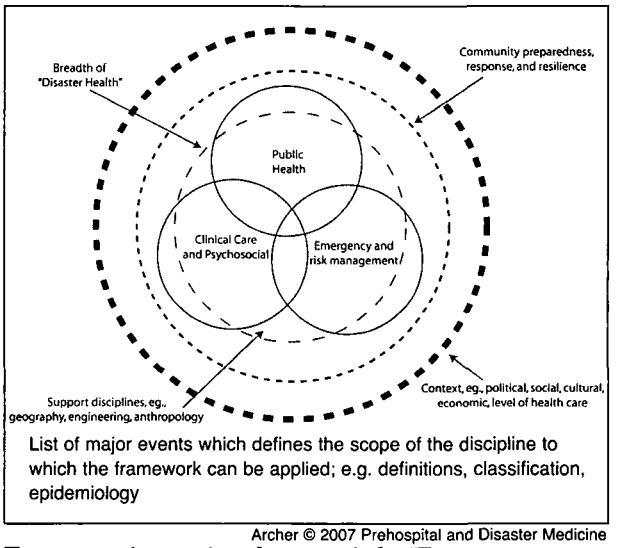

Figure 4—A complete framework for "Disaster Medicine"

higher specialist at the doctoral level, and included continuing education and courses to enhance an individual to expand their current practice level to include a role in disaster health, the meeting did not debate these levels in detail, participants believe that the first levels for which standards and guidelines be developed should be:

1. Core of "Disaster Health", i.e., initial competency-based program(s) common to all three disciplines:
   a. *Level 1*—to be routinely included in all undergraduate training programs for relevant professionals, and available as continuing education programs as a compulsory requirement for professionals involved in this field.
   b. *Level 2*—for practicing professionals wishing to expand their practice in this field, e.g. University Graduate/extension Certificate(s) with core and elective modules to fill the gaps relating to the discipline of participants.
1. Breadth of "Disaster Health":
   Level 3—for those wishing to be recognized as "Disaster Health Specialists" as academic, professional or policy leaders in this field at a University Masters Degree level, being multi disciplinary in nature and delivered by core and elective modules.

Explanations

Focus Statement 5: Explanation 1—Whilst it is recognized that the range of programs outlined are important considerations and that they be kept in context with a view that standards and guidelines be ultimately developed, e.g., at community and Doctoral levels respectively the participants believed that:

a. Resources are such that only limited levels can be developed at one time;
b. Since the practicing professional, regardless of discipline, is the most likely to meet the consequences of these "major events", it makes sense to start here, either as a compulsory continuing education program or preferably, as an inclusion in the initial undergraduate education program for all professionals likely to be exposed to such events;
c. Professionals at this level will be influential in developing other levels, and as trainers in the program; hence, there will be an "expanding tree" effect with exponential growth;
d. Working to develop this level will enable the process to get started and serve as an exemplar for other levels;
e. The small numbers of potential students and the lack of the scientific framework would make major developments at the higher levels impracticable at this time;
f. The range of stakeholders should be identified and involved in the process from an early stage, e.g., to determine the competency levels and the management of the education programs, and influence universities and other providers of professional education programs; and
g. Further discussion is required to occur on regarding the definition and balance between "Disaster medicine" and "Disaster management".

Focus Statement 6 —Accreditation of education programs
Whilst it is recognized that international education and training standards and guidelines are needed in this field; and
Whilst the view was expressed that there is an increasing number of "Disaster Medicine/Health"-related courses, of varying quality, and too many self-styled experts; and

Whilst it is recognized that if there were to be approval/endorsement of educational program in this field, there would be a need to establish a developmental framework, including the processes; and

Whilst the participants recognized the potential benefits of approval/endorsement frameworks operating in kindred disciplines at an international level, such as those outlined by Prof. D Alexander,[18] the ASPHER,[17] the ACEHSA,[13] and other bodies such as the International Society for Disaster Medicine,[23] and

Whilst there was a need to identify a source for the mandate (political, scientific, academic) to generate the "Authority" if the outcome was to have any chance of success in "Disaster Medicine", the participants were not able to fully consider and recommend on this issue.

Although the cautious prevailing view expressed during the meeting was that the establishment of international approval/endorsement processes for education programs in this field may have some benefits, and were in place in kindred disciplines, there was less comfort in identifying the mandate and which body/agency should be charged with this responsibility. The WADEM, OCHA, and the WHO were identified as potential lead agents for further discussion.

Whilst not claiming to having recorded every view, the following comments were made on this controversial item during discussion and are included here to facilitate further discussion:

1. The European Public Health initiative took 35 years;
2. What resources are required and who will provide them?
3. Is the justification for program accreditation the potential development of a sub-specialty/unique discipline in this field?
4. If it is a unique discipline there is a need to define the expertise and the scope of the discipline, and establish the criteria for role expertise;
5. "Disaster Medicine" is global; hence, should accreditation of educational programs also be global?—The world today requires greater collaboration!
6. Consider issues of the legal status, validation, accountability, and cross-border issues of the guidelines;
7. Is the training multidisciplinary on a focused area or does the training focus on an individual's discipline?
8. Do we build on what we have or create something new?
9. Need to put in an academic base for Disaster medicine; and
10. There exists a need for a communication strategy to facilitate success.

Post-Meeting Activities

Participants were asked to consider the following activities:

1. Review their region and/or discipline and list any Centres of Disaster Health Research or Education, and to provide contact details, if possible;
2. List individuals who could be approached to join an expanded Working Group on this project;
3. Re-read the Issues Paper in the light of discussions at the Meeting, and consider preparing (another) written responses to the Issues Paper, to be forwarded to the Meeting Convener;
4. List the implementation steps seen as important in the next phase in this project;
5. Identify possible barriers to implementation, and how may these barriers be overcome?; and
6. Consider attending WCDEM-14, Edinburgh, 16-20 May 2005, when a major session will be devoted to "Education", including tabling and discussion of the Working Group's report and recommendations.

Dr. Geert Seynaeve (Belgium) and Prof. Virginia Murray (UK) offered to prepare a questionnaire to be distributed to participants and others to systematically collect information on identifying international Centres of Disaster Health Research or Education.[24]

The Working Group undertook to: (1) prepare and distribute notes of this meeting; (2) prepare and conduct additional international meetings to gain a broader international input; and (3) prepare a report for WCDEM-14.

Discussion

The task undertaken by the Working Group of the WADEM Education Committee has proved challenging and demanding. The process has been enriched by the international collaboration and enhanced by expertise willingly shared.

Whilst attempting to underpin the frameworks with appropriate evidence, it is recognized that the science of "Disaster Health" is evolving and currently lack not only recognized mature theories, but also a rarely accessible, up to date, evidence-base of epidemiological data sets, both of

which are considered essential to be developed in parallel with the educational programs. As a consequence, the current status of the framework developed during this international meeting is that it is largely consensus-based. The international disaster medicine and emergency health community are encouraged to develop a collaborative network and scientific platform to systematically develop the science of this evolving discipline. By their very nature, disasters are global, and inclusive—developing the science also should be global and inclusive.

Nonetheless, the participants in this Brussels meeting collaboratively have developed a model for future debate on its evolution, applicability, robustness, and further development. In exploring this model through the various case studies presented during this meeting, there is a strong belief that not only is the "Framework for Disaster Health" a solid conceptual model to help structure the evolving science, but it also provides a useful framework to underpin the design of education programs. Clearly, there must be further debate, systematic pursuit of the evidence base, and rigorous evaluations of the frameworks.

The Meeting, and hence this Report, have a number of limitations. First, participants were predominantly European and the needs and perspectives of other regions may differ from those expressed during this meeting. The WADEM Education Committee intends to seek a broader based, global input to further developing these frameworks in an attempt to achieve a more global consensus. Secondly, as noted above, the evidence-base to underpin the frameworks and outcomes of this meeting are weak. However, provided best available evidence is utilized and the frameworks remain flexible, they nonetheless provide a first endeavor to conceptualize this field and will no doubt evolve with the passage of time and increasing evidence. However, to maximize this evolution, WADEM has the responsibility to provide an academic and scientific leadership in developing effective, collaborative consortia to move towards this objective.

Future activities will be led by the WADEM Education Committee to generate discussion and debate on these current frameworks and propose strategies for their continued evolution, whilst concurrently leading the process to achieve global consensus on international standards and guidelines on education and training to effectively manage the health sector's multi-disciplinary activities to reduce the consequences of major events that actually or potentially threaten the health status of a community.

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Appendix 1—Open International Meeting list of participants (C = Meeting Convenor; # = WADEM Education Committee Working Group member; * = WADEM Board Member

First Name	Name	Country
David	Alexander	UK/Italy
Ahmed	Ammar	Egypt
Frank	Archer	Australia#*
Agoritsa	Baka	Greece
Tarak Das	Banerjee	India
Serge	Boulange	Belgium#
Madelon	Bronner	The Netherlands
Charles	Brück	Luxemburg
John	Coleman	New Zealand
Hans	de Munter	The Netherlands
A.M.	de Ruyter	The Netherlands
Claude	de Ville de Goyet	USA/Belgium
Maaike	de Vries	The Netherlands
Ignace	Demeyer	Belgium
Judith	Fisher	UK/USA#*
Stefan	Gogaert	Belgium
Debarati	Guha-Sapir	Belgium
Donald H	Hiett	USA
Francis	Huot-Marchand	France
Givanni	Jonckheere	Belgium
Gisèle	Kamwanya	DRCongo
Brigitte	Lueger-Schuster	Austria#
David	Markenson	USA
Andrew	Mason	UK
Jean-Pierre	Massué	France
Joanne	McGlown	USA*
Silvia Miranda	Hyam	Portugal
Virginia	Murray	UK
Josée	Netten	The Netherlands
Miguel	Oliveira	Portugal
Nelson	Pereir	Portugal
Nicholas	Petropoulos	Greece
Thierry	Prunet	France
Demetrios	Pyrros	Greece*
Reza	Raissi	Iran
Christine	Rodriguez	USA
Magda	Rooze	The Netherlands
Alison	Rowlands	UK#
Marc	Ruijten	The Netherlands
Günter H.	Seidler	Germany
Philip	Selwood	UK#
Geert	Seynaeve	Belgium C#*
Colin	Smart	UK
Nicolae	Steiner	Romania
Edita	Stok	Slovenia*
Filip	Tambwe	DRCongo
Béatrice	Toussaint	Belgium
Pieter	van der Torn	The Netherlands
Karel	Vandevelde	Belgium#
Moya	Wood-Heath	UK
Anastasia	Zigoura	Greece

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Thursday, 28 October 2004:
Afternoon and evening: Working Group planning meeting
Friday, 29 October 2004:
Morning: Working Group planning meeting
1:00pm: Registration and coffee
2:00pm – 7.00 pm: First Session – Case studies
7:30pm: Conference Dinner
Saturday, 30 October, 2004:
8:30am: Second session – Small groups 1
10:30am: Morning tea
11:00am: Third session – Plenary session
12:30pm: Lunch
2:00pm: Fourth session – Small groups 2
3:00pm: Afternoon tea
3:30pm: Fifth session – Plenary session – learning from developing standards in kindred disciplines.
5:00pm Close
Sunday, 31 October 2004:
9:00am: Sixth session – Plenary session – meeting consensus
10:30am: Morning tea
11:00am: Seventh session – Plenary sessions – meeting consensus continued
12:30pm: Conference close and lunch
2:00pm: Working Group debrief and planning meeting

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