PREHOSPITAL AND DISASTER MEDICINE
VOLUME 17/SUPPLEMENT 3

HEALTH DISASTER MANAGEMENT
GUIDELINES FOR EVALUATION AND RESEARCH IN THE UTSTEIN STYLE

VOLUME I. CONCEPTUAL FRAMEWORK OF DISASTERS

Task Force on Quality Control of Disaster Management
&
The World Association for Disaster and Emergency Medicine
&
The Nordic Society for Disaster Medicine

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COLLABORATING ORGANIZATIONS

Mediterranean Council for Burns and Fire Disasters
Nordic International Rescue Foundation
Organization of African Unity
Swedish National Board on Health and Welfare
United Nations Department of Humanitarian Affairs
World Health Organization

ISBN: 1049-023X
Editors: Knut Ole Sundnes, MD; Marvin L. Birnbaum, MD, PhD.; Elaine Daily Birnbaum, RN, BS, FCCM
Designer: Kathie Campbell

Printed in USA

This work was supported in part by grants from the Laerdal Foundation for Acute Medicine; the Royal Norwegian Ministry of Foreign Affairs, the Swedish National Board on Health and Welfare; the Swedish International Development Agency (SIDA); Joint Medical Command Norwegian Defence Forces and the Nordic Council.

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Key Words: analysis; catastrophe; data collection; definitions; description of disaster; disaster; disaster management; disaster medicine; disaster phases; disaster research; disaster responses; extrication; health consequences; health status; injuries; interventions; measures of effectiveness; medical responses; morbidity; mortality; preparedness; needs assessment; public health; research; research design; research methods; risk evaluation; scope; template; type; Utstein style; warning

ACKNOWLEDGEMENT

We express our profound gratitude to Elaine Daily-Birnbaum
whose critical questions, editorial skills, and lingquistic abilities
were significant in making this document what it has become.

We also are deeply in debt to Kathie Campbell who unselfishly
devoted her time and professional skills to convert
our manuscript into this book.

Without these two ladies, we still would have had a long way to go.

Knut Ole Sundnes
Marvin L. Birnbaum

FOREWORD

DURING THE PAST 20 years, natural disasters have killed at least 3 million people, and have affected 800 million more. Since 1990, 6 million have died as a direct result of armed conflicts around the world. Disasters don't only affect health directly through violence and trauma. The effect on the national social and economic infrastructure decreases access to education and damages the public health system.

Disaster preparedness and mitigation make a difference. Health systems and communities are better prepared to cope. Preparedness minimises excess morbidity and reduces damage when disasters happen. In complex emergencies, there are well-known and cost-effective public health measures that can save lives.

The basis for any successful public health intervention is sound health information. Research and evaluation provide health practitioners with the knowledge needed for preparedness and response. Standardised methods and definitions are necessary so that results of research and evaluation are valid and comparable. This book makes a valuable contribution to address this need.

Research and evaluation also provide good platforms to exchange knowledge. As humanitarian crises become more complex, with new and varied actors on the ground, strong partnerships and collaboration between organisations, experts, and disciplines is vital to build capacity.

It is for these reasons that the World Health Organization supports efforts to promote systematic approaches to evaluation and applied research in emergencies to strengthen the evidence base for disaster reduction from a public health perspective. This book provides important guidelines for those who are seeking methods for a better understanding of the impact of disasters on societies and people everywhere.

Dr. Gro Harlem Brundtland
Director-General
World Health Organization

PREFACE

THIS IS THE FIRST OF four volumes to be published initially as Supplements to *Prehospital and Disaster Medicine* and eventually as a bound, free-standing, four volume set. These *Guidelines* and the Templates embedded within them are the result of more than seven years of discussions by members of the Steering Committee of the Task Force for Quality Control of Disaster Management and of two Congresses with participants from more than 40 countries. They are designed to provide the structure for the conduct of research and evaluations into disasters.

The current volume provides a discussion of a Conceptual Framework that forms the organization necessary for developing an understanding of the pathophysiology of disasters. Volume II contains a description of 14 basic societal functions that may be affected by an event producing a disaster. All of the basic societal functions are interactive and their respective functions are integrated by a Coordination and Control function. Volume III partitions the flow of disasters into Phases that are functional and not temporal. These Phases are linked together in a Disaster Response Template. Each of the Phases is described in detail and two severity scores (Disaster Severity Score and Health Disaster Severity Score) are introduced that will facilitate comparison of disasters caused by similar and dys-similar events. Volume IV provides a road map for the design and conduct of research or evaluations. It includes two additional templates that outline the steps in a research or evaluation project and the steps involved in the design of such projects.

The current Volume outlines the need for the structure encompassed in the *Guidelines*, and it seeks to establish a common nomenclature and a set of definitions essential for communication between the elements that comprise Disaster Medicine, as well as between Disaster Medicine and each of the other disciplines involved in Disaster Management. A comprehensive Glossary of Terms is included. Much of the confusion in discussions of disasters is related to the lack of a universally accepted set of definitions. Each discipline has its own set of definitions often for the same or similar terms. Disasters

require interactions by many disciplines, some seemingly far distant from Disaster Medicine.

Chapters One and Two examine the human and economic scope of disasters. Together, they establish the need for structure in the performance and reporting of disaster research and for the evaluations of interventions for preparedness and for responses to events.

Chapter Three provides a set of definitions, some of which are new to the Science. Examples include the absorbing and buffering capacity of a given society to an event caused by the actualization of a specific hazard. The Chapter presents a logical framework into which each of terms fit. Using this structure, it seeks to clarify some of the terms whose definitions may differ between the many disciplines involved in disaster planning and response. Hopefully, use of this structured approach will help to clarify the confusion created by use of the same term in the many contexts in which it is applied.

Chapter Four identifies many of the factors that contribute to the probability that damage will occur from an event, given that an event is the actualization of a hazard. It uses a mathematically designed expression to relate hazards, risks, preparedness for, and responses to an event.

Chapter Five describes methods for defining the level of damage that results from an event, its impact on the functional status of the components of the affected society, and for identification of the needs that result from the damage. It uses the production process model and relates functions with requirements, consumption, and needs. Supplies are described in terms of available resources both human and material as goods and services. Societal functions and subfunctions have thresholds below which the supplies of goods and/or services are unable to provide all of their required functions. In addition, some functions, such as the available supply of potable water, also have a critical threshold below which the available level of supplies cannot support the lives of the affected population, manifest by a rise in the crude mortality rate. The need for appropriate indicators of function of levels of available supplies is developed.

Chapter Six examines analyses of interventions in terms of their effects, outcomes, benefits, and costs. It introduces a new concept, Best Outcome Without Intervention (BOWA) that may be helpful conceptually in determining the impact of an intervention or set of interventions.

Chapter Seven examines responses to an event highlighting the need for well-defined goals and objectives without which it is not possible to define

the effectiveness of the response. Further, it examines the relationships between indicators, their thresholds, and the development of standards. Recovery is defined as is management as the process taken to minimize the damage and restore the pre-event status of the society impacted by an event.

Lastly, in this Volume, some of the ethical dilemmas associated with disasters and their relations to international law are discussed. The issues raised are meant to provoke discussion and are not proposed as definitive solutions to all of the dilemmas associated with disasters and their management.

All together, the Conceptual Framework should stimulate the development of a common language that will promote the understanding of the pathophysiology of disasters. To this end, a Glossary of Terms also is provided that expands on the work pioneered by SWA Gunn in the first attempt to gain understanding through standardization of the language and concepts we use in describing the events that comprise the greatest threats to humankind. It is not intended to be the definitive and final work, but should remain a dynamic document. It should form the basis for reporting of all future research and evaluations into all aspects of disaster medicine. Without using such a structure, it will be difficult to relegate hazards to a state that they no longer pose a massive threat to us and our children. We look forwards to your responses and input.

Knut Ole Sundnes, MD
Professor Marv Birnbaum, MD, PhD

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ACRONYMS AND ABBRIVIATIONS

BATNA	Best Alternative to Negotiated Agreement
BOWA	Best Alternative To Negotiated agreement
CRED	Center for Research on Epidemiology on Disaster
CRID	Regional Disaster Information Center
CSP	Center for Systemic Peace
DCCP	Disaster Critical Control Point
DHA	Department of Humanitarian Affairs
DMTP	Disaster Management Training program
FCDP	Force Commander's Policy Directive
HR	United Nations Declaration of Human Rights
ICIHI	Independent Commission on International Humanitarian Issues
ICRC	International Committee of Red Cross
IDNDR	International Decade for Natural Disaster Reduction
IDP	Internally Displaced People
IGO	Inter-Governmental Organization
IHL	International Humanitarian Law
IOMC	Inter-Organization Program for the Sound Management of Chemicals
IPCC	Intergovernmental Panel on Climate Change
ISDR	International strategy for Disaster Reduction
NATO	North Atlantic Treaty Organization
NCDC	National Climatic Data Center
NGO	Non-Governmental Organization
OAU	Organization of African Unity
OCHA	(UN) Office for Coordination of Humanitarian Affairs
OFDA	Office of Foreign Disaster Assistance
PAHO	Pan-American Health Organization
PDM	Prehospital and Disaster Medicine
RoE	Rules of Engagement
SIPRI	Stockholm International Peace Research Institute
SOP	Standard Operational Procedure
UDPC	Uppsala University Department for Peace and Conflict Research
UATI	International Union of ytechnical Associations and Organizations
UK	United Kingdom
UNDRO	United Nations Disaster Relief Coordinating Office
UNFCCC	United Nations Framework Con vention on Climate Change
UNOG	United Nations Office in Geneva
US	United States (of America)
WADEM	World Association for Disaster and Emergency Medicine
WFEO	World Federation of Engineering Organization
WHO	World Health Organization
WMA	World Medical Association

@inproceedings{Ss2004HEALTHDM, title={HEALTH DISASTER MANAGEMENT Guidelines for Evaluation and Research in the Utstein Style S S S Chapter Six INTERVENTIONS , EFFECTS , OUTCOMES , BENEFITS , AND COSTS}, author={Sule Ss}, year={2004} }. Sule Ss. Published 2004. Interventions are actions (processes) by humans to prevent, attenuate, create, or augment change(s). Resources (human, material) are consumed in the production of change. In disaster work, interventions are designed to: (1) affect the probability that damage will occur from an event; or (2) effect recovery. The definitions and implicatio Health Disaster Management: Guidelines for Evaluation and Research in the Utstein Style: Executive Summary Task Force on Quality Control of Disaster Management Send comments to Marvin L. Birnbaum. Return to PDM Home Page Return to Tables of Content Collaborating Organizations: Mediterranean Club for Burns and Fire Disasters Nordic Society of Disaster Medicine Nordic International Rescue Foundation Organization of African Unity Prehospital and Disaster Medicine Swedish National Board on Health and Welfare United Nations Department of Humanitarian Affairs World Association for Disaster and Emerg