



World Health Organization

A FRAMEWORK FOR MANAGEMENT OF MENTAL HEALTH IMPACT OF RADIATION EMERGENCIES



Fahmy Hanna and Zhanat CARR
WHO Headquarters

Olvido Guzman
NEA/OECD

Matthias Zahringer
BfS, Germany

Wolfgang Weiss
Germany

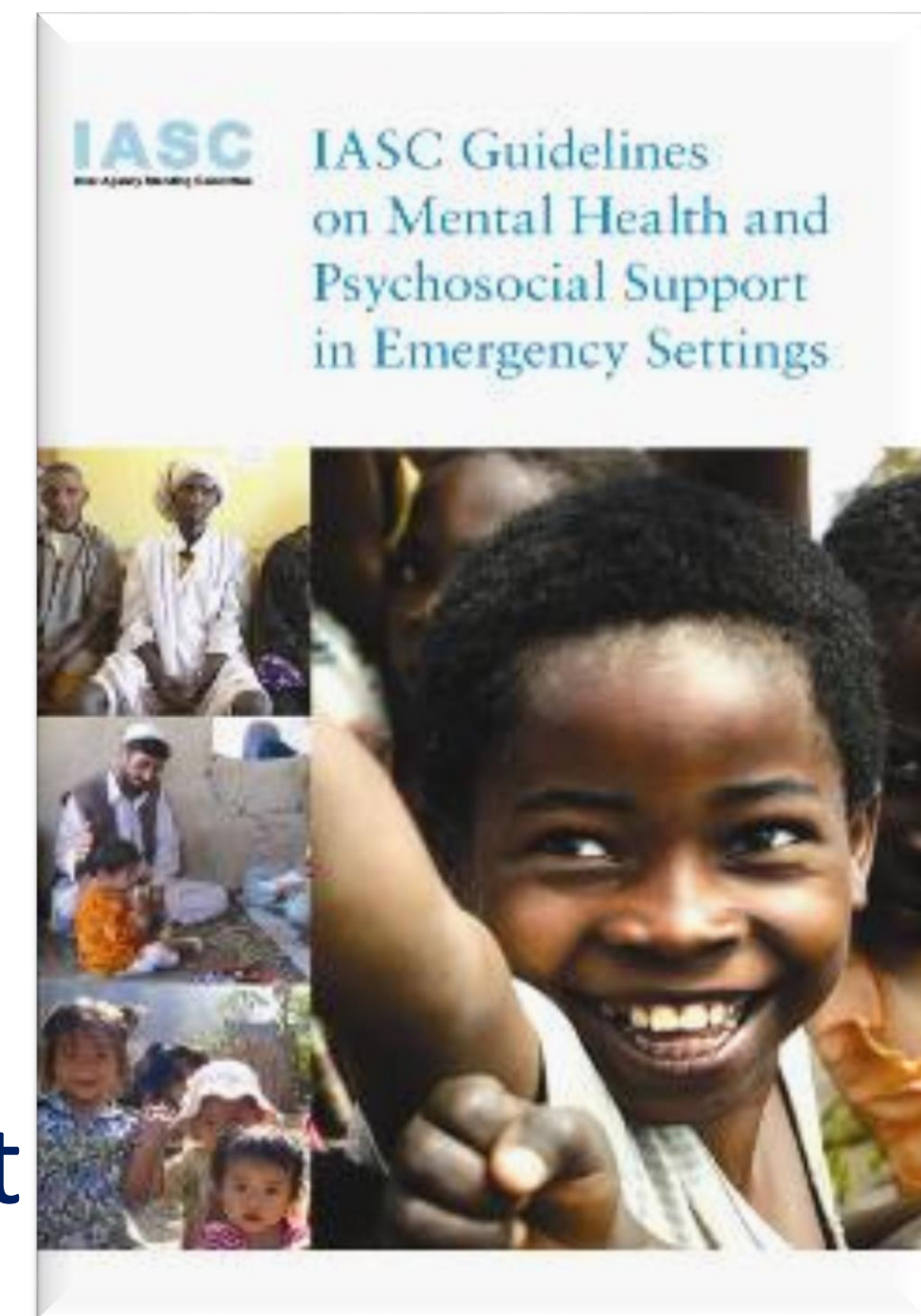
No Health without Mental Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity
(WHO definition, 1948)

Mental health is defined as a state of well-being in which every individual realizes his/her own potential, can cope with stressful situations, can work productively and fruitfully, and is able to make a contribution to her or his community.

Global action on addressing Mental Health and Psychological Support in Emergencies

- Since 1992, the Interagency Standing Committee (IASC) – a unique forum that has a primary role for coordination, policy development and decision-making with regard to humanitarian emergencies, involving the key UN and non-UN partners. The IASC launched a Mental Health Global Action Plan (*mh-GAP*)
- IASC 2007 Guidelines on Mental Health and Psychological Support (MHPSS) in Emergency Settings were developed with input from UN agencies, NGOs and academia. The Guidelines help to plan, establish and coordinate a set of minimum multi-sectoral responses to protect, support and improve people's mental health and psychosocial wellbeing in the midst of an emergency.



IASC Guidelines framework terminology

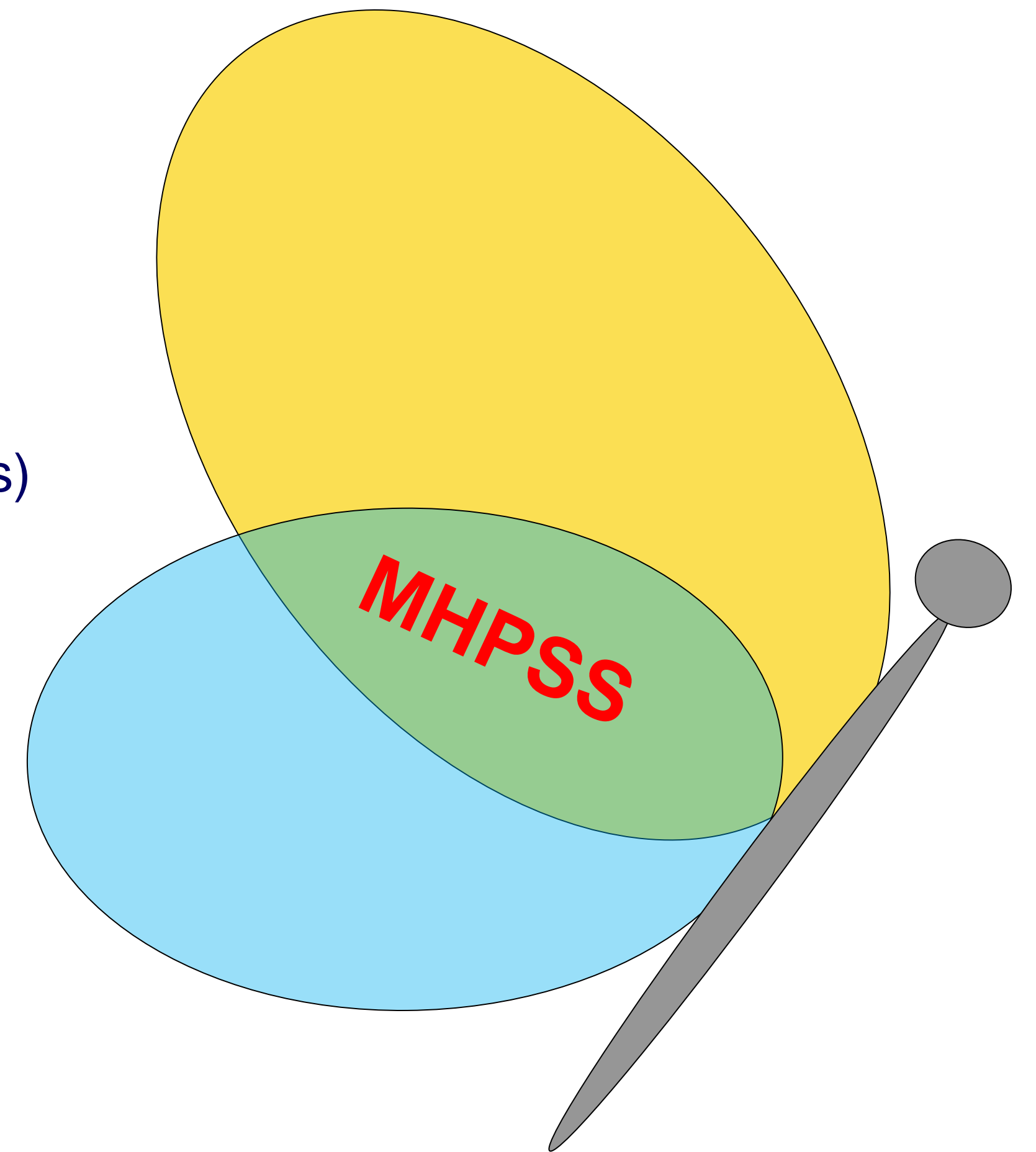
Conventional use of the term *psychological support* varies and implies different things for different users:

- For health professionals: non-clinical interventions for people with mental disorders (including transient psychological conditions, outside of clinical psychiatry and mental disorders)
- For others (civil protection, social/community services, etc): any non-clinical support for any person with/ without disorder (e.g. creating child friendly spaces)

Lack of common language => Confusion, misuse of guidance

IASC uses inclusive approach for a composite definition covering both aspects:

- protecting or promoting psychosocial well-being through providing **Psychological Support**
- and preventing or treating **Mental Health** disorders
- **MHPSS** – a commonly used abbreviation by the IASC members and associated/relevant professional communities



Contributing factors to MHP consequences of nuclear emergencies

- Fear of radiation due to the lack of knowledge and information
- Exposure to stress related to the implementation of protective actions
- Challenges of risk communication often under unclear circumstances
- Social stigma and discrimination of the evacuees
- Evacuation, relocation and long-term displacement
- Social and economic consequences



Photo: Asahi Shimbun
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Psychosocial consequences of nuclear emergencies

- Psychosocial impact may outweigh the radiological consequences of nuclear emergencies. It was found to be the largest after Chernobyl accident (WHO, 2006) and persisted for decades.
- In 1986, the socio-economic impact of the accident itself was exacerbated by the disintegration of Soviet Union. In addition, the lack of proper risk communication, no access to information and to lack of community's engagement in the decision making, as well as stigmatization of the affected persons and participants of the long-term medical monitoring, have contributed to the over-all anxiety of the affected population.
- Medical follow-up was linked to small social benefits, but also reinforced the stigmatization and affected people's lives and contributing to the psycho-social consequences of the accident

Psychosocial impact of 2011 Fukushima Daiichi NPP accident


- Loss of homes, jobs, and the rupture of social fabric of the affected communities has caused a tremendous stress to the affected people.
- In addition to the stress related to evacuation and relocation, a social stigma is attached to evacuees and residents of the affected areas.
- Parents of affected children are reported to have recurring anxiety about the health and future of their children.
- Evacuees, TEPCO workers, and public service personnel affected by the Fukushima nuclear accident were reported to have a high level of anxiety, depression, panic attacks, PTSD, burn out, higher incidence of suicide, etc.




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The Fukushima Daiichi Nuclear Power Plant accident and school bullying of affected children and adolescents: the need for continuous radiation education 

Toyooki Sawano , Yoshitaka Nishikawa, Akihiko Ozaki, Claire Leppold, Masaharu Tsubokura

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Abstract

The health threats of radiation-release incidents are diverse and long term. In addition to direct radiation effects, it is imperative to manage the indirect effects of radiation such as stigma, prejudice and broader mental health impacts. Six years after the Fukushima Daiichi Nuclear Power Plant accident of March 2011, bullying caused by stigma and prejudice toward evacuees, including children, has become a social problem in Japan. This phenomenon may be associated with the fact that knowledge about radiation has still not reached the general public, and to a potential lack of motivation among Japanese citizens to learn about radiation and bullying. Continuous and sustained education regarding radiation is warranted in order to enhance the general knowledge level about the effects of radiation in Japan after the Fukushima Daiichi Nuclear Power Plant accident, and this education will become an important reference for education after future nuclear disasters.

Non-radiological impact of RN emergencies on health - call for broadening the scope of preparedness

Radiation Protection Dosimetry Advance Access published August 19, 2016

Radiation Protection Dosimetry (2016), pp. 1–5

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PROTECTING PUBLIC HEALTH IN NUCLEAR EMERGENCIES—THE NEED TO BROADEN THE PROCESS

Z. Carr^{1,*}, W. Weiss², N. Roebbel¹ and J. Abrahams³

¹Department of Public Health, Environmental and Social Determinants of Health, World Health Organization, 20 Avenue Appia, 1211 Geneva, Switzerland

²Federal Office for Radiological Protection (retired), Hölderlinstr. 31, 79312 Emmendingen, Germany

³Department of Emergency Risk Management and Humanitarian Response, World Health Organization, 20 Avenue Appia, 1211 Geneva, Switzerland

*Corresponding author: Carrz@who.int

It is necessary for the radiation protection system to broaden beyond radioactive dose, the view on impact of nuclear accidents, taking in consideration the psychological, social and economic determinants impacting the vulnerability of the exposed population, as well as the impacts of emergency countermeasures. It is strongly recommended to pursue strategies, approaches and services that will address these aspects within the general health protection system and will be applied before, during and after an emergency. The paper raises awareness and proposes a three-step development process for an integrated framework based on the social determinants of health approach.

INTRODUCTION

Determinants of health in a nuclear or radiological emergency are radiation-induced health risks as well as lifestyle-based properties affected by broader social, economic and political forces that influence the vulnerability of members of the population related to the radiation hazard/event and the capacity of communities and countries to manage these risks⁽¹⁾. The consideration of both aspects in the assessments, decision-making and the implementation of protective and responsive actions is in line with WHO's definition of health being a 'state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition' (the WHO Constitution 1946)⁽²⁾.

The above statement from the WHO Constitution suggests that some people are more exposed to health threatening situations due to race, religion, political belief, economic or social condition, and that this is unjust.

As well documented, ionising radiation can induce early or delayed health effects. Early health effects (a.k.a tissue reactions), like skin burns, loss of hair

consequences, including death. At low and intermediate exposures delayed health effects can occur (latency period range from years to decades). Examples are solid cancers, leukaemia and genetic disorders occurring in children of exposed parents. Cancer following radiation exposure, even at very low doses due to nuclear emergencies, is a major concern in the long term after a nuclear emergency.

Nuclear accidents affect public health well beyond the direct induced effects of radiation (e.g. cancer, non-cancer disorders or organ effects at high doses). Long-term psychological consequences, as a non-direct impact of nuclear emergencies, are well documented and they are increasingly recognised⁽³⁾.

In addition to the direct and non-direct consequences of nuclear accidents, the social determinants of health (SDH) also have a strong influence on the vulnerability to the environmental hazards and they play a major role in the aftermath of such an emergency. The SDH are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. The SDH approach focuses on explaining social/political risk factors/inequalities in health and, in this case, of unequal health outcomes of disasters^(4, 5). These determinants include, among many others, low

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2018

NON-RADIOLOGICAL IMPACT OF A NUCLEAR EMERGENCY: PREPAREDNESS AND RESPONSE WITH THE FOCUS ON HEALTH

Z. Carr¹, M. Maeda², D. Oughton³ and W. Weiss^{4,*}

¹Department of Public Health, Environmental, and Social Determinants of Health, World Health Organization, Geneva, Switzerland

²Fukushima Medical University, Fukushima, Japan

³Centre for Environmental Radioactivity (CERAD), Norwegian University of Life Sciences, Aas, Norway

⁴Hölderlinstr. 31, 79312 Emmendingen, Germany

*Corresponding author: wolfgang.weiss1@googlemail.com

Available experience from Chernobyl and Fukushima clearly demonstrate that nuclear emergencies may result in low and very low exposure levels, at which psychological and social effects among the affected population will dominate over the actual biological effects of ionising radiation. International protection standards and guidelines request, that both radiological and non-radiological health consequences have to be considered in preparedness and response to an actual emergency and there is a need to broaden the radiation protection system's philosophy beyond the metrics of radioactivity and radiation dose. During the past decade a number of multidisciplinary projects were set up with the aim of evaluating management options according to social, economic and ethical criteria, in addition to technical feasibility to achieve this goal. WHO and partners from the Inter-Agency Standing Committee Task Force on Mental Health and Psychosocial Support in Emergency Settings have developed a comprehensive framework and guidelines, which can be applied to any type of an emergency or disaster regardless of its origin. There is a need to include the available scientific expertise and the technical, managerial and personal resources to be considered within a similar 'decision framework' that will apply to radiation emergencies. Key areas of the required expertise needed to develop such a framework are radiation protection, medical support (especially primary care and emergency medicine, mental health support), social sciences (anthropology, psychology, ethics) and communications experts. The implementation of such a multidisciplinary concept in the operational world requires education and training well beyond the level currently available.

INTRODUCTION

The ultimate aim of any protective action in response to a nuclear emergency is to protect human health. At the same time one has to make sure that protective actions are safe and the benefits of these interventions outweigh the harms. Unfortunately, as seen in recent experiences with disasters and emergencies, the balance between harms and benefits is not simple to achieve. The question how this can be achieved under the emergency circumstances requires further conceptual thinking because the available evidence clearly indicates that nuclear accidents affect public health well beyond the direct effects of radiation (e.g. tissue reactions at high doses, or increased risk of certain types of cancer and non-cancer disorders at lower doses of exposure). This is of particular importance for nuclear power plant scenarios, which would result in low and very low exposure levels, at which psychological effects among the affected population will dominate over the actual biological effects of ionising radiation. Long-term psychological and social consequences, as a non-direct impact of nuclear emergencies, are well documented and they are increasingly

recognised^(1, 2). They disrupt the social fabric of everyday life of the affected communities—both of the uprooted evacuees and receiving communities. Some problems are brought on by the emergency, some by the response to the event, and others are pre-existing. Significant social problems may include the following⁽³⁾:

- Emergency-induced: family separation, safety, discrimination, loss of livelihoods, loss of trust in authorities and lack of the resources. In addition anger, despair, concerns about health risks and about the health of children. Last but not least, the social stigmatisation of persons affected by ionising radiation is also exacerbating the social impact on affected populations.
- Response-induced: overcrowding, lack of privacy in shelters, loss of community or traditional support.

Problems of a more psychological nature that may occur after an emergency situation are the following:

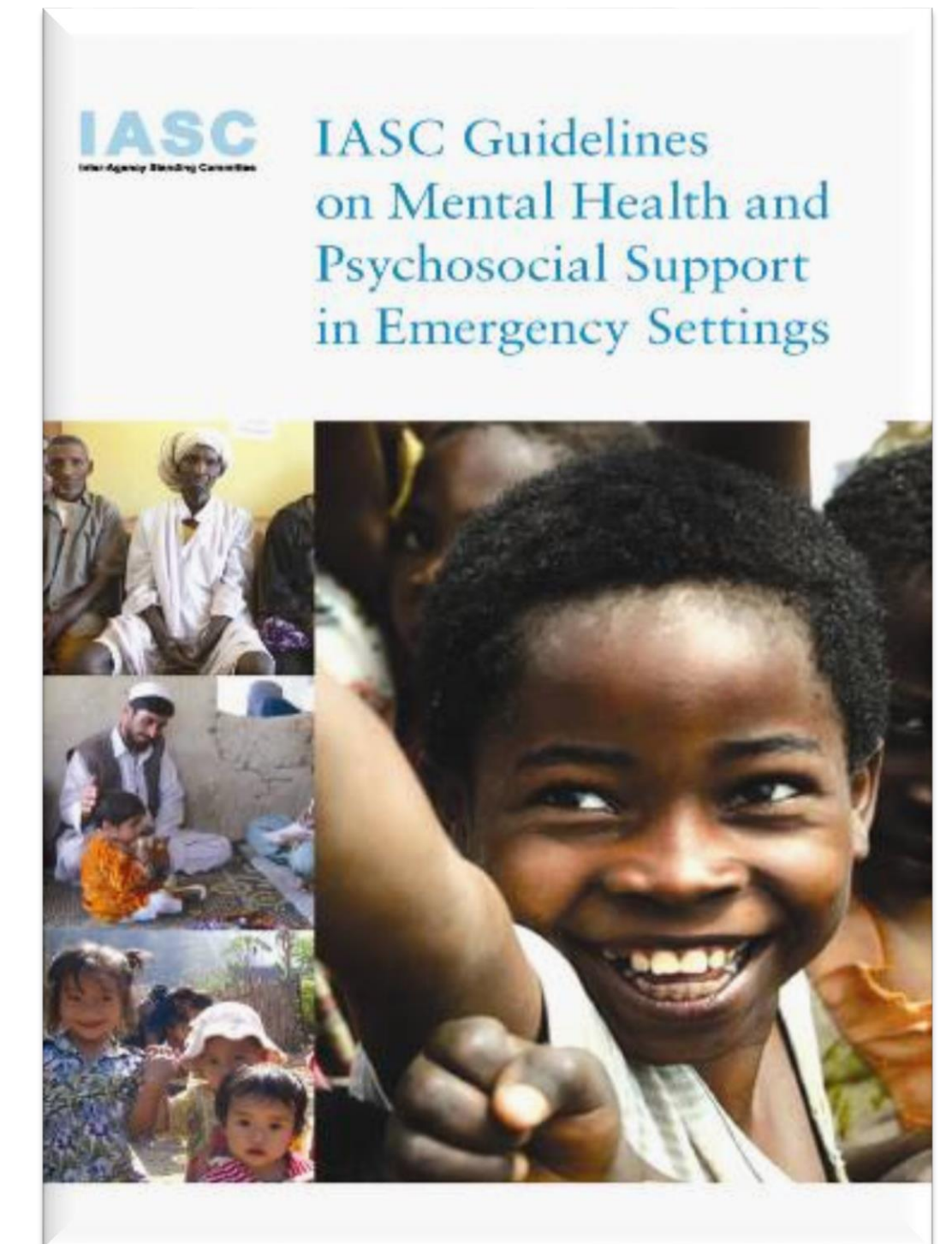
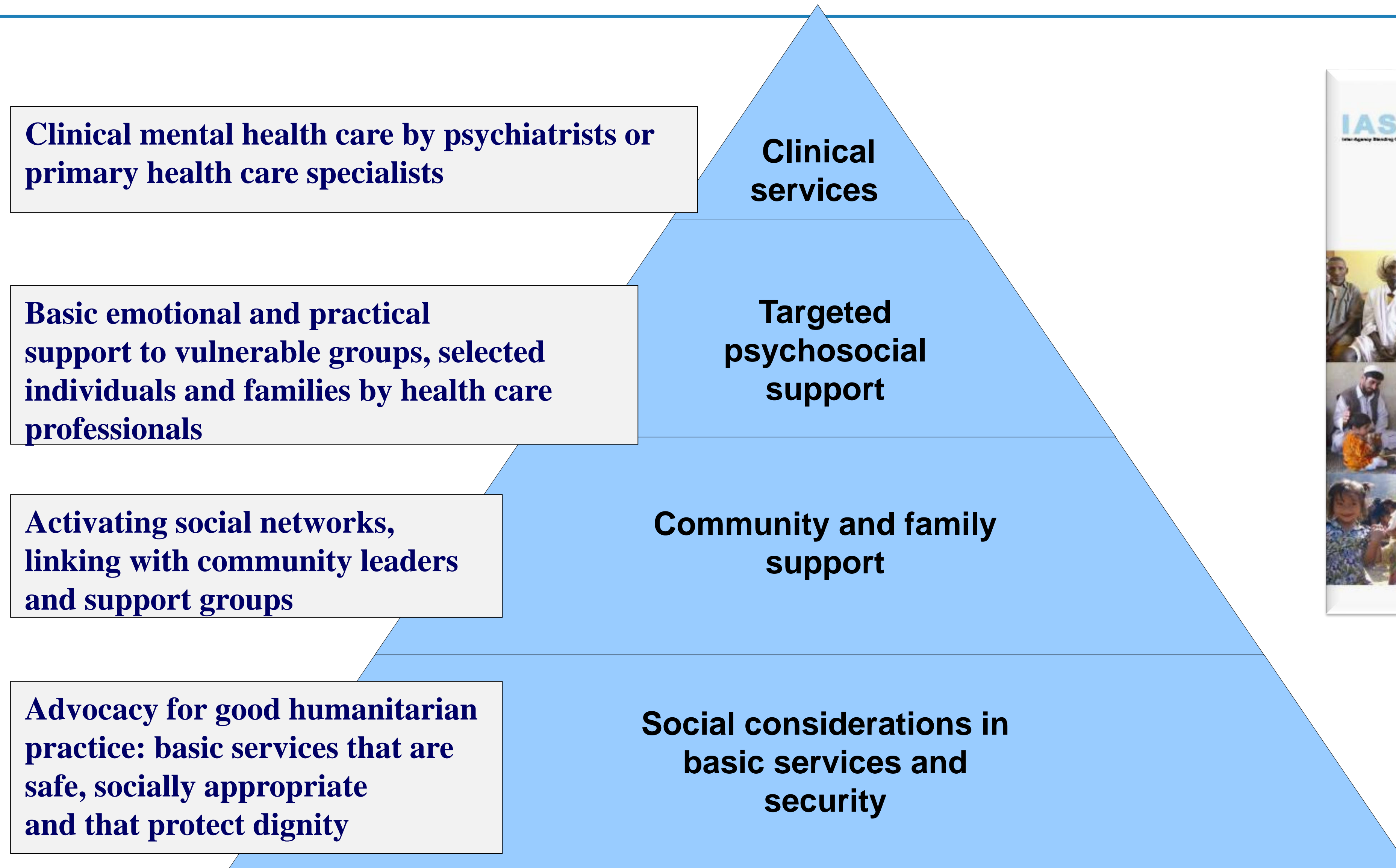
- Emergency-induced: grief, distress, anxiety and depression, including post-traumatic stress disorder (PTSD), delayed and prolonged recovery.

Mental Health impact of Chemical, Biological, and Nuclear emergencies

- WHO report *Mental health of populations exposed to biological and chemical weapons* (2005) is undergoing revision
 - ✓ <https://goo.gl/Mo7LZE>
 - ✓ in addition, accompanying derivative information products are being developed
- For nuclear emergencies, a similar approach is being followed in order to adopt the *mhGAP* guidelines to a nuclear emergency settings.



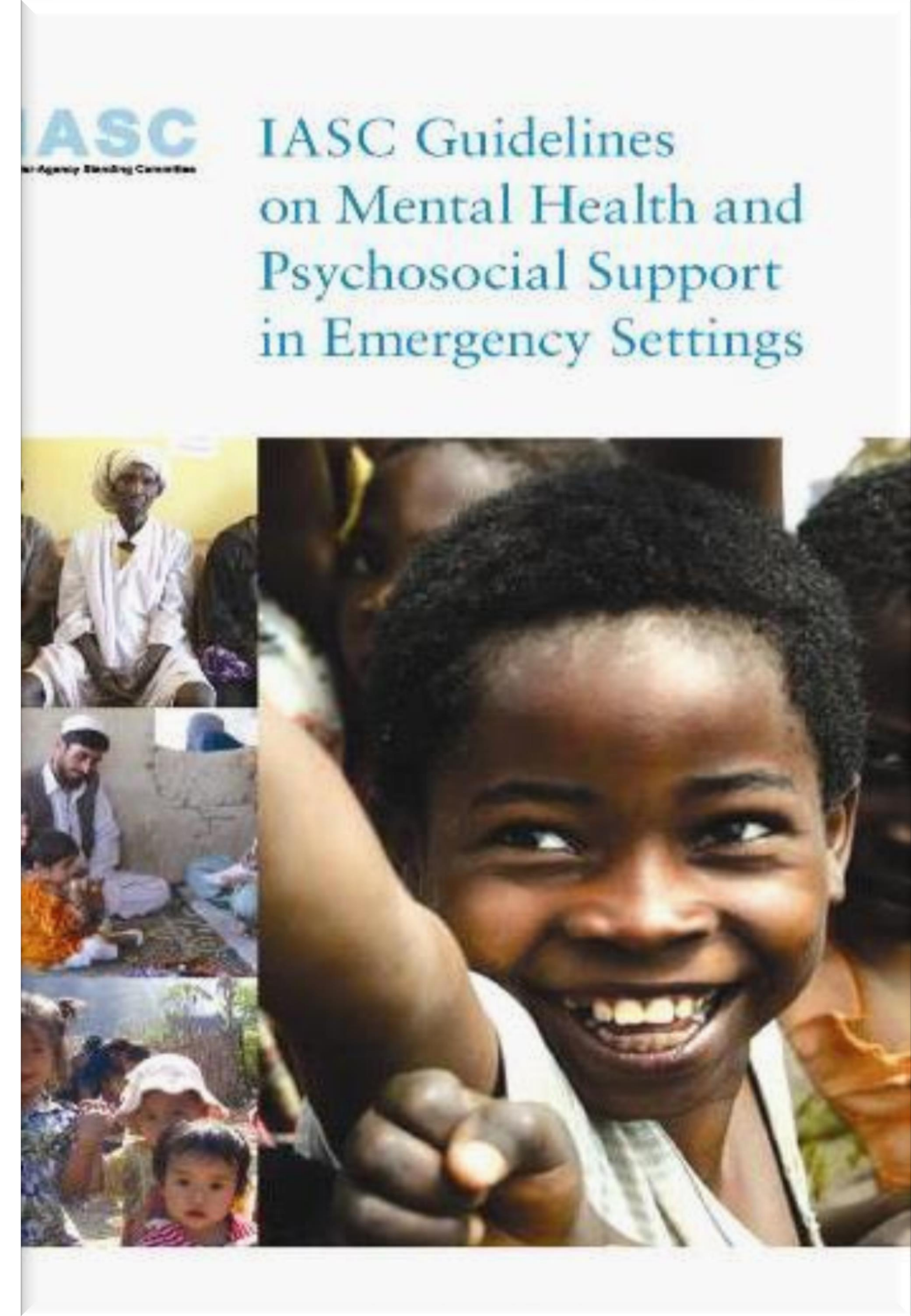
Intervention pyramid (IASC 2007)



Integration of MHPS approach in nuclear emergencies preparedness and response (EPR)

PREPAREDNESS

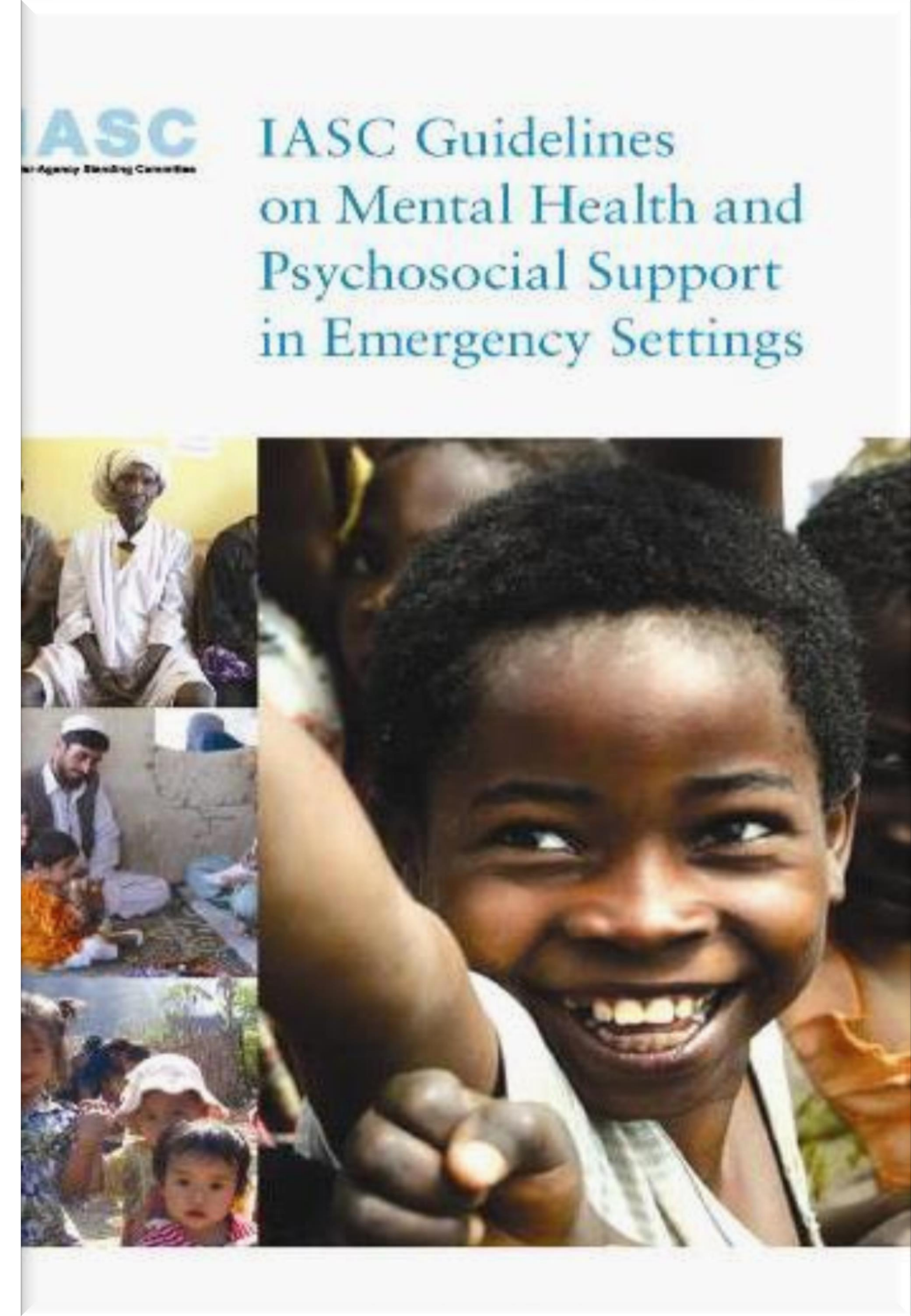
- Public mental health policy and mapping of existing resources
- Risks and vulnerability analysis
- Coordination plan (between sectors and levels of response)
- Development of a MHPSS protocols and contingency plan for emergencies and disasters
- Planning for rapid needs assessment, monitoring, and evaluation of response
- Human resource management and staff support
- Develop a communication strategy; including a media and a social media outreach strategy



Integration of MHPS approach in nuclear emergencies preparedness and response (EPR)

EMERGENCY PHASE

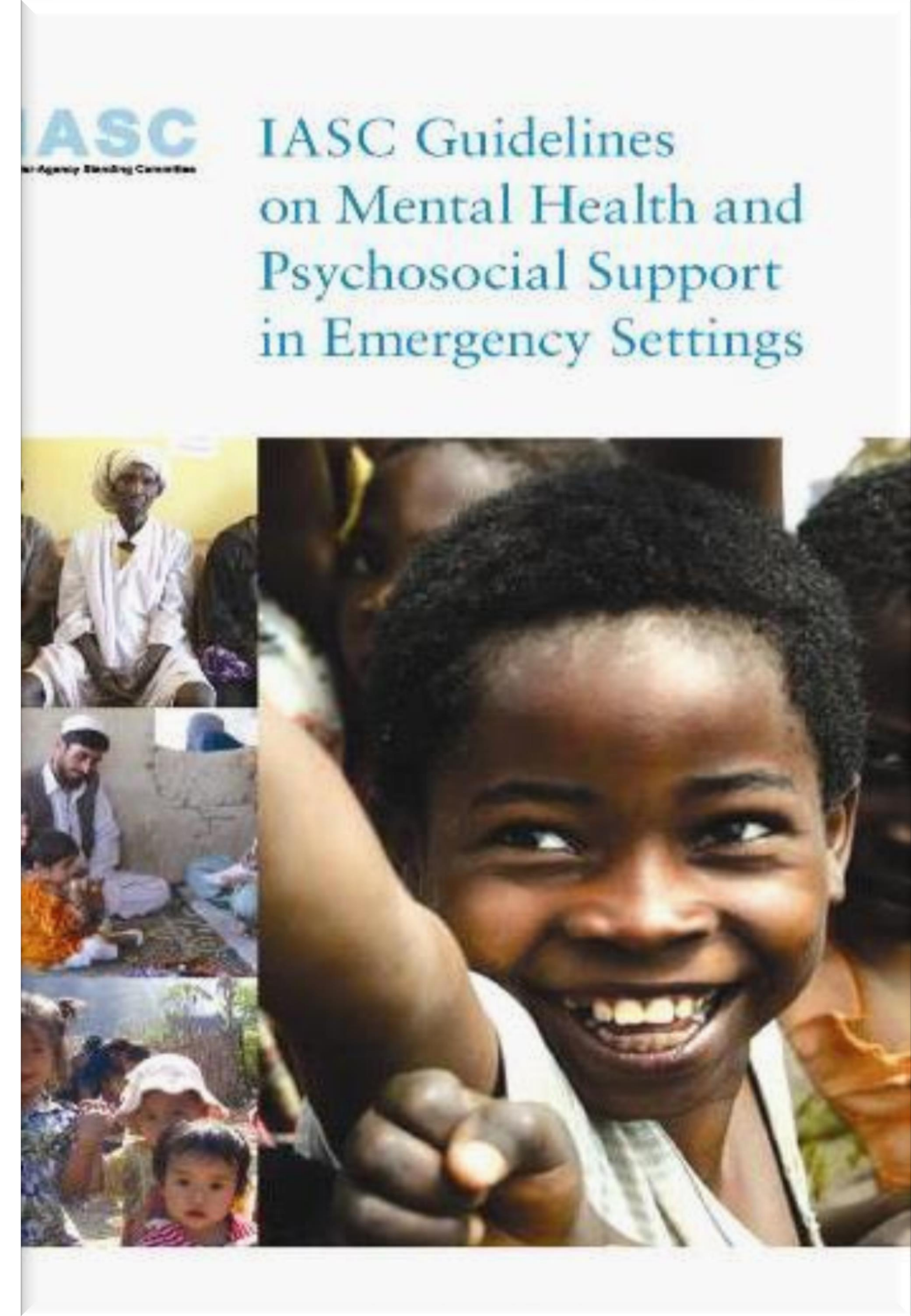
- Communication and coordination between responding parties
- Emergency risk communication
- Support to evacuated and over-exposed person
- Arrangements for safe mourning for deceased (and for managing contaminated remains)
- Community intervention and mobilization
- Mental health interventions
- MHPSS for emergency responders



Integration of MHPS approach in nuclear emergencies preparedness and response (EPR)

POST EMERGENCY PHASE - COMMUNITY INTERVENTIONS

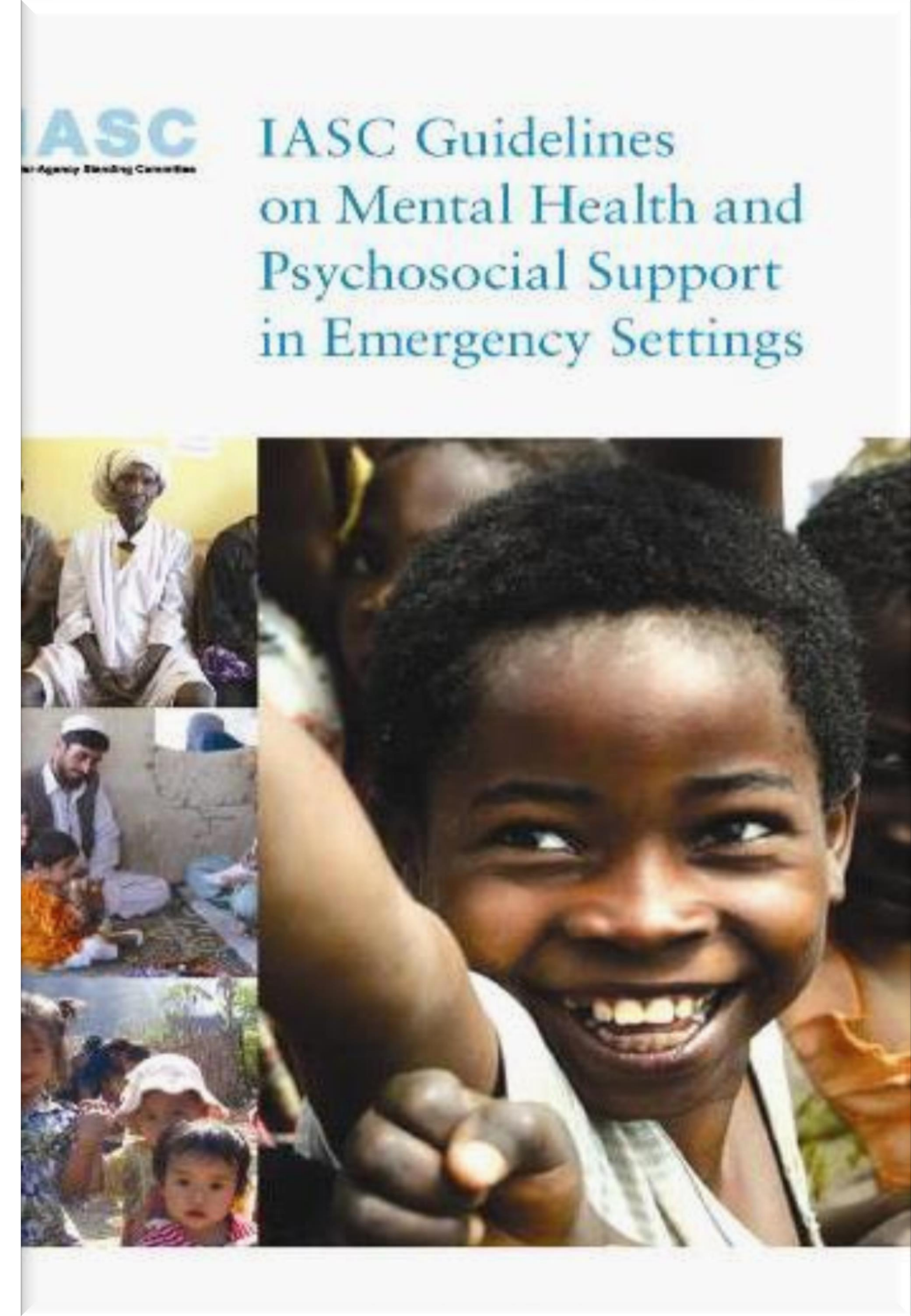
- Setting up self-help groups
- Community coping strategies
- Rebuilding trust in social structures
- Re-establishing cultural and religious events
- Helping to families and children to understand the risks
- Individual case management
- Programmes and policies for mitigating the economic impact (providing employment, social services, support to affected local businesses, etc.)



Integration of MHPS approach in nuclear emergencies preparedness and response (EPR)

POST EMERGENCY PHASE – MENTAL HEALTH INTERVENTIONS

- Building back through improved and adopted policies (lessons learnt)
- Training general health workers and community workers and monitor results
- Educating the affected communities
- Establishing referral system
- Ensuring treatment access for those with clinical mental health conditions
- Linking mental health and social care services
- Setting up long-term mental health effects research, if feasible



WHO-REMPAN Webinar on Mental Health (MH) impact of Nuclear Emergencies

Speakers:

- Prof. Robert Ursano – Uniformed Services University School of Medicine, Bethesda, Maryland - USA
- Dr Kazinory Kodama – Radiation Effects Research Foundations, Hiroshima, Japan
- Prof. Johan Havenaar –Altrecht Institute for Mental Health, Utrecht, The Netherlands
- Prof. Masaharu Maeda – Fukushima Medical University, Fukushima, Japan
- Dr Fahmy Hanna – Department of Mental Health and Brain Disorders, World Health Organization Headquarters, Geneva, Switzerland



15 April 2019

- MH and nuclear emergencies: what to expect, surveillance, triage and coordinating care (R. Ursano)
- MH sequelae in 1945 atomic bomb survivors in Hiroshima and Nagasaki (K. Kodama)
- MH impact of the 1986 Chernobyl accident (J. Havenaar)
- Psychological consequences of the 2011 Fukushima accident (M. Maeda)
- WHO-IASC 2007 Guidelines on MH Psychosocial Support (MHPSS) in Emergency Settings and its application to nuclear emergency settings (F. Hanna)
- Webcast recording: <https://bit.ly/2X4TFtH>

WHO-NEA cooperation on non-radiological health effects of radiation emergencies (1)

- Working Party on Nuclear Emergency Matters (WPNEM) of the NEA/OECD and WHO agreed to develop a joint project addressing psycho-social impact on radiological and nuclear emergencies
- A two-phase project started in 2018
 - Phase 1: Development of a policy framework document on application of WHO guidelines on mental health to radiation emergencies (WHO-led task)
 - Phase 2: Development of practical arrangements to support emergency response planners and managers to provide tools for efficient mitigation of psychosocial impact (WPNEM-led task)

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WHO-NEA cooperation on non-radiological health effects of radiation emergencies (2)

- Started in 2018 from the discussion at the WPNEM meeting in Paris
 - Agreed on the roles, scope and time-frame
- WHO Department of Mental Health and Brain Disorders developed the first draft by December 2018
- Preliminary review was done in Jan-March 2019
- 2nd draft to be peer-reviewed Jul-Aug 2019 to get feedback of the relevant stakeholders, expert networks and professional societies
- Draft will be finalized by Oct 2019
- Joint WHO-NEA-BfS workshop planning – March 2020



Advocacy for WHO's work on non-radiological health effects of radiation emergencies

- **The International Symposium of Radiation Medical Science Center of Fukushima Medical University: Build Back Better: from the World to Fukushima, from Fukushima to the World – held in Fukushima, Japan in January 2019**
- **HERCA WGE held in Rome, Italy, in March 2019;**
- **CRPPH annual meeting at the NEA/OECD in Paris France in March 2019;**
- **The 17th NERIS Workshop held in Roskilde, Denmark, in April 2019;**
- **SHAMISEN-SING stakeholders workshop in Oslo, Norway in May 2019.**
- **ROCOMET 2019 Conference in Barcelona – 01-03 July 2019**

Summary

- Non-radiological health consequences **prevail** over direct impact of radiation, mental health and psycho-social impact was reported to be largest among those affected by nuclear accidents in the past
- Experiences from past nuclear accidents and **other types of emergencies** needs to be taken into account when developing policies and tools
- Cross-sector **multi-disciplinary** policies and strategies and decision-support tools are needed to address MHPS needs of populations at all stages of an emergency: in planning, responding and recovering from an emergency.

