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Practical Guidance for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies

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Radiological Protection

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The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for the safe, environmentally sound and economical use of nuclear energy for peaceful purposes.
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Foreword

The Nuclear Energy Agency (NEA) has a long tradition of promoting co-operation and assistance among its member countries on preparedness for nuclear and radiological emergency exposure situations and consequence management in the short, intermediate and long term. This service is effectively implemented through the forum provided by the Committee on Radiological Protection and Public Health (CRPPH), as well as its subsidiary Working Party on Nuclear Emergency Matters (WPNEM). These organisations facilitate the sharing and analysis of experience in policy, regulation and implementation of the system of radiological protection, as well as addressing and solving emerging issues.

Emergencies create a wide range of problems at the individual, family, community and societal levels. They can erode the support systems of people affected by a disaster, for example by undermining community structures, and they can increase the risk of various new problems and exacerbate existing ones. The examples of the COVID-19 pandemic, past natural or industrial disasters, and of past nuclear or radiological accidents show that all health emergencies have a common denominator – the impact on mental health and well-being of the emergency itself and specific protection strategies implemented. This makes it even more important to reflect on how to leverage the guidelines and recommendations of the World Health Organization (WHO) and the Inter-Agency Standing Committee (IASC) for managing the mental health and psychosocial consequences of emergencies and disasters.

Based especially on the experience from the Fukushima Daiichi Nuclear Power Plant accident, emergency planners in some countries have started to review their protection strategies to shift focus from a mainly radiological protection-centred approach to a more holistic consideration of health and well-being after nuclear or radiological emergencies. However, there is currently only limited international guidance available on how to include these aspects into radiological protection strategies in practice. In this regard, the WPNEM, in co-operation with the CRPPH, created the Expert Group on Non-radiological Public Health Aspects of Radiation Emergency Planning and Response (EGNR) in 2019. Its objective was to develop practical approaches for the mitigation of mental health and psychosocial consequences and deliver guidance to assist emergency management decision makers in the implementation of Mental Health and Psychosocial Support (MHPSS) in preparedness and response to, as well as recovery from, nuclear or radiological emergencies.

Acknowledgements

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The NEA also thanks everyone involved in the organisation of two webinars held in 2020 on the topic of making the most of the practical experiences gained during past crises or disasters to improve mental health and psychosocial support in radiation emergencies. The first, entitled "Mitigating psychological impacts of crisis response", was held on 26 June and the second, on "Community engagement and resilience", was held on 10 July. These webinars provided a great opportunity to explore how the experience and lessons learnt from non-nuclear crises such as the COVID-19 pandemic could help countries improve mental health and psychosocial support (MHPSS) in the event of a nuclear or radiological emergency. The NEA also thanks all external peer reviewers who kindly provided comments and suggestions to improve this practical guidance from January to February 2023.

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List of abbreviations and acronyms

CRPPH	Committee on Radiological Protection and Public Health (NEA)
EGNR	Expert Group on Non-radiological Public Health Aspects of Radiation Emergency Planning and Response (NEA)
GSG	General Safety Guide (IAEA)
GSR	General Safety Requirements (IAEA)
IAEA	International Atomic Energy Agency
IASC	Inter-Agency Standing Committee
ICRP	International Commission on Radiological Protection
IOM	International Organization for Migration
LNT	Linear-non-threshold
mhGAP	Mental health Gap Action Programme (WHO)
MHPSS	Mental health and psychosocial support
MHPSS MSP	Mental Health and Psychosocial Support Minimum Service Package
NEA	Nuclear Energy Agency
NGO	Non-governmental organisation
NHS	National Health Service (United Kingdom)
NRC	Nuclear Regulatory Commission (United States)
OECD	Organisation for Economic Co-operation and Development
OPSIC	Operationalising Psychosocial Support in Crisis Project (EU)
PFA	Psychological first aid
PTSD	Post-traumatic stress disorder
N/R	Nuclear or radiological
SDH	Social determinants of health (including mental health)
TENTS	The European Network for Traumatic Stress
WPNEM	Working Party on Nuclear Emergency Matters (NEA)
WHO	World Health Organization

Glossary

Affected population(s)/ people

For the purposes of this document, and in line with the IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings (IASC, 2007), and with WHO terminology (WHO, 2020), affected population(s)/ people include those directly affected by a nuclear or radiological emergency, e.g. through evacuation or radiation exposure, as well as those indirectly affected, e.g. host and neighbouring communities. More broadly, it also includes anyone feeling concerned about the emergency and its consequences to an extent requiring MHPSS.

Ambiguous loss

In studies related to the disaster in Fukushima prefecture and others, ambiguous loss often relates to the loss people feel after leaving their home and property behind during evacuation. The homes and property are there, intact, but they cannot get there.

"There are two basic types of ambiguous loss. In the first type, people are physically absent, but remain psychologically present. Even if they are presumed dead, their remains have never been found. Family members are preoccupied with the lost person, and think of little else, even years later. In the second type, people are perceived as physically present but psychologically absent, emotionally and cognitively unavailable to those around them. These people may have depression, addiction, or dementia" (Boss, 2002).

Co-expertise

"A process of co-operation between experts and local stakeholders to exploit local knowledge and scientific expertise for the purpose of understanding the radiological circumstances and developing actions by themselves or by others to improve living conditions." (ICRP, 2020)

Community

"Specific group of people, often living in a defined geographical area, who share a common culture, values and norms, are arranged in a social structure according to relationships developed within the community over a period of time. Members of a community gain their personal and social identity by sharing common beliefs, values and norms, and also share common needs and a commitment to meeting them. Communities also contain organizations and institutions such as schools, health centres, religious organizations and civil society organizations, which serve supportive functions for individuals, and offer a sense of belonging, safety and protection. The community context is embedded within the larger societal level, which involves higher-level social, economic and political structures." (WHO, 2020: 40)

Community-based

"Community-based approaches to mental health and psychosocial support in emergencies are based on the understanding that communities can be drivers for their own care and change and should be meaningfully involved in all stages of MHPSS responses. Emergency-affected people are first and foremost to be viewed as active participants in improving individual and collective well-being, rather than as passive recipients of services that are designed for them by others." (IASC, 2019a)

Community resilience	"The capacity of a community to be able to recover quickly and easily from the consequences of an emergency or disaster." (WHO, 2020: 40)
Disability	"... is an evolving concept...that...results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others." (UN, 2006)
Disaster	"A disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources." (WHO, 2020)
Duty of care	"Duty of Care refers to the obligations of employers to maintain the safety, security, physical health, and psychological well-being of personnel and family members in the workplace, including on international assignment and in remote areas of their home country" (OCHA, 2019)
Emergency	"A non-routine situation or event that necessitates prompt action, primarily to mitigate a hazard or adverse consequences for human life, health, property and the environment" (IAEA, 2018)
Evacuation	"A rapid, temporary removal of people from an area to avoid or reduce short-term radiation exposure in an emergency." (WHO, 2020)
Health	"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (WHO, 1948)
Mental health	"... a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community. It is an integral component of health and well-being that underpins our individual and collective abilities to make decisions, build relationships and shape the world we live in. Mental health is a basic human right. And it is crucial to personal, community and socio-economic development." (WHO, 2022a)
Mental health condition	"... a broad term covering mental disorders and psychosocial disabilities. It also covers other mental health states associated with significant distress, impairment in functioning, or risk of self-harm" (WHO 2022b). In line with the WHO 2022 World Mental Health report, the term "mental health condition" is used throughout this publication "to bring together and speak to the widest group of stakeholders possible." (WHO 2022b)
Mental health and psychosocial support	"... the term MHPSS is used to describe any type of local or outside support that aims to protect or promote psychosocial well-being and/or prevent or treat mental disorder" (IASC, 2021b). The terms "mental health" and "psychosocial well-being" overlap. Mental health cannot be attained without psychosocial well-being and vice versa.
Mental health and psychosocial well-being	"... a combined term often used to reflect the combined goal across diverse agencies and practitioners working on MHPSS." (IASC, 2021b)

Primary care “A key process in the health system, including first-contact, accessible, ongoing, comprehensive and coordinated care. First-contact care is accessible at the time of need; ongoing care focuses on the long-term health of a person rather than the short duration of the disease; comprehensive care is a range of services appropriate to the common problems in the respective population and coordinated care refers to the role by which primary care acts to coordinate other specialists that the patient may need. Primary care is a subset of primary health care.” (WHO, 2020)

Primary health care “The concept elaborated in the 1978 (WHO) Declaration of Alma-Ata, which is based on the principles of equity, participation, intersectoral action, appropriate technology and a central role played by the health system.” (WHO, 2020)

Psychological first aid “Humane, supportive and practical assistance to fellow human beings suffering serious crisis events, and who may need support. It includes the following themes: providing practical care and support, which does not intrude; assessing needs and concerns; helping people to address basic needs (for example, food and water, information); listening to people, but not pressuring them to talk; comforting people and helping them to feel calm; helping people connect to information, services and social supports; protecting people from further harm.” (WHO, 2020)

Psychosocial well-being “Although there is no widely agreed definition, practitioners often use the adjective ‘psychosocial’ to describe the interaction between social aspects (such as interpersonal relationships and social connections, social resources, social norms, social valued, social roles, community life, spiritual and religious life) and psychological aspects (such as emotions, thoughts, behaviours, knowledge and coping strategies) that contribute to overall well-being.” (IASC, 2021b)

Stigma “Stigma against people with mental health conditions occurs at different levels.” The Lancet Commission report on ending stigma and discrimination in mental health uses the following definitions (Thornicroft et al., 2022):

- “Self-stigma is defined as the way in which people with mental health conditions see themselves as being mentally unwell and, therefore, of lesser value.”
- “Stigma by association refers to the internalisation of stigma by close associates of people living with mental health conditions (e.g. family members).”
- “Public stigma (also referred to as interpersonal stigma) refers to the way in which people in a given community or society view and act toward people with mental health conditions.”
- “Structural stigma (also called systemic or organisational stigma) refers to discrimination in laws, policies, and in cultural and organisational practices.”

Radiological protection “The protection of people [-and the environment-] from harmful effects of exposure to ionizing radiation, and the means for achieving this.” (adapted from IAEA, 2022)

Reference level "A dose criterion used to guide the optimisation process in existing and emergency exposure situations. Generally expressed in terms of individual annual dose (mSv year^{-1}), the value of a reference level should be selected considering the appropriate time frame, individual dose distribution of the affected people, and the tolerability of risk in the circumstances. An objective is to facilitate the identification of people for whom protective efforts should be given priority." (ICRP, 2020)

Relocation "Non-urgent movement of people from a contaminated area. It is a longer-term protective action that may be a continuation of the urgent protective action of evacuation. A permanent relocation (also referred to as "resettlement") continues for more than a year and return is not foreseeable; otherwise it is temporary relocation." (WHO, 2020)

Recovery "Recovery is defined as the actions taken following the emergency response to restore quality of life, social systems, economies, community infrastructure and the environment, while protecting the health of the affected populations." (Health Canada, 2020)

Responders "People involved in the direct management of the consequences of a nuclear accident", diverse in terms of their background, status, degree of preparation, and training on radiological protection. Responders include for example emergency workers (firefighters, police officers, medical personnel, drivers and crews of vehicles used for evacuation), workers, elected representatives, or volunteers. (ICRP, 2020)

Vulnerability "The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impact of hazards." (UNDRR, n.d.)

WHO Framework "A Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies." (WHO, 2020)

Executive summary

The practice of planning a response to nuclear or radiological (N/R) emergencies, and the associated protection principles to reduce or avoid the physical health consequences of exposure to radiation, are well established. The overall objective of implementing a protection strategy is to ensure that radiological exposures are justified and optimised, and to protect public health and safety, while considering the mental health and psychosocial consequences of any actions taken. Past N/R emergencies have demonstrated that, similarly to other large-scale disasters and emergency situations, the mental health and psychosocial consequences of an accident in terms of health detriment to the affected populations can outweigh other public health impacts, including radiation-induced physical health impacts such as cancer. For this reason, in 2020, the World Health Organization (WHO) published a *Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies* as an initial step towards integrating mental health support and radiation protection (WHO, 2020).

The purpose of this publication is to operationalise the WHO framework through practical guidance and an evaluation of actions to be taken during all phases of N/R emergencies, namely preparedness, response and recovery. This practical guidance includes concrete actions that promote the integration of mental health and psychosocial support (MHPSS) with radiological protection for N/R emergencies. This practical guidance is intended for officials and specialists involved in N/R emergency planning and response, and MHPSS specialists involved in all-hazards emergency settings.

N/R emergency preparedness, response and recovery is highly interdisciplinary, involving stakeholders and experts in radiological protection, MHPSS, disaster prevention and other related fields. Integration can benefit from a mutual understanding of the basics of radiation exposure and fundamental concepts that drive radiological protection, emergency management and public health. For this reason, this practical guidance provides basic information on radiological protection, N/R emergency management and public health concepts. To a large extent, many risks to mental health and psychosocial well-being are common to all types of emergencies, which is one reason this practical guidance supports an all-hazards approach. However, there are unique risk factors of N/R emergencies that require specific attention. For example, perceptions of risks associated with radiation exposure could be important drivers of mental health concerns. It is therefore important to prepare and improve risk and disaster communication to mitigate these consequences and to avoid unnecessary anxiety and stigmatisation.

The present practical guidance, as an operational extension of the WHO framework, is intended to be action-oriented, and so takes the form of a summary table of actions, complemented by detailed action sheets where the existing international guidance does not specifically include or explicitly consider N/R emergencies. The action sheets provide a list of preparation activities but also define indicators to help authorities assess their importance, quality of implementation and efficiency. The general themes covered by the action sheets include: integrating MHPSS into needs assessments; co-ordination plans; public information; protecting staff and volunteers; training; health facility needs; decision-making protocols; public communication strategies; education materials; clinical referrals between medical and mental health care; services available in host communities; mental health monitoring; and social determinants of mental health.

Despite the extensive lessons learnt from past N/R emergencies, more research is needed on how to effectively integrate MHPSS with radiological protection decisions. This includes integration prior to, during, and after any N/R emergency. Another aspect that deserves further investigation relates to optimisation in decision-making processes with inclusion of MHPSS during all emergency phases. In deciding what is the best solution for a protection strategy, the different risks, including the radiological risk, must be balanced, which requires a holistic approach. Any given circumstance will have social, economic and political aspects that will influence stakeholders. Focusing on one single risk, for example health risks from radiation exposure, may lead to reduced radiological exposure but not necessarily to a balanced overall protection of well-being. More generally, it has been understood and acknowledged for several years (NEA, 2021a) that the reduction of one detrimental impact is likely to result in something else detrimental not being reduced. Hence the need for a holistic view of optimisation.

Detailed planning, including resource planning and discipline integration, is vital for public health and safety. The emphasis of this practical guidance is placed on the action tables and 12 detailed action sheets. The structure and content of the practical guidance give insight into the complexity and interdisciplinary needs of N/R emergencies. It is vital to clearly apply the principle of justification and to do “more good than harm” when protecting people and the environment against the potential harm of radiation.

1. Scope of this document

This publication, produced by the NEA Expert Group on Non-radiological Public Health Aspects of Radiation Emergency Planning and Response (EGNR), aims to improve the consideration of non-radiological health aspects, specifically mental health and psychosocial needs, in the preparedness of, response to, and recovery from nuclear or radiological (N/R) emergencies. It is meant as a foundation on which to base consideration of mental health and psychosocial support (MHPSS) integration with radiological emergency planning. It should be adapted to the already existing resources at the local and national levels, according to the country's strategy for all-hazards and N/R emergency management.

Whereas the World Health Organization (WHO) technical guidance *A Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies* (WHO, 2020) outlines general principles, conceptual definitions, and integration into general MHPSS policies, this publication develops practical solutions and identifies existing tools while planning for and responding to nuclear and radiological emergencies, including the recovery phase.

While mental health and psychosocial consequences of N/R emergencies are important to consider and currently still lack international guidance, they must be considered as part of a holistic emergency response. These mental health and psychosocial consequences will likely be combined with emergency-related disruption of health services, potential accidents occurring in relation to evacuation orders, or other non-radiological health impacts related to the emergency. These other non-radiological health consequences are not within the scope of this publication.

This publication is intended to support countries in establishing a holistic emergency response based on key ethical considerations, i.e. accompanying the affected people and communities in a supportive way to reduce adverse health and well-being impacts of any kind in an approach in which individuals and responders meet on an equal basis and respecting the dignity and autonomy of the people (Schneider et al., 2019).

The target audience of this document is officials and specialists involved in N/R emergency planning and response, and MHPSS specialists involved in all-hazards emergency settings.

2. Background

This chapter summarises information on protection strategies and related concepts used in nuclear and radiological (N/R) emergency preparedness, response and recovery. The overall objective of implementing a protection strategy is to ensure that radiological exposures are justified, optimised and to protect public health and safety, while considering the mental health and psychosocial consequences of any actions taken. The integration of mental health, psychosocial and other non-radiological consequences into protection strategies and decision making can improve public health outcomes at the individual, community and societal levels by adapting a more holistic decision-making approach. The elements introduced in this chapter include the basics of N/R emergencies, ionising radiation and biological effects of exposure, understanding uncertainties of radiation-induced cancer risk, radiological protection, N/R emergency management, mental health and psychosocial support (MHPSS), and integration of MHPSS and (radiological protection [RP]) in emergency preparedness and response. While not exhaustive, the overview of these elements provides an orientation and continued education and training as part of emergency planning and preparedness at all levels of government (i.e. local, regional and national). It is intended for officials and specialists involved in N/R emergency planning and consequence management, and MHPSS specialists involved in all-hazards emergency settings.

Background of nuclear and radiological emergencies

The International Atomic Energy Agency defines in its glossary (IAEA, 2022) an emergency as follows: “A non-routine situation or event that necessitates prompt action, primarily to mitigate a hazard or adverse consequences for human life, health, property and the environment”. More specifically, an N/R emergency is an emergency that has led to, or could lead to, the release of radioactive material, or exposures to uncontrolled sources of radiation, which pose, or could pose, a threat to human life, health, property, and the environment (IAEA, 2022). Like many hazards, N/R emergencies vary in scale in both causes and consequences. N/R emergencies may be intentional (e.g. caused by malicious acts) or unintentional (e.g. transportation accident or an accident at a nuclear power plant). The IAEA International Nuclear and Radiological Event Scale (INES) provides a numerical rating that indicates the significance of N/R emergencies and is used as a tool for communicating the safety significance of N/R emergencies to the public. Countries use INES on a voluntary basis to rate and communicate N/R emergencies occurring in their territories (IAEA, 2013).

For N/R emergencies, protective actions are implemented as part of the protection strategy to mitigate direct or indirect human health and environmental impacts. Protective actions can significantly decrease the extent of the radiological consequences of a N/R emergency. Common protective actions to limit radiation doses include sheltering, evacuation, iodine thyroid blocking, food and water restrictions, and decontamination. Many countries have detailed plans in place for N/R emergencies; these plans are often part of an all-hazards emergency plan as many of the response actions, including the protective actions required for N/R emergencies, are common to all types of emergency events (NEA, 2018).

Basics of ionising radiation and biological effects of exposure

Ionising radiation is energy in the form of electromagnetic waves or particles that can cause ionisation (create charged particles) in the materials through which it moves. When radiation energy encounters biological tissue (e.g. the human body), it is absorbed by the tissue. The absorbed energy – the dose (Box 1) – may have no consequence on the cell or it may damage its biomolecules. In particular, damage to DNA may result in cell death, DNA repair, or faulty DNA repair, possibly leading to either tissue reactions or stochastic effects (see below).

Box 1: **Key radiation dose metrics**

When radiation penetrates matter, it deposits energy. The energy absorbed from exposure to radiation is called a dose. Radiation dose quantities are described in three ways:

- **Absorbed dose** is the total quantity of energy absorbed in a tissue or organ from exposure to radiation. It is measured in the unit gray (Gy). A dose of 1 Gy is equivalent to 1 Joule of energy deposited in a kilogram of tissue.
- **Equivalent dose** corresponds to the absorbed dose multiplied by a radiation weighting factor. Radiation weighting factors account for different types of radiation producing different biological effects. Equivalent dose is expressed in sievert, where 1 Sv = 1 Gy x radiation weighting factor.
- **Effective dose** integrates the susceptibility to harm of various tissues and organs. The equivalent dose is multiplied by a tissue weighting factor to account for the specific sensitivity of the tissue to radiation damage. It is expressed in sievert as well, where 1 Sv = (1 Gy x radiation weighting factor) x tissue weighting factor.

Source: UNEP, 2016.

Tissue reactions are health effects that are predictable based on the dose received. An example of tissue reactions is skin burns, occurring hours of days after very large acute doses of ~5 Gy dose to the skin (ICRP, 2012). The severity of the tissue reactions typically increases with increasing dose. In the ICRP Publication 118 (ICRP, 2012), the Commission concludes that "Generally, doses up to around 0.10 Gy produce no functional impairment of tissues. This includes the lens of the eye regarding the risk of cataract, with the caveat that the use of threshold model remains uncertain for this tissue." (ICRP, 2012: p. 305). A threshold dose value of approximately 0.1 Gy also exists for temporary sterility and for a foetus (ICRP, 2012).

Stochastic effects are health effects that occur randomly, so they may or may not ever manifest. All radiation doses may cause delayed stochastic effects. Unlike tissue reactions, stochastic effects have no threshold dose (ICRP, 2007; Simon et al., 2022). The primary stochastic effect is an increased cancer risk years or decades after exposure. Hereditary effects are also considered as stochastic effects; however, they have never been observed in human populations (including the survivors of the atomic bombings). The probability of occurrence of stochastic effects, but not their severity, increases with increasing dose (ICRP, 2007; ICRP, 2021).

Understanding uncertainties of radiation-induced cancer risk

In a N/R emergency people will ask "Am I safe?" and "Are my children safe?" It is thus important for all stakeholders to understand the scientific basis of what is known about radiation risk, in particular the risk of radiation-induced cancer, and where uncertainties remain. The current understanding of radiation-induced cancer risk and its associated uncertainties comes from epidemiological studies of exposed populations. Epidemiological studies can be used to estimate radiation-induced health risks by examining how often diseases occur in different groups of people (e.g. with different radiation exposures). These studies have informed radiological protection concepts like dose limits, reference levels and protection strategies.

Overall, epidemiological studies have identified relationships between radiation dose and the probability of health effects such as various types of cancer. Risk estimates are corrected for possible confounding factors (e.g. age, sex, or lifestyle factors). These studies suggest that the relationship is linear (or linear-quadratic) for most radiogenic cancers (UNSCEAR, 2012; McLean et al., 2017; UNSCEAR, 2021b). This means that the likelihood of a stochastic effect (but not the severity) increases linearly as the dose received increases. This dose-response relationship forms the basis for the linear-non-threshold model (LNT). The LNT model should only be used for radiation protection purposes, including setting dose limits and other guidance for potential radiation exposures. The LNT model accounts for uncertainties in epidemiological studies by assuming that all radiation doses increase cancer risk linearly, and proportionately. The LNT model cannot estimate individual cancer risk as it does not consider individual variability nor individual dose measurements. Several other dose-response models have been proposed to describe the relationship between cancer risk and radiation dose; however, the LNT model is the most appropriate model for radiation protection purposes.

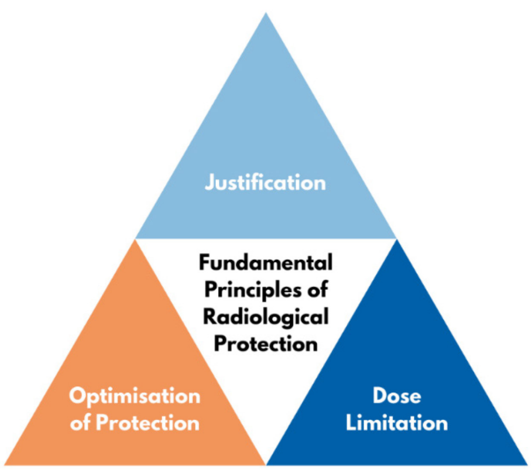
Epidemiological studies struggle to detect a statistically significant relationship between radiation dose and cancer risk at low (from 10 to 100 mGy) and very low doses (< 10 mGy). This lack of statistical power below or well below 100 mGy is due to the need for extremely large populations of exposed individuals at low or very low doses to detect an effect. While uncertainty remains in the cancer risk estimates, the scientific consensus is that the increase in the risk of cancer due to radiation exposure will be proportionally as low as the radiation dose is. In the event of an N/R emergency, the doses received by the members of the public are likely to be low, depending on the circumstances and the protective actions taken (e.g. UNSCEAR, 2021a).

Basics of radiological protection

Radiological protection encompasses the management of the protection of workers, patients, the public, and the environment from harmful effects resulting from exposure to ionising radiation. The system of radiological protection that is used worldwide is based on the recommendations published by the International Commission on Radiological Protection (ICRP), and on three fundamental principles: justification, optimisation and dose limitation, as illustrated in Figure 1 (ICRP, 2007).

The principle of **justification** requires that "any decision that alters the radiation exposure situation should do more good than harm". The principle of **optimisation** requires that "the likelihood of incurring exposures, the number of people exposed and the magnitude of their individual exposure should all be kept as low as reasonably achievable (ALARA), taking into account economic and societal factors". The principle of **dose limitation** requires that "the total dose to any individual from regulated sources in planned exposure situations, other than medical exposure of patients, should not exceed the appropriate limits specified by the Commission" (ICRP, 2007).

Figure 1: **The fundamental principles of radiological protection**



Source: ICRP (2022).

The protection strategies encompass the fundamental principles of radiological protection and must also include other impacts from an N/R emergency, such as mental health and psychosocial needs. Thus, the overall objective of implementing a protection strategy would be to ensure that radiological exposures meet the reference levels and selected criteria within the reference bands (Table 1), while considering the mental health and psychosocial consequences of the N/R emergency and any protective action to achieve more good than harm.

In the event of radiation exposure, the radiological protection framework aims to prevent harmful effects and reduce the risk of cancer and heritable effects to the extent reasonably achievable. As part of the international system of radiological protection, ICRP Publication 103 defines three categories of exposure situations namely (ICRP, 2007): **planned exposure situations**, which involve the deliberate introduction and operation of sources; **emergency exposure situations**, which require urgent action to avoid or reduce undesirable consequences; and **existing exposure situations**, which include prolonged exposure situations after emergencies. The ICRP has proposed dose criteria for each of the three exposure situations. An example of such criteria, namely reference levels that apply to emergency response and recovery (seen as an existing exposure situation), is provided in Table 1. The process for selecting the reference level should result from a careful balance of many interrelated factors, including the sustainability of social life and economic activities, as well as the quality of the environment, and should appropriately reflect the views of all relevant stakeholders (ICRP, 2020).

Table 1: **Example of ICRP reference levels for the public used to guide optimisation in emergency and existing exposure situations**

Reference levels (mSv)	Exposure situations
20-100 mSv	Emergency exposure situation with no or limited control of the radiation source due to the emergency. Higher reference levels are limited to the emergency response phase. Urgent protective actions like sheltering, evacuation or iodine thyroid blocking will be implemented. 100 mSv or below for the entire duration of both the early and intermediate phases.
1-20 mSv	Existing exposure situation, following an N/R emergency, where the source is characterised and the radiological situation is under control. Exposure levels should be optimised to reasonable levels. Lower half of the 1 to 20 mSv per year band with the objective to progressively reduce exposure to levels towards the lower end of the band, or below if possible.

Source: ICRP (2007); ICRP (2020).

Basics of nuclear or radiological emergency management

The general planning principles that lead to effective emergency management are well established (IAEA, 2015; NEA, 2018). These time-tested principles can be used to develop all-hazards plans at all levels of government for protecting against threats to human life, health, property and the environment (IAEA, 2022). N/R emergency planning includes the specific health hazards associated with exposure to ionising radiation within an all-hazards plan. While some specialised planning is required, many protective actions used in response to an N/R emergency – e.g. evacuation, sheltering, relocation – are common to other emergencies and have been demonstrated to be effective in various emergency situations. Protective actions reduce either the time and/or the intensity of the exposure to radiation through the pathways introduced below.

Ionising radiation exposure to humans during N/R emergencies can occur via different **pathways** depending on whether environmental releases are to the atmosphere and/or to marine systems or freshwaters. There are typically four major pathways of concern during a nuclear emergency with atmospheric releases:

- Cloud shine: External irradiation from radionuclides in the air.
- Ground shine: External irradiation from radionuclides deposited on or in the ground or other objects in the environment (e.g. walls, roofs).

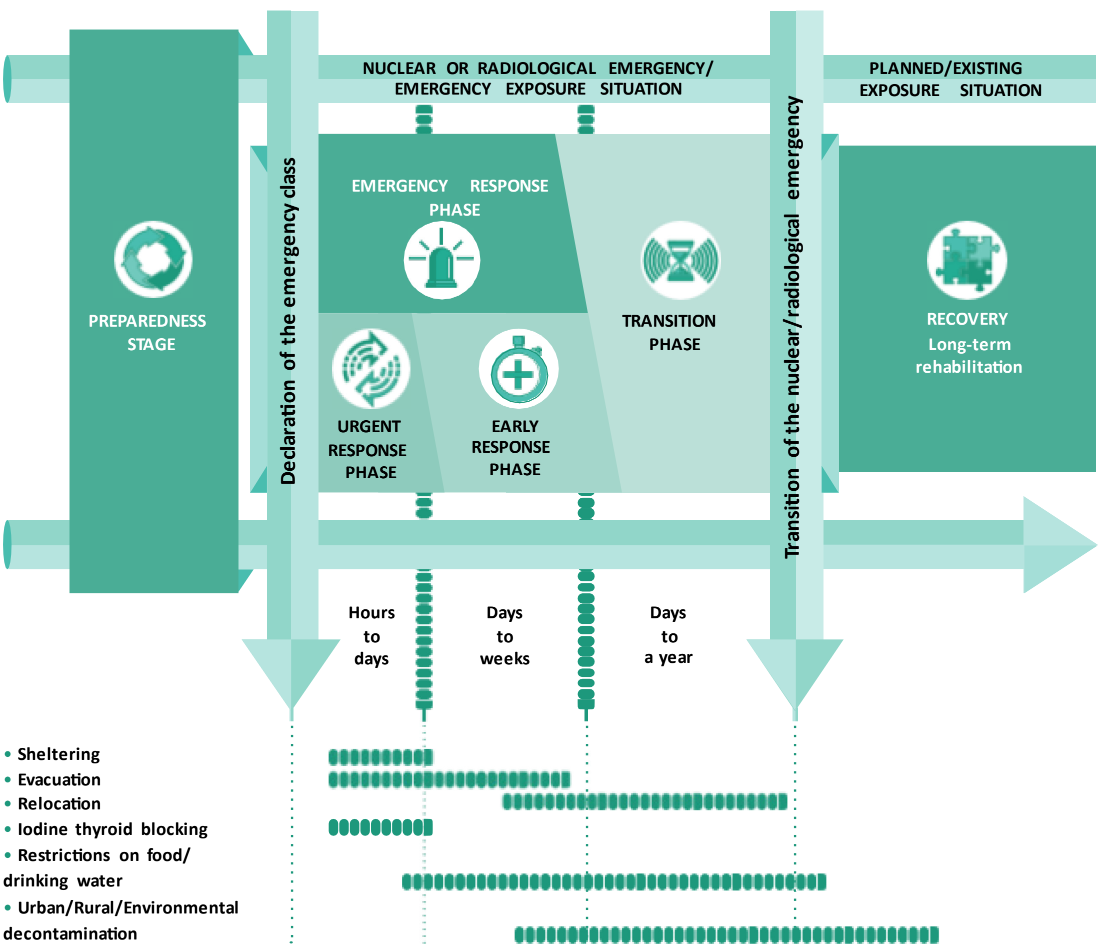
- Inhalation: Internal irradiation from radionuclides incorporated by breathing.
- Ingestion: Internal irradiation from radionuclides incorporated by eating and drinking contaminated food and water.

Other pathways like skin contamination and inadvertent ingestion may also contribute to radiation exposure in certain situations; however, they are not considered major pathways.

The safety standards for preparedness and response for N/R emergencies adopted by the IAEA state that each country has the obligation to put into operation an emergency management system and to prepare protection strategies (IAEA, 2015). These strategies apply to both emergency situations and the transition to an existing exposure situation.

Figure 2 illustrates the different phases of a N/R emergency. The IAEA (2015; 2018) defines the emergency response phase as the period from the detection of conditions warranting an emergency response until the completion of all the actions taken in anticipation of, or in response to, the radiological conditions expected in the first few months of the emergency. In the urgent response phase, response actions must be taken promptly to be effective, and are based on limited data. In the early response phase, the radiological situation is characterised sufficiently well so that the decision to take early response actions can be justified and taken based on available data (e.g. dose projections).

Figure 2: **The successive emergency phases with examples of protective actions that can be implemented**



Source: WHO, 2020: p.4.

The transition phase is the period after the emergency response phase when the situation is under control; detailed characterisation of the radiological situation has been carried out and activities are planned and implemented to enable the emergency to be declared terminated. Compared to the emergency response phase, the transition phase is not driven by urgency and allows for adapting, justifying and optimising protection strategies as the emergency evolves. The termination of the N/R emergency marks the end of the transition phase for a particular area or a site (timing will vary between areas) and the beginning of an existing exposure situation corresponding to recovery (Figure 2).

The protection strategy applies over each phase and is adapted according to the circumstances. While a key goal of the protection strategy is to prevent harmful effects and reduce the risk of stochastic effects to the extent reasonably achievable, the corresponding protective actions may result in unintentional mental health and psychosocial consequences, such as anxiety, fear, uncertainty and depression. This document proposes solutions and identifies existing tools to address these mental health and psychosocial consequences within a protection strategy.

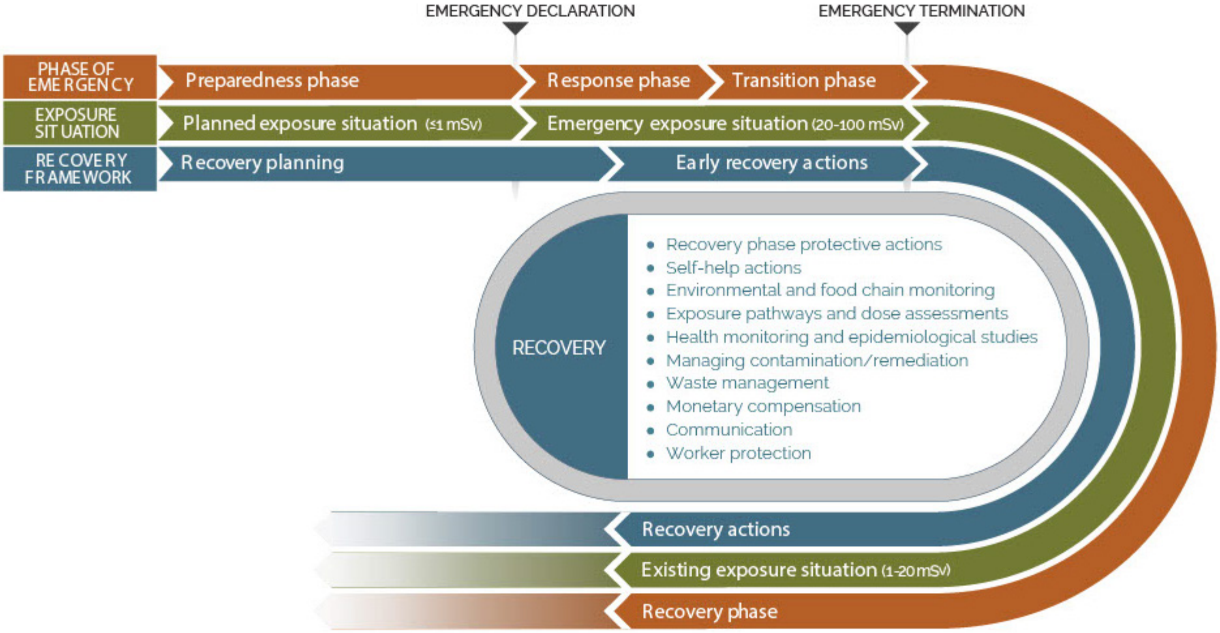
For example, negative physical and mental health effects observed for evacuated and relocated populations after emergencies, including N/R emergencies, relative to non-displaced populations include (NRC, 2021):

- anxiety;
- depression;
- diabetes;
- heart disease;
- mortality;
- weight problems, including both increases and decreases;
- psychological distress;
- post-traumatic stress disorder (PTSD);
- sleep problems;
- respiratory problems;
- substance abuse;
- general health effects, such as changes in blood pressure; and
- other miscellaneous effects, such as social support networks, healthcare accessibility problems with worse access to healthcare services, loss of social support and increased overall mortality from these non-radiological effects.

Elements of the recovery process start well before the response phase and are in many ways dictated by the response actions themselves (NEA, 2022). The starting conditions for recovery are created by decision making in the planning, response and transition phases. This promotes the approach for emergency planners and response organisation to apply recovery concepts throughout the cycle. The relationship between the emergency phases, exposure situations, and off-site recovery elements is depicted by the three lines in Figure 3 (Health Canada, 2020).

An element of emergency planning that is particularly important for the provision of MHPSS is ensuring that the public is well-informed. Mapping the structure of local communities at potential risk from a N/R accident can help better prepare for any future event. This can include assessing use of different media, both local and national, as potential sources of information and communication in the response phases of an emergency. IAEA safety standards include the obligation to inform and educate the public on relevant aspects of the emergency plan, potential health hazards, and protection strategies (IAEA, 2015, 2018). This should also include information on communication channels and practical arrangements such as assembling points, sheltering places and evacuation routes. Ideally, these education activities are integrated in an all-hazard response system. They should be carried out by all accountable stakeholders, such as facility owners and local and national response organisations, in a co-ordinated way, addressing all population groups and provided in different languages, if necessary, and through communication media that are suitable and targeted for the audience.

Figure 3: **Alignment of emergency phases, exposure situations, and off-site recovery elements for nuclear emergencies**



Note: Orange/outer line: progression of emergency phases from preparedness to recovery. Green/centre line: progression from a planned exposure situation to an emergency exposure situation, and ultimately to an existing exposure situation. Blue/inner line: when recovery elements should be planned for and implemented in relation to the nuclear emergency phases and the exposure situations, considering community involvement, mobilisation and support.

Source: Health Canada, 2020: p.7.

The Sendai Framework calls for an "all-of-society" engagement and partnership. Governments and authorities should engage with relevant stakeholders, including with groups who may be more susceptible to the consequences - including the mental health and psychosocial consequences - of a N/R accident. These vulnerable groups could include women, children and youth, persons with disabilities, poor people, migrants, Indigenous people, volunteers, the community of practitioners, and older persons. Their input to the design and implementation of policies, plans and standards is important for risk-informed decision making.

The needs of the above-mentioned vulnerable groups should be given particular consideration and addressed (see Box 2).

Box 2: **Vulnerable groups in emergency settings**

Vulnerable groups include persons living with physical, social or mental disadvantages who may be unable to meet their basic needs and may therefore require specific assistance (INEE, n.d). They share common challenges related to their social and economic status; social supports; living conditions, e.g. stigma and discrimination; reduced access to health and social services; reduced access to emergency relief services; lack of educational opportunities. (WHO, 2010).

In emergency settings, certain groups such as women, children, young people, older people, people with disabilities, refugees and people on the run, LGBTIQ+, as well as ethnic groups and minorities are likely to face additional challenges and barriers and their access to services and their participation in emergency responses might be restricted. Challenges include limited access to modern communication devices and therefore limited access to key information in a format and language which are accessible, inaccessible transportation systems and evacuation and emergency plans that are not inclusive (IASC, 2019b).

Particularly vulnerable groups in R/N emergencies include, among others, pregnant women, children and people with pre-existing trauma or pre-existing mental health conditions. Moreover, protective measures such as evacuation may be especially stressful for more vulnerable people, e.g. those with pre-existing health conditions, severe physical, intellectual, cognitive or psychosocial disabilities. Young people are especially vulnerable to stigma due to exposure to radiation (WHO, 2020).

Mental health and psychosocial support

Experience has shown that N/R emergencies can have important mental health and psychosocial consequences. As mentioned, these consequences can outweigh direct radiation-induced health impacts (i.e. cancer) under certain conditions and can persist over years if not adequately addressed (Bromet and Havenaar, 2007; Hasegawa et al., 2015; WHO, 2020; NEA, 2021a, 2021b; NRC, 2021). While mental health and psychosocial consequences might outweigh the direct public health impacts caused by radiation in terms of tissue reactions and stochastic effects, it is a key ethical requirement to acknowledge the potential impact of the N/R emergency on the general well-being of affected people, e.g. through the disturbance caused to their daily lives, their cultural habits and living environment (Schneider et al., 2019).

Planning for mitigation of mental health and psychosocial consequences and reduction of the mental health and psychosocial needs should occur prior to an emergency (NEA, 2021b, 2022). To ensure that mental health and psychosocial consequences are sufficiently considered and addressed, MHPSS must be adequately incorporated into planning and validated through exercises and other means.

To balance the impact of protective actions on the reduction of radiation doses against the mental health and psychosocial consequences, guidance for decision makers, emergency response planners and responders is required. Such guidance serves to justify decisions within a protection strategy that is put in place for emergency response, based on a holistic consideration of health (Box 3). The availability and successful implementation of such guidance, combined with targeted MHPSS, can reduce mental health and psychosocial consequences and will allow emergency response planners to employ appropriate mitigations strategies (WHO, 2020).

Mental health and psychosocial needs are wide ranging, and many can be measured with a variety of tools (IASC, 2021b). After emergencies, many people experience common reactions such as sleeping problems and feeling worried, tired and angry. For most people, these reactions improve over time. For some people, however, these problems are difficult to manage and hamper their daily functioning (MHPSS MSP, 2022). “The prevalence of common mental disorders such as depression and anxiety is expected to more than double in a humanitarian crisis.” (WHO, n.d. b).

Box 3: **Defining health, well-being, and MHPSS**

Health: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" – Preamble to the WHO Constitution (WHO, 1948).

Well-being: "There is no consensus around a single definition of well-being, but there is general agreement that at minimum, well-being includes the presence of positive emotions and moods (e.g. contentment, happiness), the absence of negative emotions (e.g. depression, anxiety), satisfaction with life, fulfilment and positive functioning." – Centers for Disease Control and Prevention (CDC, n.d.).

MHPSS: The composite term "mental health and psychosocial support" (MHPSS) is used in the Inter-Agency Standing Committee (IASC) Guidelines for MHPSS in Emergency Settings to describe "any type of local or outside support that aims to protect or promote psychosocial well-being and/or prevent or treat mental health condition". The global humanitarian system uses the term MHPSS to unite a broad range of actors responding to emergencies such as the COVID-19 outbreak (IASC, 2020a).

Source: NEA, 2022.

To a large extent, mental health and psychosocial consequences and needs are common in all types of emergencies. Fortunately, this means that numerous concepts and guidelines exist for general emergency management at international (e.g. IASC, 2007; IASC, 2021a) and national levels in many countries. However, there are several N/R-specific aggravating factors that, if not properly managed, could exacerbate these needs during N/R emergencies, as reported in Table 2.

Table 2: **Commonalities between N/R and non-N/R emergencies, and specific aggravating factors of the former**

Commonalities between N/R emergencies and non-N/R emergencies	Specific aggravating factors of N/R emergencies
Severe disruption of social and economic life	Negative framing of radiation exposure
Fear and anxieties about known and unknown risks	Hyping dread risk of radiation due to invisibility
Paramount importance of good crisis communication and trust	Context of politically controversial debate on the safety of nuclear energy
Severe side effects of protective actions	Long-lasting consequences of overly conservative actions
Anxiety, distress, suicide, stigmatisation, premature deaths in nursing facilities, substance abuse, depression, post-traumatic stress disorder, bipolar disorder, schizophrenia (e.g. WHO, n.d. b)	Disagreement among experts on what is "safe" (difficult communication around LNT model)
A similar all-hazards planning and response approach	As N/R emergencies are rarer than other types of emergencies, the specific planning and response needs may not be as familiar and practised. This may include the familiarity/resilience of the population with this type of emergency
Identification of vulnerable groups that may be perceived either as victims or as threatening or subject to discrimination (e.g. ethnic minorities)	Following a N/R emergency, some populations can be stigmatised, which may increase mental health and psychosocial consequences

Mental health and psychosocial needs depend on the health context and resilience, which vary in different affected populations. Non-medical factors like social determinants of health (SDH) must be considered for an optimised MHPSS strategy (Box 4) (WHO, n.d. a). The implementation of protective actions could negatively impact SDH (e.g. limiting access to employment, education, food, health care). Given that SDH significantly influence the outcomes of populations exposed to mental health risks during a N/R emergency, key SDH indicators are provided in Annex A. Furthermore, as detailed in Box 5, another important aspect to consider is the perception of radiation risks for health, where an individual's assessment of their own risk is associated with their levels of psychological distress.

Box 4: **Social determinants of health and mental health**

When dealing with mental health and psychosocial needs, it must be considered that the specific health context and resilience in different affected populations might vary. The social determinants of health (SDH) are non-medical factors that influence health outcomes (WHO, n.d. a). They are the conditions in which people are born, grow, work, live, and age, as well as the wider set of forces and systems shaping the conditions of their daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies, and political systems (WHO, n.d. a). SDH may also vary among different populations (vulnerable groups, Indigenous peoples, etc.) and must be considered particularly in MHPSS responses.

The SDH have an important influence on health inequities and resilience and thus influence the overall starting situation for MHPSS in affected populations after a N/R emergency. In all countries regardless of level of income, health and illness follow a social gradient: the lower the socio-economic position, the worse the health status and outcomes. The following list provides examples of SDH that can influence health equity in positive and negative ways (WHO, n.d. a):

- Income and social protection;
- Education;
- Unemployment and job insecurity;
- Working life conditions;
- Food insecurity;
- Housing, basic amenities and the environment;
- Early childhood development;
- Stigmatisation/social inclusion and non-discrimination; this may change following a N/R event to include those associated with the event (e.g. nuclear plant employees);
- Structural conflict;
- Access to affordable health services of decent quality.

According to the WHO (n.d. a), research shows that the social determinants can be more important than health care or lifestyle choices in influencing health. Numerous studies suggest for example that SDH account for between 30-55% of health outcomes. Addressing SDH appropriately is thus fundamental for improving the effectivity of MHPSS and requires action by all sectors and civil society (WHO, n.d. a).

Box 5: **Perceived risk**

Perceived risk refers to an individual's "subjective evaluation of his or her risk of an illness or an adverse outcome, often in relation to performing a certain risky behaviour" (Gidron, 2013). Perceived risk can also be described as "people's beliefs, attitudes, judgments, and feelings, as well as the wider social or cultural values and dispositions that people adopt, towards hazards and their benefits" (Pidgeon et al., 1992). It is important to understand that every person perceives radiation risk differently, which will impact their attitudes and behaviours. This can be influenced by previous experiences.

A higher perceived risk can result in adverse effects. Overestimating one's risk may lead to increased stress, increased (and potentially unnecessary) use of health services, and increased feelings of helplessness (Warner et al., 2020). Perceived risk has also been studied for its relation to risk of heart disease (Avis et al., 1989; Becker and Levine, 1987; Niknian et al., 1989), cancer (Bloom et al., 2006; Meisel et al., 2017), diabetes (Adriaanse et al., 2003; Kowall et al., 2017), and depression (Warner et al., 2020).

The psychological distress and the perception of radiation risks were looked at as part of the Fukushima health management survey. Suzuki et al. (2015) assessed the relationship between the perception of radiation risks and psychological distress among evacuees from the Fukushima nuclear power plant disaster. The findings revealed that people who believed that radiation exposure was likely to cause health effects were significantly more likely to experience psychological distress. These findings are consistent with those from studies of Chernobyl, where people with greater perceived radiation risks had poorer mental health (Havenaar et al., 2003; Adams et al., 2011; Bromet, 2014).

The impact of N/R emergencies could persist, resulting in prolonged fear of fallout or radiation exposure. For this reason, the co-operation between different resources (e.g. providing active outreach services and group interventions) and involving independent experts is key (Maeda et al., 2018).

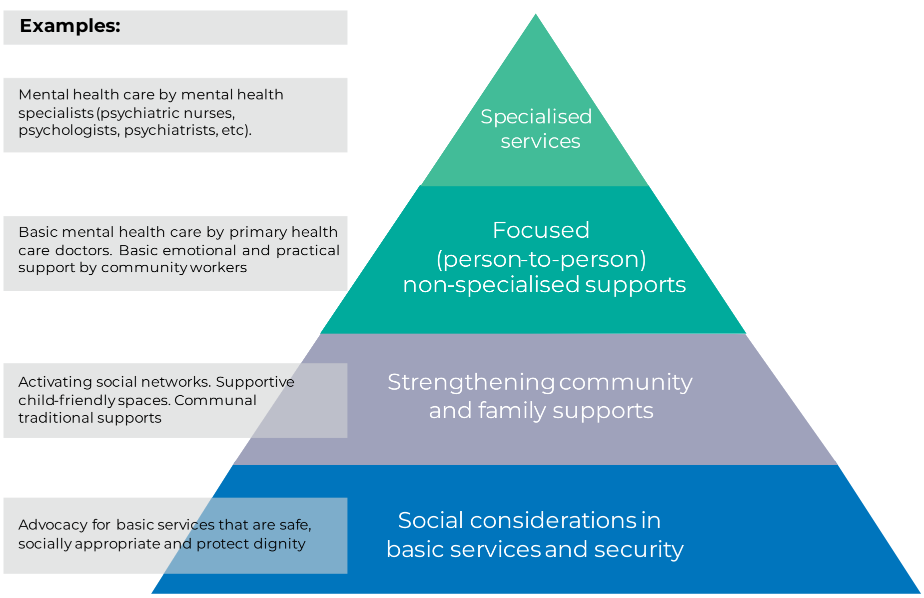
Awareness is now increasing among emergency planners and responders of the important role that traumatic stress plays in N/R emergencies in the response and recovery of individuals, families and communities. Traumatic events are harmful or life-threatening and can include abuse, neglect, disasters, war, disrupted emotional attachment and sudden unexpected loss. These events can be experienced at any stage of life. In some cases, they can be overwhelming and can have physical and mental health and psychosocial consequences, some of which can last a long time. Where traumatic events occur for people who have already experienced substantial previous adversity, the problems can be compounded. This is vitally important when considering N/R emergencies as community members may respond differently depending on their previous experiences. All planning, response and recovery actions should take this into account (APA, 2013: p. 271; ISTSS, 2020).

Basics for integration of MHPSS and RP in emergency preparedness and response

Recent scientific evidence (Bonnano, 2022; Galatzer-Levy et al., 2018) has been published on the need and approach to integrating MHPSS into emergency preparedness and response. This research showed that mental health impacts change over time with most (~75%) people showing no lasting negative mental health impacts from the disaster. However, the remaining 25% of people show various degrees of mental health impacts over time, with a small portion remaining seriously negatively impacted. Additionally, international guidelines are available to guide MHPSS practice and implementation in emergencies. For instance, the Inter-Agency Standing Committee guidelines (IASC, 2007) for MHPSS in emergency settings recommend that multiple levels of interventions be integrated within preparedness and response activities. These levels align with a spectrum of mental health and psychosocial needs and are represented in a pyramid of interventions (See Figure 4), ranging from embedding social and cultural considerations in basic services to providing specialised services for individuals with more severe conditions.

This pyramid provides an example of how to integrate MHPSS into N/R emergency planning. Integration requires interdisciplinary exchange, especially with experts in the field of MHPSS in other emergency settings.

Figure 4: **Intervention pyramid for mental health and psychosocial support in emergencies**



Source: IASC, 2021b: p.6.

To successfully integrate MPHSS in N/R emergency planning, education and training for the diverse experts will be required. This will promote the cross-discipline awareness at all jurisdictional levels (i.e. local, regional, national and possibly multi-national). Integration of MHPSS in N/R plans can be achieved through dialogue and exchange between disciplines. The integrated plans should be tested through N/R exercises that include MHPSS modules.

Similarly, the education and training provided to experts should be extended to include other stakeholders such as members of the public and communication professionals. As such, relevant professionals who can communicate effectively in a disaster should be identified as part of any preparedness for N/R emergencies. Risk communication must consider how members of the public perceive their individual risk, which may overestimate the risk of the N/R emergency. Furthermore, lifestyle changes, separation of family and loss of homeland could influence the perception of risk. A strong training and education programme could empower a co-operative process between experts and local stakeholders (co-expertise process) to help achieve a better assessment of the local situation, the development of an adequate practical radiological protection culture, and informed decision making among those affected (Schneider et al., 2019).

Given the importance of integration discussed above, there are several cross-cutting issues that must be considered when developing MHPSS and N/R emergency plans. The WHO framework (WHO, 2020) introduced five cross-cutting considerations of MHPSS planning and implementation to consider for the integration of MHPSS and N/R emergency response (Figure 5). Several practical actions discussed in the present document are guided by these cross-cutting considerations and can be implemented to support the mental health and psychosocial well-being of affected people and communities across the emergency cycle (preparedness, response, recovery).

Figure 5: **Five cross-cutting MHPSS considerations for the entire emergency cycle: Preparedness, response and recovery**

Cross-cutting MHPSS considerations for the entire emergency cycle: preparedness, response, and recovery	
Coordination	• Coordination through inter-sectoral MHPSS working groups can guide action. • Coordination must involve functional lines of communication, clear operating procedures and agreed roles and responsibilities.
Communication	• Implementing emergency risk communication (ERC) strategies – developed during the preparedness stage and involving all stakeholders – increases the effectiveness of protective actions and can reduce fear. • ERC should include clear messaging about protective actions that is inclusive, adapted and disseminated by trained communicators who will listen to concerns.
Community Engagement	• Affected people should be viewed as leaders in designing and implementing MHPSS activities that build upon existing community support networks. • Emergency response planners should identify trusted community leaders and involve them in decision-making throughout the emergency cycle.
Capacity Building	• Health-care workers, first responders and MHPSS providers should be trained in basic psychosocial support and in basic radiation protection. • Policies and procedures should be established to support the mental health and well-being of first responders, clean-up and plant workers and health-care staff.
Core ethics	• Care must be taken to ensure the primacy of community needs and protection from exploitation, abuse and discrimination. • Local culture and values should be respected and confidentiality maintained.

Note: These cross-cutting issues are specifically referenced in the practical guidance that follows under key principles.

Source: WHO, 2020: p. viii.

3. Practical guidance

The primary objective of this document is to outline practical guidance to the MHPSS actions to take to ensure that mental health and psychosocial needs are planned for and managed in a N/R emergency. In this context, they should help decision makers optimise protective decisions through a more holistic approach. The WHO framework encourages the development of practical tools to facilitate the integration of MHPSS with radiological protection, including before, during and after an N/R emergency. These could include decision-making flowcharts, checklists and sample protocols, defining the indicators for implementation and accompanying communication materials (e.g. frequently asked questions, lists of dos and don'ts, and infographics). In addition, clear, concise and targeted communications can exist in many forms, and more importantly, should be used where appropriate and needed.

This objective is in line with requirement 8 of IAEA (2016) Safety Standard GSR Part 1 stipulating that:

> The government shall designate response organizations that will have the responsibilities and resources necessary to prepare and arrange for dealing with the consequences of incidents that affect, or that might affect, the public and the environment. Such preparations shall include planning the actions to be taken both in an emergency and in its aftermath….so that timely and effective decisions can be made in an emergency…. for actual and expected future radiation risks (p. 11).

General Safety Requirements (GSR) Part 7 (IAEA, 2015) states that each protective action shall be demonstrated to be justified, with account taken of both detriments from radiation exposure and the impacts of the actions taken on public health, the economy, society and the environment.

In this context, it is important to consider that the radiological situation and potential related protective actions may directly or indirectly cause disruptions to societies, communities and families for substantial durations of time. During the preparedness phase, decision makers should develop plans, provisions and protocols for protective actions on the national, regional and community levels that reduce public exposure to radiation, while also considering MHPSS and other non-radiological impacts. Following an all-hazards approach, such plans/protocols should be based on available resources and capacities from different sectors, include integrated support systems and consider participation by stakeholders in a co-expertise process (ICRP, 2020). Adopted approaches and considerations should be transparently communicated. Systemic weaknesses, priority needs and capability and resource gaps should be identified at this stage where possible (see Action Sheet No. 2 of this document).

To the extent possible, emergency decision-making protocols should be amended or created to ensure that the recommended protective actions are balanced and well considered in view of the radiological situation and in accordance with international guidelines on MHPSS in emergency situations (e.g. IASC 2007; OPSIC, 2016). Each envisaged protective action should be assessed for its potential risks, costs and benefits. Special consideration should be given to the mental health and psychosocial needs of the affected population, particularly to groups such as children, people who have previously experienced trauma, those with pre-existing mental health conditions, disabilities, minorities and Indigenous people. All steps of the development of the emergency decision-making protocols should be based on broad stakeholder involvement. In case of an emergency, the clear documentation and transparent communication of different decisions and underlying assessments is key.

To this end, a comprehensive table of recommended MHPSS actions for preparing and responding to N/R emergencies was developed. The table identifies 28 actions that are recommended across all phases of the emergency (preparedness, response and recovery). The table provides a first indication for countries for the prioritisation of actions per emergency phase. However, many actions are relevant for more than one phase. For example, some of the actions recommended for the recovery phase need to be considered in the preparedness phase. Of the 28 actions, 12 actions have specific detailed action sheets attached that provide the key elements of the actions that emergency planners and responders should consider where the existing international guidance does not specifically include or explicitly consider N/R emergencies. For the other actions in the table, there is existing guidance available internationally that can be applied (general actions in response to all emergencies). Reference is made to human and material resources required, such as staff time, training material or other costs. The intent of these actions is to achieve integration of programmes; therefore, it is recommended to use existing plans and guidance (such as all-hazard plans) whenever possible to avoid the need to create additional documents or N/R-specific requirements. The recommended actions can be used to assess gaps across all phases. In addition, the 12 action sheets attached have practical guidance and references on how to accomplish these actions to mitigate mental health and psychosocial impacts of N/R emergencies.

The first action in the table is the establishment of a single, multidisciplinary, cross-sectoral MHPSS working group to lead the co-ordination of preparedness and response activities. This action does not have a specific action sheet as it is essential in all emergencies (IASC, 2007; IASC, 2022) and is dependent on the overall emergency response governance in each country. The establishment of the working group is a corner stone element for the completion of the other actions in the table and is highlighted in the *Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies* (WHO, 2020).

Establishing the multidisciplinary, cross-sectoral MHPSS working group should be the first action taken, as subsequent actions can then be prioritised and agreed by the group, depending on the specific needs and pre-existing all-hazards plans.

The working group could be co-led by the national health and protection authorities with membership from local, national and sometimes international organisations (depending on the context) involved in planning and delivering MHPSS interventions. Agencies represented are from various sectors (e.g. health, education, civil society organisations, social development, civil protection, community representatives and emergency response). Each organisation will name a person who will represent them at the working group where technical MHPSS issues and co-ordination are discussed and agreed. This avoids duplication and ensures a comprehensive MHPSS approach is planned and delivered. Organisations within the group may be the key agencies responsible for delivering MHPSS interventions; the working group's main function is co-ordination. Organisations might be assigned particular tasks, but it is unlikely that each one will be involved in all the actions listed in this document. The working group would identify and mitigate risks such as change of personnel attending the group over time and the required resources within participant organisations to succeed. The group should be structured and generate records of decisions to track progress and accomplishment of MHPSS actions in the table, including a monitoring and evaluation framework (see action 20 in the summary table). Key to the successful implementation of the MHPSS working group actions is how the working group is integrated into the overall emergency response governance. To this end, the group should be established in the preparedness phase and be an integral part of the all-hazards preparedness, response and recovery within the country.

Guidance to using the action table

The following table identifies each action with a short description in the first column. The second column lists key stakeholders that might take a leading role in delivery of that action. The third column lists potential key risks that should be considered and mitigated if possible. The fourth column suggests tangible outputs from each action that could be expected to be delivered. The fifth column suggests key indicators for monitoring and evaluation purposes that can be used as success criteria to establish if the action had the intended impact. The final column provides links to existing documents that provide detailed guidance about those actions that do not have an action sheet in this document. Actions marked with * have new action sheets within this publication to describe in more detail the actions recommended for N/R emergencies. For details of recommendations for all other actions, please refer to existing relevant MHPSS guidance in the references provided in the last column, and to the "Mental Health and Psychosocial Support Minimum Service Package" (MHPSS MSP, 2022). The MHPSS MSP is based on existing standards and tools, providing an easy-to-follow, step-by-step approach. It also serves as a valuable resource for planning, supporting, co-ordinating, implementing and evaluating MHPSS activities across sectors (MHPSS MSP, 2022).

Preparedness phase					
Action title	**Lead stakeholders, Lead actor**	**Risks to be considered**	**Monitoring of achievement (outputs)**	**Indicators**	**References for actions without action sheet**
1. Form a multidisciplinary, cross-sectoral MHPSS working group to co-ordinate preparedness and response activities	• National policy lead, by including policy levels responsible for civil protection	• Change in personnel • Lack of resources • Not enough consideration given to MHPSS in decisions • Linking MHPSS to one sector only (e.g. health)	• Terms of reference • Minutes of meetings	• MHPSS working group is formed • Number of MHPSS preparedness and response activities	• IASC, 2007 (Action sheet 1.1) • MHPSS MSP, 2022 (Activity 1.1) • OPSIC, 2016 (Action sheets 8, 9, 18) • IASC, 2022 (Action 1)
2. Undertake an assessment of MHPSS needs and resources identifying potential impacts of N/R emergencies on affected and host communities*	• MHPSS working group in co-operation with relevant services (e.g. health or social services) and N/R emergency preparedness officers (if not part of the WG) • Engage representatives from communities and vulnerable groups	• No budget line allocated to assessments • Staff capacity and skills • Sections of the community who are hard to engage with • Due to stigma, people with physical, psychosocial and intellectual disabilities are not always "visible" • Ethical considerations on data collection are not (sufficiently) taken into consideration	• Needs assessment report on the MHPSS needs and resources in N/R emergency(/ies) • Budget allocated to needs assessments	• List of MHPSS services and resources on a local/regional and community level and if a service agreement is in place • Report on potential impacts of N/R emergencies • Ability to, or delays in timely provision of a co-ordinated assistance from municipal and county MHPSS services together with the local relevant services (e.g. health emergency response services)	See action sheet
3. Engage community actors including politicians in preparedness, response and recovery	• Dedicated liaison between authorities and community leaders and networks, (e.g. youth clubs, women's networks) • Community members themselves are always the first line of response in any emergency, normally before any external support arrives	• Community engagement is considered too time consuming • Paying too much attention to one group of concern may lead to another being overlooked • Also, paying too much attention to one group of concern may attract social stigma • Be aware of community dynamics and power structures	• Community engagement strategy/plan in place, prepared together with relevant focal points within the community, including representatives of vulnerable groups • Record of meetings with community actors	• Pre-existing community-led initiatives and support mechanisms, such as civil society organisations • Organisations or support groups that represent people with chronic diseases, mental health conditions, and disabilities • Youth groups, women's groups, faith- and cultural communities are identified and mapped • Focal points within these community groups are established and actively participate in preparedness activities • Number and type of community groups engaged in the process during each phase (for preparedness phase – participation in simulation exercises)	• IASC, 2007 (Action sheet 5.1); • SPHERE, 2018 (Core Humanitarian Standard – Commitment 4); • IASC, 2021c • UNICEF and BMZ, 2019 • MHPSS MSP, 2022, (Section 3.4)

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
4. Ensure MHPSS is integrated within national disaster preparedness and risk management plans	• National policy lead including national and local government officials responsible for MHPSS/emergency response plans	• Lack of MHPSS knowledge and awareness on decision-making levels • Different perception of the needs among experts from different sectors	• N/R emergencies included in the plan • Chapters in disaster preparedness and management plans dealing with MHPSS issues specific to N/R emergencies	• Number of actions (meetings, revisions) to integrate MHPSS	• OPSIC, 2016 (Action Sheet 17) • IASC, 2021a (e.g. Chapter 2 and Figure 2)
5. Develop an MHPSS co-ordination plan as part of overall incident planning*	• N/R emergency preparedness and response organisations • Emergency response organisations • Public health institutions, education system and organisations (including civil society) providing MHPSS	• Potential loss of public trust if protective actions or public communication are incoherent across jurisdictional boundaries • Co-ordination limited to one sector only (e.g. health) • Different sectors have different priorities • Separate/parallel co-ordination groups • MHPSS may not be considered a priority • There may be limited dedicated resources to co-ordination, differing agendas and time constraints, structural challenges that lead to division and competition	• Budget allocated to co-ordination • MHPSS Co-ordination plan document • Inspection of plans to ensure roles and responsibilities are defined • Attendance of representatives from across different sectors	• Finalised co-ordination plan document • Inspection of plans to ensure roles and responsibilities are defined	See action sheet
6. Test the MHPSS co-ordination plan through exercises and revise accordingly	• MHPSS working group, involving radiation protection agencies	• No appropriate scenarios developed • Limited guidance on integrating MHPSS in simulation exercise • Evaluation not deemed relevant	• Findings from tests/exercises • Revised plan based on lessons learnt	• Number of simulation exercises to test MHPSS co-ordination plan • Number and variety of affiliation of participants at simulation exercise	• OPSIC, 2016 (Action Sheet 18) • TENTS, 2011 (Section 1) • Skryabina et al., 2017
7. Include information on mental health and psychosocial risks and support in public information/education materials*	• Nuclear power plant operators • MHPSS working group • Health authorities • Regulators • Local/regional authorities • Community organisations representing vulnerable groups	• No budget or human resources allocated • Preparing for radiological disaster not a priority in pre-disaster times • Consulting relevant community groups is considered too time consuming • Lack of radiological protection specific understanding within organisations providing MHPSS • Materials not appropriate for intended audience	• Information material for the public • Information modules on MHPSS • Evaluation report of the materials	• Number of people trained/who followed the different information modules • Percentage of people aware of MHPSS risks due to emergencies	See action sheet

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
8. Develop an incident staff and volunteer stress-management policy/protocol for responders and their families*	• All public and private authorities involved in emergency response management on different policy levels • Input from: The MHPSS working group and on-site emergency response organisation	• Stress not deemed relevant enough • Limited understanding or lack of acknowledgement from management • Organisational/structural barriers • Support for volunteers often forgotten • No or limited resources dedicated to staff support	• Staff support policy/protocol, integrated and with allocated funding in emergency preparedness plans and regularly reviewed • Resources (financial/human) dedicated to staff support • Access to MHPSS for responders, volunteers and their families in case of an emergency • Access to long-term MHPSS for responders and volunteers if needed/wanted	• Staff support policy/protocol integrated in emergency preparedness plans • Percentage of responders and families reporting positively about their mental health and satisfaction with measures taken • Percentage of sickness absence rates of concerned responders during and after an emergency • Percentage of the responders who access MHPSS services	See action sheet
9. Develop and deliver training/orientation on psychosocial support, radiation risks and safety*	• MHPSS working group • Local MHPSS providers and clinicians • Co-ordination with N/R protection authorities to consider radiological knowledge and ensure a holistic view of public health and safety • Co-ordination and collaboration with the education sector to promote the mental health and psychosocial well-being of education personnel and strengthen their capacity to support children in case of a N/R emergency	• Some trainees themselves may be in distress/ may not be ready to help others in distress • Trainees are not aware of their limitations and do not understand when to refer • Those who are trained may not be able to maintain their skills and knowledge • Staff turnover; those that are trained have moved to different positions	• Budget allocated to training materials, training and evaluations • Training material developed for each target group • Evaluation of the training • Follow-up trainings and supervision (based on lessons learnt from the evaluation)	• Number of MHPSS training sessions (building local capacity) with focus on radiological incidents • Percentage of responders (well) trained in psychological support issues • Percentage of MHPSS providers (well) informed about specific aspects of N/R emergencies and related protective actions • Number of community structures/networks trained/oriented in MHPSS and radiation • Number of orientations for media actors • Number of orientations/trainings for education staff	See action sheet

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
10. Build capacity for MHPSS in local primary health care centres*	• Local healthcare service/District health managers • Local primary care clinicians (and their lead clinicians) • National, regional, and local health authorities • National ministry of health	• No/limited resources to enhance the provision of mental health services • Lack of co-ordination/oversight of different healthcare providers • No referral possibilities	• Budget allocated • Assessment conducted identifying status of primary care centres • Training and system plans developed • Changes made to health information systems, supply of psychotropic medication or clinical guidelines	• Proportion of primary care centres in a district/region with non-specialist clinicians trained in WHO's mhGAP (or similar) • Number of primary healthcare workers trained and supervised • Break in supplies, number of days the necessary medications are unavailable • Number and types of mental health problems seen in clinics • Number of referrals made to specialised (tertiary) mental health care	See action sheet
11. Include people with pre-existing mental disorders, including those in psychiatric care institutions, as a vulnerable group within incident response plans	• Local administration in co-ordination with civil protection agencies	• Services and staff time/capacity • Vulnerable people/groups and/or their representatives are not identified • People in psychiatric hospitals and other institutions are "forgotten" in the preparedness plans and response	• List of vulnerable groups • Incident response plan for vulnerable groups, including for people in psychiatric hospitals and institutions • Action plan for the protection of vulnerable groups	• Percentages of medical facilities, social services facilities and community programmes that have staff trained to identify mental health conditions and to support people with mental health and psychosocial problems • Percentages of medical facilities, social services facilities and community programmes that have staff receiving supervision to identify mental health conditions and to support people with mental health and psychosocial problems • Percentage of communities taking into account vulnerable groups in incidents response plans • Percentage of target communities where steps have been taken to identify, activate or strengthen local resources that support psychosocial well-being development	• IASC, 2007 (Action Sheet 6.3) • OPSIC, 2016 (Action Sheet 42) • IASC, 2021b • MHPSS MSP, 2022 (Section 3.14)

Response phase

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
12. Activate the MHPSS working group immediately and regularly through the incident as part of the overall incidence response	• MHPSS working group	• Working group not met for a long time • Members of the group are involved in other aspects of the response and cannot attend • Disagreement on responsibilities	• Reviewed terms of reference • Minutes of meetings	• Number of meetings • Meeting protocols/reports • MHPSS aspects are considered from the beginning and throughout the overall incident response • Tasks and responsibilities are well assigned	• IASC, 2007 (Action sheet 1.1) • MHPSS MSP, 2022 (Activity 1.1) • OPSIC, 2016 (Action sheets 8, 9, 18)
13. Develop a public communication strategy that includes MHPSS*	All institutional and non-institutional entities involved in emergency preparedness and management on different policy levels, especially: • Radiological protection experts • Mental health communication experts • MHPSS working group • Organisations implementing protective actions • Representatives from vulnerable groups	• No draft risk communication materials available to update the communication strategy • Uncoordinated or contradicting messages from different authorities may cause stress and lack of trust	• Roles and responsibilities are defined • Information flow and information content is defined • Information material was prepared and adjusted for emergency • Images are developed; • Social media monitoring is set up	• Percentage of people who feel well informed about the emergency • Percentage of people who know what protective actions are implemented and why • Percentage of people who have a feeling of control with respect to the emergency • Reported level of trust of the public in governmental authorities • Number of rumours and or incorrect information on (social) media	See action sheet
14. Distribute information/education materials to the community on MHPSS and self-help*	All institutional and non-institutional entities involved in emergency management on different policy levels, especially: • MHPSS working group • Regional/local authorities • NGOs • (social) Media community leaders • Schools • Youth/sports/women's clubs, etc.	• No community input • No appropriate information material exists (i.e. it was not developed in preparedness phase) • No budget or human resources available	• Budget allocated to according information/education materials • Appropriate information material exists and is distributed • Information material is understandable and accessible to target audience	• Percentage of people who are aware of common reactions in emergency situations and of possible mental health and psychosocial needs • Percentage of people who know when, how and where to seek MHPSS services	See action sheet

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
15. Refresh MHPSS education and professional training for general health care providers and ensure support and supervision mechanisms are in place	• Health service • MHPSS working group	• No resource for training is available • No previous training took place in preparedness phase	• Training sessions delivered • Supervision relationships established	• Percentage of general health care providers well educated in MHPSS • Percentage of health care providers connected to supervision mechanisms	• NHS, 2021 (e.g. Section 3.2; 4.1; 4.4; 6.3; 7.6) • OPSIC, 2016 (Action Sheets 20 and 25) • IASC, 2007 (Action sheet 4.3)
16. Refresh training to non-health frontline staff and first responders in basic psychosocial skills (e.g. psychological first aid), particularly mitigation of impacts of evacuation, sheltering etc.	• Local and other available resources from other authorities	• No resources (staff, time) are available • First responders do not pay attention to that topic	• Refreshed training material • Reports from trainings	• Percentage of frontline responders (well) trained in psychological support issues • Percentage of frontline responders (well) informed about MHPS consequences	• OPSIC, 2016 (Action Sheets 20 and 25); • IASC, 2007 (Action sheet 4.3) • WHO (2013) • IASC (2020b)
17. Ensure referral mechanisms between primary care and specialist mental healthcare are operational*	• Local and national healthcare services • Education, (child) protection and other relevant sectors	• Worsening of the individual's mental health with inadequate support in place • Avoidable suffering for the individual and their family • Separation of the individual from their family and community if the specialist service is a long way from their home • Potential (pre-existing) long waiting times for specialist consultations • Interruption of available services • Interruption of treatment due to lack of psychotropic medication • Specialists have been evacuated • Lack of collaboration between different sectors (e.g. between social services, school system and health system) • No mapping of available services available • No exchange of information between the referring agency and the receiving agency – e.g. confirmation receipt for a referral (exchange of information while respecting the client's wishes for confidentiality)	• Allocated budget and human resources • Intersectoral referral system in place and operational • Number/percentage of health care clinicians, staff responsible for implementing protective actions, staff in the education system who are knowledgeable about/have used the referral process • Awareness raising sessions across sectors, including for health care clinicians	• Percentage of primary healthcare clinicians who know how to make a referral to specialist service • Percentage of patients requiring referral to specialist services who are assessed by that service • Average time between referral made and patient seen by specialist service • Percentage of patients reporting experience of care after being referred to specialist service	See action sheet

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
18. Addressing MHPSS in temporary relocation*	• Psychosocial support teams • Responders trained in basic psychosocial skills, such as for example PFA • Local authorities	• Balancing risks/benefits when government decides to enact an evacuation order • Reduced participation in decision making of vulnerable groups • Exclusion of vulnerable groups in accessing support • Vulnerable groups excluded from participation in decision-making processes • Lack of available services during temporary relocation • Longer-term mental health and substance use risks for those who evacuate • MHPSS capacities in area of temporary relocation • Tension between the host population and the evacuated people	• Training delivered to staff/volunteers supporting evacuees • Assignment of evacuees to staff/volunteers • Design of temporary accommodation • Anti-stigma campaigns • Provide group activities for children's mental health and psychosocial well-being • Budget allocated • Provide MHPSS through women and girls safe spaces	• Percentage of staff/volunteers completed training in basic psychosocial skills • Percentage of evacuees who receive MHPSS in a set time period • Percentage of evacuees with mental health conditions identified, and if needed, referred to appropriate services • Percentage of evacuees who perceive that the shelter promotes privacy, dignity, and safety, and is accessible • Percentage of the host population displaying negative attitudes and behaviours towards evacuees (stigma/discrimination survey data) • Percentage of the host population involved in support to the evacuees	See action sheet
19. Include mental health and well-being monitoring in ongoing health surveillance activities of the local community*	• Public health experts (including MHPSS working group) • Social workers • Education system • Community members	• Lack of an efficient surveillance strategy could hinder recognising and addressing mental health conditions among the affected population • Non-co-ordinated efforts, resulting in multiple inquiries/studies • Surveys used are not adapted to the specific situation (emergency and culture) • Not enough time to conduct surveillance • M&E staff not sufficiently trained • Poor, or lack of, ethical considerations	• Community involvement and participation • Activities of local health services (see action sheets 10 and 17) • Budget and human resources allocated to monitoring • Mental health data collected within general health monitoring • Data collection in cohort studies • Instruments used in a standardised and appropriate way • Use of instruments specifically designed for children, adolescents, and other vulnerable groups as appropriate	• Number of MHPSS data fields included in the surveillance systems • Number of participants included in surveillance (compared to affected populations) • Number of stakeholders, including the affected populations, involved in the monitoring and evaluation process • Results of studies are (appropriately) communicated to the community • Lessons learnt are captured, reflected, disseminated to all stakeholders	See action sheet

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
20. Monitor and evaluate the MHPSS actions, including ethical considerations	• MHPSS working group • Local health service • Local authority • Staff responsible for monitoring and evaluation	• Not prioritised or enough time given to this activity • Involvement of staff without training or supervision • Lack of ethical considerations, e.g. duplicating earlier/similar efforts, no risk-benefit assessment, without consent of participants, and no/poor dissemination of the results to stakeholders.	• Monitoring and Evaluation (M&E) activities and reports • Actions taken as a result of the M&E findings	• Percentage of working group meetings that discuss M&E findings • Percentage of actions proposed/agreed that are taken following M&E findings	• OPSIC, 2016 (Action sheet 15) • IASC, 2017 (e.g. Table 2; Chapter 8) • IASC (2021b) • NHS, 2021 (e.g. Section 4.1; 8.0) • IASC, 2014
21. Observe effects of emergency on social determinants of (mental) health*	National and local entities, including: • Economic policy organisations • Education organisations • Employment and human resources organisations • Agriculture and food system organisations • Housing programmes organisations • Indigenous populations organisations • Health care programmes and provider organisations • Nuclear emergency response organisations	• Failure to take SDH into consideration would lead to ineffective application of MHPSS • MHPSS consequences would be more severe for populations whose SDH put them at risk	• Data on key national SDH indicators is collected by the national governments • Reports on key national SDH indicators are made available to nuclear emergency response organisations	• Nuclear emergency response plans include mechanisms to incorporate SDH indicators for consideration by decision makers • Percentage of unemployment due to emergency • Percentage of people making use of social/welfare benefits due to emergency • Level of formal education compared to before the emergency • Percentage of health services accessible	See action sheet

Recovery phase

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
22. Refresh the public communication strategy for the recovery phase, including MHPSS	• Local authorities • Protection authorities • Education authorities • Radiation specialists carrying out local monitoring • Engage community leaders, religious leaders, schools, youth clubs, women's clubs etc.	• Recipients not interested anymore • Topic not relevant enough anymore within authorities • Information material not appropriate • Parallel communication/ information strategies (e.g. from authorities and civil society) that are not in line with one another • Information not risk-informed • Too much emphasis on low-level risk of radiation exposure while ignoring dangers of stressors from the evacuation/relocation	• Information and communication measures, material and activities	• Percentage of people who feel well informed • Percentage of people who feel to be in control of the radiological as well as their own life situation	• IASC, 2007 (Action sheet 8.1) • OPSIC, 2016 (Action sheet 21, 28, Part III communications for target groups)
23. If evacuation (relocation or resettlement) continues, continue to provide social support systems for evacuees and their host communities	• MHPSS providers in host communities • Local authorities in host communities • Partnerships between origin and host community	• High levels of stigmatisation • Local host communities have negative attitude towards evacuees (especially when evacuees receive attention, while host communities do not)	• Social support activities	• Percentage of people relocated reporting levels of suffering/distress • Percentage of people relocated reporting poor mental health • Percentage of those relocated who feel stigmatised by host community • Socio-economic situation of relocated people	• OPSIC, 2016 (Action sheet 28, 29) • UNHCR et al., 2015 (Key Principle 1) • IOM, 2019 (Chapter 11, 12, 13, 14, Annex 2)
24. Establish and advertise inclusive, community-based self-help support groups	• MHPSS providers • NGOs • Community representatives	• Fear and distrust within the community • Lack of awareness of importance of mutual support • Missed opportunity to include key community-based self-help, e.g. problem sharing and brainstorming of solutions, mutual emotional support and effective ways of coping	• Support groups established and active • Advertising/ information resources circulated to the community	• Number of groups actively meeting • Extent of satisfaction with self-help-groups • Number of meetings • Group size • Percentage of the population who are aware of existence of groups	• IASC, 2007 (action sheet 5.2) • IOM, 2019 (Chapter 5)

Action title	Lead stakeholders, Lead actor	Risks to be considered	Monitoring of achievement (outputs)	Indicators	References for actions without action sheet
25. Engage the community in decision making and maintain (or rebuild) trust in social structures through empowering communities	• Local authorities in co-ordination with radiological protection authorities • Community representatives and representatives of vulnerable groups	• Community interest in such activities decreases • Key people have moved away • Disagreement between groups in the community/evacuees and hosts • Exclusion of groups (due to disability, language, literacy, stigma or other type of social exclusion)	• Meeting minutes • Communication output of community organisations/NGOs	• Number of people engaged • Percentage of people who are satisfied with communication within the community • Percentage of people who feel a sense of control over the situation • Percentage of people who trust the authorities	• NHS, 2021 (Chapter 6) • SPHERE, 2018 (Commitment 4)
26. Encourage the re-establishment of cultural and religious events and practices	• Local authorities • Religious, spiritual and cultural leaders • Schools • Local NGOs • Youth clubs • Women's networks • Associations	• Organisation of events and practices ***for*** instead of ***with*** or ***by*** the affected population • Fear and distrust in the community • Key people have moved away • Community level activities contradict risk perception of community • Activities may exclude some members of the community	• Cultural and religious events in the community	• Percentage of events that have been re-established compared to before the incident • Proportion of events per area • Percentage of communities with re-establishing activities	• IASC, 2007 (Action sheet 5.3); • IOM, 2019 (Chapters 5, 6, 7, 8)
27. Re-establish (if disrupted) a functioning public health system that addresses the mental health and psychosocial needs of the community	• Health authority • Mental healthcare providers	• Major disruption to services including lack of personnel • Fragmented healthcare system	• Community accessing health system for mental health needs • Treatments for mental health provided • Referral mechanisms operating effectively	• Number of people referred for mental health support • Number of patients treated for mental health problems	• IASC, 2007 (Action sheets 6.1-6.5) • WHO, 2013a (pages 18-19)
28. Undertake mental health promotion campaigns to encourage the community to support their mental health	• Health authorities • Local authorities • MHPSS providers • Community representatives	• Not a priority or relevant • No resources available • No expertise to lead and deliver it • Stigma around mental health and psychosocial needs	• Campaign delivered	• Percentage of people aware of the relevance of mental health and recognising the importance of people with mental health conditions receiving adequate support • Percentage of people who actively protect their mental health	• IASC, 2007 (Action sheet 5.2) • IASC, 2011 (pages 6-7)

How to use the action sheets?

Of the 28 actions in the action table, 12 have specific detailed action sheets. These detailed action sheets, outlined below, provide the key elements of the actions that emergency planners and responders should consider where the existing international guidance does not specifically include or explicitly consider N/R emergencies. Each action sheet can be amended to reflect country-specific needs based on the current level of planning. The numbers of the action sheets below correspond with the numbers of the actions in the action table.

All action sheets follow the same structure, which is as follows:

<table>
<tr><td colspan="2">Action Sheet No. x: "Name of the action"</td></tr>
<tr><td>Policy level and target group:
Level of emergency management responsible for implementing this action and the respective action steps (further detailed under "lead stakeholders/ organisational responsibilities")</td><td>N/R emergency phase:
N/R emergency phase in which the action is relevant (preparedness, response or recovery)</td></tr>
<tr><td colspan="2">Key principles:
1. Which of the five cross-cutting issues introduced in the WHO framework (cf Figure 5) through the emergency cycle does this action relate to?
Co-ordination;
Communication;
Community resilience and engagement;
Capacity building and training;
Core ethical considerations for community-based MHPSS.</td></tr>
<tr><td colspan="2">Background:
Short description of why the action is relevant</td></tr>
<tr><td colspan="2">Key recommendation:
Overarching description of the recommended action and a short description of the action</td></tr>
<tr><td colspan="2">Action steps:
Set of steps; specific guidance on what specifically to do to implement the action</td></tr>
<tr><td colspan="2">Lead stakeholders/organisational responsibilities:
Who is responsible for the planning or the implementation of this specific action?</td></tr>
<tr><td colspan="2">Human and material resources:
Human and material resources needed to plan and implement the action</td></tr>
<tr><td colspan="2">Monitoring of achievements (outputs):
Goal oriented and measurable indicator on the performance of the delivery of this action. This answers the question: has this action been implemented?</td></tr>
<tr><td colspan="2">Indicators:
Measurable effects of this action in N/R emergency preparedness and response activities or in wider society. This answers the question: what impact has this action had?</td></tr>
</table>

Risks to be considered:

Risks that should be considered in implementing the action, referring to risks related to the issue itself and also the risks created by taking action

Related actions:

Cross-references to other actions of the action table

References:

Cross-references to other sections of the present guidance

Additional information, resources

Practice examples, other tools

Action Sheet No. 2: Undertake an assessment of MHPSS needs and resources identifying potential impacts of N/R emergencies on affected and host communities

Policy level and target group:	**N/R emergency phase:**
All levels	Preparedness, response

Key principles:

Community resilience and engagement, co-ordination

Background:

As part of an all-hazards approach to emergency preparedness and response, many national services, including health and social services, protection strategies and the education system have generic recommendations for MHPSS needs assessments in place. This is usually part of risk and vulnerability analysis within countries. Further, a multitude of international recommendations on this topic exist (e.g. IASC, 2007; WHO, 2012; WHO, 2020).

The main challenge, especially for emergencies that occur as rarely as N/R emergencies, is to prepare a more specific MHPSS needs and resources assessment that considers the regional and local levels. In many countries, MHPSS risk assessments are still not part of general national risk analysis for N/R emergency preparedness, despite corresponding international recommendations (e.g. IAEA GSR 7, requirement 16; or WHO, 2020). Accordingly, specific MHPSS needs assessments for N/R emergencies are often missing on the regional level and especially on the local level, even in regions hosting N/R facilities.

Assessments of needs and resources guide the rest of the MHPSS planning and activities. Gaps highlight areas for particular attention, and identification of assets for MHPSS can be grown and built into the response and recovery plans. Experience from the Fukushima Daiichi Nuclear Power Plant accident indicates that prior knowledge of short- and long-term MHPSS needs is essential for improved well-being and health outcomes among the affected populations.

Key recommendation:

The MHPSS working group should map the needs and resources for MHPSS at the regional and local levels, and across sectors (e.g. health, protection, education).

Knowledge and risk perception of radiation risks, as well as the attitude towards N/R facilities can vary between different population groups within a region. Similarly, lifestyle and socio-economic characteristics of the local population can impact MHPSS needs. Therefore, general recommendations should be adapted to local needs.

Action steps:

1. The MHPSS working group (see action 1 in the action table) should co-ordinate actions to map the needs and resources for MHPSS on the regional and local levels by involving representatives from local MHPSS services and N/R emergency planners.

   A brief desk review of existing information on MHPSS (e.g. national systems for MHPSS, policies and plans, country and sociocultural contexts, affected populations, previous assessments, existing community MHPSS systems) should be conducted in the preparedness phase.

   In addition to the general population and emergency responders, the MHPSS needs and resources assessment should particularly consider vulnerable groups (see Box 2). Assessment reports should be shared within the MHPSS working group to avoid duplication.

2. The MHPSS working group should develop a questionnaire/spreadsheet for local authorities to collect information about the affected communities (non-exhaustive list) (IASC, 2012):
   - Existing local MHPSS needs assessments if any.
   - Existing response activities.
   - Existing community MHPSS (e.g. youth groups, women's groups, faith-based groups, community centres).
   - Demographic information with special attention to any vulnerable groups in the affected community and the status of those with existing mental health conditions.
   - Information on representatives from these vulnerable groups.
   - Access to MHPSS resources for all parts of the affected populations (including workers) with the list of available services on the local/regional level, including resources within the community. However, consideration should be given to potential disruption of the local health services after a N/R emergency.
   - Existence of people trained in basic psychosocial skills and/or psychological first aid in the community.
   - Integration of municipal and county MHPSS services in local general emergency response services. This should provide an indicator of availability of support to different needs.
   - Level of trust in the authorities among the regional population and the likely level of acceptance of advice as well as the compliance with potential protective actions.
   - Identification of people with trusted relationships with the affected communities (including host communities) to engage and communicate with the community about risks and potential protective actions.
   - Perception of risks related to N/R emergencies in the local community.
   - Any factors related to the level of compliance with the implementation of protective actions (e.g. evacuation). Consideration of the needs of host communities, in case evacuation is needed, should be strongly considered.
   - Further community characteristics such as community values, existing points of cohesion or tension, communication preferences (e.g. are there established community online networks, and who uses these?), trust in local and national authorities and organisations likely to be of key significance in an emergency.

3. To collect the information in the questionnaire, the MHPSS working group should involve and empower regional and local MHPSS services. Representatives from communities and representatives of people at risk should participate. Other potential contacts to gather information include a) local authorities responsible for risk and vulnerability analysis for N/R emergencies; b) local NGOs; c) informal influential groups in the community; and d) religious communities.

4. The MHPSS working group should be responsible for analysing the collected information. This should preferably happen with some involvement of local representatives of MHPSS services and potentially also representatives from local authorities as well as regional N/R emergency preparedness officials.
5. The MHPSS working group should draft an assessment report on the analysis of the MHPSS needs in N/R emergencies. Preferably, this report should be consulted with local/regional authorities and then delivered to national policy leads and other stakeholders. Messages should be tailored for targeted audiences (e.g. non-technical language or clearly defined technical terms, using language appropriate to the literacy and education level of the reader). All planning and response activities should be considered in the light of this assessment.
6. The MHPSS working group should evaluate future needs for updating the report on an ongoing basis (e.g. every 5 years).
7. All data collection should be guided by ethical considerations (e.g. risk-benefit assessment, informed consent).

Lead stakeholders/organisational responsibilities:

MHPSS working group in co-operation with relevant services and N/R emergency preparedness officers (if not part of the WG). Engage representatives from communities and vulnerable groups.

Human and material resources:

- Allocate financial and human resources to the needs assessment.
- Time and human resources spent by the MHPSS working group to collect, analyse and evaluate data, as well as to produce the assessment report; this should include time and human resources dedicated to community participation.
- Time and human resources of local and regional authorities to deliver information and to provide input when consulted.
- Tailored messages for targeted audiences (including for example community leaders).
- Others as required.

Monitoring of achievements (outputs):

- Needs assessment report on the MHPSS needs and resources in N/R emergency(ies).
- Budget allocated to needs assessments.

Indicators:

- List/mapping of MHPSS services and resources on a local, regional and community level.
- Report on potential mental health and psychosocial consequences of N/R emergencies.
- Ability to provide, or delays in timely provision of, a co-ordinated assistance from municipal and county MHPSS services together with the local emergency response services (on the basis of the assessment report).

Risks to be considered:

- No budget line allocated to assessments.
- Staff capacity and skills might not be available or adequate.
- Sections of the community who are difficult to access, or hard to engage with could be forgotten/neglected.
- Due to stigma, people with physical, psychosocial and intellectual disabilities are not always “visible”.
- Ethical considerations on data collection are not (sufficiently) take into consideration.

Related actions:

Action 1, action 7

References:

IASC (2007), *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*, Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-task-force-mental-health-and-psychosocial-support-emergency-settings/iasc-guidelines-mental-health-and-psychosocial-support-emergency-settings-2007.

IASC (2012), *Who is Where, When, doing What (4Ws) in Mental Health and Psychosocial Support: Manual with Activity Codes (field test-version)*, Inter-Agency Standing Committee Reference Group for Mental Health and Psychosocial Support in Emergency Settings, Geneva, https://interagencystandingcommittee.org/iasc-reference-group-mental-health-and-psychosocial-support-emergency-settings/iasc-who-where-when-doing-what-mental-health-and-psychosocial-support-4w-tool-2014.

IASC (2014), *Inter-Agency Standing Committee (IASC) Reference Group for Mental Health and Psychosocial Support in Emergency Settings, 2014. Recommendations for Conducting Ethical Mental Health and Psychosocial Research in Emergency Settings*. Inter-Agency Standing Committee, Geneva. https://interagencystandingcommittee.org/mental-health-and-psychosocial-support-emergency-settings/documents-public/iasc-recommendations.

OPSIC (2016), "The Comprehensive Guideline on Mental Health and Psychosocial Support (MHPSS) in Disaster Settings", OPSIC-Project – Operationalising Psychosocial Support in Crisis, https://whocares-pss.info/resource/the-comprehensive-guideline-on-mental-health-and-psychosocial-support-mhpss-in-disaster-settings.

Sphere (2018), *The Sphere Handbook, Humanitarian Charter and Minimum Standards in Humanitarian Response*, Sphere Association, Geneva, www.spherestandards.org/resources/handbook-2018.

WHO (2020), *A Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies*, World Health Organization, Geneva, www.who.int/publications/i/item/9789240015456.

Action Sheet No. 5: Develop an MHPSS co-ordination plan as part of overall incident planning

Policy level and target group:	**N/R emergency phase:**
Public health organisations, emergency planners and organisations (including civil society) providing MHPSS	Preparedness, response, recovery

Key principles:

Co-ordination

Background:

Proper planning includes establishing a framework for roles and responsibilities. Planners achieve unity of purpose through co-ordination and integration of plans across all levels. Plans must be clearly communicated to operational personnel and support providers; their roles and responsibilities and how these complement the activities of others should be well-defined. N/R emergencies are rare events and MHPSS organisations asked to respond may not be familiar with the basis for preparedness and response to a N/R emergency. Co-ordination is needed to ensure an effective response and efficient use of resources, to share information, to avoid duplications and identify and address gaps.

Key recommendation:

Roles and responsibilities, and the concept of operations, must be clearly defined and followed to prevent different authorities from taking contradictory or duplicative actions.

Action steps:

1. Identify the governmental, non-governmental and private providers, civil society groups and others (such as youth groups, women's groups, faith-based actors and spiritual leaders) for MHPSS activities and services.
2. Co-ordinate across sectors (health, education, shelter, protection etc.) with civil society and others (such as youth groups, women's groups, faith-based actors and spiritual leaders).
3. To ensure mutual understanding on MHPSS between different sectors and actors, facilitate a quick orientation on MHPSS, by referring to established guidelines e.g. on the *IASC Guidelines on MHPSS in Emergency Settings* (2007) and the *WHO Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies (2020)*.
4. Agree on the roles and responsibilities of organisations that provide MHPSS so that they are understood in emergency plans (e.g. interrelationship to organisations that provide MHPSS reflected through use of figures, block diagrams, tables).
5. Include references to applicable legal authorities for principal organisations that provide MHPSS; ensure documents that delegate responsibility and authority are identified.
6. Specify the key functional capabilities of each organisation that provides MHPSS required under their authority (e.g. public information, social services, medical services, education system).
7. Include the preparation of mapping of services and referral pathways to facilitate access to the full range of MHPSS services and activities and to additional support as needed.
8. Prepare a co-ordinated plan on key MHPSS advocacy messages, including an advocacy plan on allocating resources for MHPSS.
9. Develop and put into place written agreements with support organisations having an emergency response role. The agreements should describe the concept of operations, emergency response measures to be provided, mutually acceptable criteria for their implementation, and arrangements for exchange of information.
10. Develop and put into place a framework for co-ordination efforts across emergency phases (e.g. early phase support may be required at locations such as relocation/reception centres or public shelters; transition and long-term phase support services may be provided at facility locations that provide MHPSS).
11. Ensure each principal organisation that provides MHPSS can operate for a projected period of time appropriate to the phase of the response.

Lead stakeholders/organisational responsibilities:

- N/R emergency preparedness and response organisations.
- Emergency response organisations.
- Public health institutions and other organisations (including civil society) providing MHPSS.

Human and material resources:

- Staff level assignments for MHPSS services.
- Resources dedicated to information management (assessments, mapping of actors, information sharing, referral pathways).
- Costs for updating emergency plans and procedures and costs for developing memorandums of understanding, memorandums of co-operation, or other agreements.
- Working space and resources for MPHSS support services may be needed at emergency response facilities (e.g. in reception/relocation centres or public shelters).

Monitoring of achievements (outputs):

- Budget allocated to co-ordination.
- MHPSS co-ordination plan document.
- Inspection of plans to ensure roles and responsibilities are defined.
- Attendance of representatives from across different sectors, including civil society.

Indicators:

- Finalised co-ordination plan document.
- Inspection of plans to ensure roles and responsibilities are defined.

Risks to be considered:

For a significant environmental radioactive release extending across jurisdictional boundaries, public trust may be challenged if protective actions or public communication are incoherent across jurisdictional boundaries. This could create additional challenges to organisations providing MHPSS seeking to help maintain or restore public trust. This risk can be mitigated through co-ordination in the preparedness phase to achieve harmonisation among plans.

Furthermore, MHPSS may not be considered a priority. There may be limited dedicated resources to co-ordination, differing agendas and time constraints, structural challenges that lead to division and competition. There is also a risk of linking MHPSS to one sector only (such as health), or the existence of parallel co-ordination groups.

Related actions:

Action 2, action 3, action 6, action 9, action 10, action 18

References:

IASC (2021a), *Technical Note, Linking Disaster Risk Reduction (DRR) and Mental Health and Psychosocial Support (MHPSS): Practical Tools, Approaches and Case Studies*, Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-reference-group-mental-health-and-psychosocial-support-emergency-settings/technical-note-linking-disaster-risk-reduction-drr-and-mental-health-and-psychosocial-support-mhpss.

IASC (2022), *Handbook for Mental Health and Psychosocial Support (MHPSS) Coordination*, Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-reference-group-mental-health-and-psychosocial-support-emergency-settings/iasc-handbook-mental-health-and-psychosocial-support-coordination.

TENTS (2008), *The TENTS Guidelines for Psychosocial Care Following Disasters and Major Incidents*, The European Network for Traumatic Stress, Cardiff University, Cardiff, www.estss.org/uploads/2011/04/TENTS-Full-guidelines.pdf.

MHPSS MSP (2022), *The Mental Health and Psychosocial Support Minimum Service Package*, https://mhpssmsp.org/en.

Action Sheet No. 7: Include information on mental health and psychosocial risks and support in public information/education materials	
Policy level and target group: Health authorities, bodies responsible for communication, both general and specific for radiological protection	**N/R emergency phase:** Preparedness
Key principles: Communication, community resilience and engagement, co-ordination	
Background: An important element of preventing and dealing with mental health and psychosocial risks is that those who might suffer mental health and psychosocial consequences (the public and first responders), are aware of potential effects of N/R emergencies. Rumours and the absence of credible and accurate information tend to be major sources of anxiety for those affected by emergencies. They can create confusion and insecurity. The provision of accurate information to the affected population on the emergency itself, on the relief efforts, on the health risks that people may face, and on the actions they can take to protect themselves, etc., is important and should be co-ordinated. Public information on mental health and psychosocial consequences of emergencies, and potential needs should be developed. These materials should include messages that promote anti-stigmatisation of mental health conditions and increase understanding that mental health and psychosocial consequences are common in emergencies, including in N/R emergencies. Information/education material should provide i) information on mental health and psychosocial consequences and symptoms; ii) recommendations on what to do in case a person observes such symptoms including points of contact; iii) self-help recommendations; iv) recommendations on how to support others; v) information on how engagement activities can help. Besides information on radiation exposure, the following topics should be considered in information material as the main triggers of mental health burden in N/R emergencies: • Sheltering – why, how and for how long; • Evacuating – why, how and when it is sometimes necessary to leave behind personal valuable belongings, pets, homes; • Decontamination – why (avoiding cultural ideas of being dirty); the need for personal belongings to be handed over; for undressing, that children should be accompanied; the need for sufficient space to maintain privacy. To commit to the integration of MHPSS into the emergency response and N/R protection measures, decision makers need accurate and co-ordinated information on mental health and psychosocial consequences and needs. Improved risk information enables affected people to become more autonomous in their own risk management.	
Key recommendation: Prepare information material on mental health and psychosocial risks and support in advance of an N/R emergency.	

Action steps:

1. Set up a process to co-ordinate development of material within the organisational and institutional context; include MHPSS actors from different sectors, including the health, protection and education sectors.
2. Mapping of existing material for N/R emergencies:
   - Identify resources/materials that exist to inform the community about mental health and psychosocial risks and support.
   - Check if the information is of a general nature or related to N/R emergencies.
   - Check if resources are accessible, known and easy to understand for the target audience.
   - Check if N/R information material includes information on MHPSS.
   - Method: desk review, co-ordination with mental health organisations, co-ordination with nuclear regulators and operators.
3. Develop new information modules based on the best available science; use existing information material from internationally available and peer-reviewed documents:
   - General information: i) information on symptoms; ii) recommendations on what to do in case a person observes such symptoms including points of contact; iii) self-help-recommendations; iv) recommendations on how to support others; v) how engagement activities can help.
   - Effects of prolonged sheltering on mental health and psychosocial well-being (OPSIC, 2016, Action sheets No. 44, No. 47; IASC, 2021a).
   - Effects of evacuation on mental health and psychosocial well-being (see also action 21 of the action table; OPSIC, 2016, action sheet No. 50; NRC, 2021).
4. Evaluate appropriateness of information with target audiences. Consider different information formats and use of images to support communication products.
5. Ensure that information modules are accessible on multiple channels and by different senders (local, regional, national administrations, nuclear energy sector, MHPSS organisations) and are also included in existing materials on N/R emergencies.
6. Ensure information is available for specific subgroups (e.g. languages, culture, gender, socio-economic status). Ensure that information material is accessible to vulnerable groups.
7. Evaluate appropriateness of the distribution format. Be aware of marginalised people and different means to access publicly available information material; e.g. materials should be available in digital and paper formats, written and audio, and be accessible to people who are visually- or hearing-impaired.

Lead stakeholders/organisational responsibilities:

- Nuclear power plant operators.
- MHPSS working group (see action 1 of the action table).
- Health authorities.
- Regulators.
- Local/regional authorities (e.g. local health services, local municipality services).
- Community organisations, including those representing vulnerable groups.

Human and material resources:

- Staff time.
- Costs for development, production and distribution of material.
- Time and resources to review the materials together with representatives from vulnerable groups on appropriateness, language and accessibility, including for vulnerable groups.
- Cost and human resources for adapting materials to the needs of vulnerable groups: including for people who are visually or hearing-impaired.

Monitoring of achievements (outputs):

- Budget and human resources allocated to information on MHPSS.
- Information material for the public.
- Information modules on MHPSS in relation to protective actions such as sheltering, evacuation, decontamination and engagement activities that are drafted and distributed.
- Evaluation report on the efficiency of the communication materials with revisions as necessary.

Indicators:

- Number of people trained/who followed the different information modules.
- Percentage of people aware of MHPSS risks due to emergencies, especially with respect to N/R emergencies.

Risks to be considered:

- No budget or human resources allocated.
- Preparing MHPSS information related to N/R emergencies may not be a priority in the preparedness phase.
- Consulting relevant groups in the community on their information needs may be considered too time consuming.
- MHPSS organisations providing support for N/R emergencies may not have a level of understanding of radiation any higher than that of the public and will likely require support from health physicists and other radiological experts to help communicate the risks. Communication of radiological risks should be balanced against the risk of harm from the protective action and other factors essential to a holistic view of public health and safety. Overstating the radiological risk could result in doing more harm than good. This should be considered in the information communicated to the public.
- Materials not appropriate for the intended audience.

Related actions:

Action 1, action 4, action 9, action 13, action 14, action 21, action 28

References:

IASC (2021a), "Technical Note Linking Disaster Risk Reduction (DRR) And Mental Health and Psychosocial Support (MHPSS): Practical Tools, Approaches and Case Studies", Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-reference-group-mental-health-and-psychosocial-support-emergency-settings/technical-note-linking-disaster-risk-reduction-drr-and-mental-health-and-psychosocial-support-mhpss.

OPSIC (2016), *The Comprehensive Guideline on Mental Health and Psychosocial Support (MHPSS) in Disaster Settings*, OPSIC-Project, Operationalising Psychosocial Support in Crisis, https://whocares-pss.info/wp-content/uploads/2022/06/OPSIC_MHPSS_Comprehensive-Guideline_Janner2016.pdf.

IAEA (2007), *Arrangements for Preparedness for a Nuclear or Radiological Emergency*, Safety Guide No. GS-G-2.1, International Atomic Energy Agency, Vienna, www.iaea.org/publications/7503/arrangements-for-preparedness-for-a-nuclear-or-radiological-emergency.

IAEA (2015), *Preparedness and Response for a Nuclear or Radiological Emergency,* General Safety Requirements No. GSR Part 7, International Atomic Energy Agency, Vienna, www.iaea.org/publications/10905/preparedness-and-response-for-a-nuclear-or-radiological-emergency.

Action Sheet No. 8: Develop an incident staff and volunteer stress-management policy/ protocol for responders and their families

Policy level and target group:	**N/R emergency phase:**
Regional, local, and involved private entities (e.g. operators); Responders as defined in ICRP (2020) and their families.	Preparedness

Key principles:

Co-ordination, capacity building

Background:

"Employers have an obligation to maintain the safety, security, physical health, and psychological well-being of personnel and family members in the workplace, including on international assignment and in remote areas of their home country." (OCHA, 2019). This is known as the Duty of Care.

Responders, defined by the ICRP (2020) as "people involved in the direct management of the consequences of a nuclear accident" are diverse in terms of their background, status, degree of preparation, and training in radiological protection. Responders include for example emergency workers (firefighters, police officers, medical personnel, drivers and crews of vehicles used for evacuation), workers, elected representatives, and volunteers (ICRP, 2020: p. 15). Responders will play an essential role in response to a N/R emergency. In view of the exceptional situation they are facing and the related health risks arising from potential exposure to ionising radiation, they and their families are likely to be confronted with significant levels of stress.

Responders are often members of the affected communities and they and their families are exposed to similar problems as the people they are supporting. Also, they may be affected by the problems faced by these people, while providing them with assistance and support. They often work long hours under difficult circumstances (MoFA, 2019). Furthermore, the Chernobyl and Fukushima Daiichi nuclear power plant accidents showed how workers that were tasked with the difficult task of cleaning up waste faced discrimination and stigma.

Organisations need a staff and volunteers support policy. Staff and volunteer care should be proactive; it should be integrated within the structure of organisations (MoFA, 2019).

Responders need to have access to MHPSS to enable them to perform their duties as needed to lead an effective response to a N/R accident, and to manage any fear or stress they may have. Similarly, the families of responders should also be provided with MHPSS. Policies and protocols for managing stress should be in place and operational prior to an incident requiring emergency response.

Key recommendation:

Develop a policy/protocol for preventing and managing stress of responders and their families during an N/R emergency.

Action steps:

A multitude of guidelines, recommendations and approaches exist regarding the creation of staff support plans to manage stress and provide MHPSS to responders and volunteers in response to different types of emergencies (e.g. IASC, 2007: pp. 87-92; Antares Foundation, 2012; Stevens and Raphael, 2008: pp. 31-36 and references therein). Based on these guidelines and recommendations, the following steps should be taken during the preparedness stage of a N/R emergency (considering action sheet No. 9):

1. As part of emergency preparedness plans, a policy/protocol should be developed (or adapted from existing documents for other types of emergencies) for preventing and managing any stress experienced by responders and their families during an emergency. This should be based on the methodology outlined in IASC (2007: pp. 87-92), and

consideration should be given to Stevens and Raphael (2008: pp. 31-36) and references therein. The specific circumstances of a N/R emergency to consider are:

- An important stressor is likely to arise from the radiological situation, combined with fear and anxiety regarding the invisible threat of ionising radiation and any uncertainty over severity and risk. In this regard, the focus should be on the careful explanation and discussion of the radiological situation, potential short- and long-term radiation-induced health risks, and how to protect oneself and others in this context.
- It is particularly important to ensure that there is sufficient equipment for staff safety and security in the context of a N/R emergency, as this will help to reduce any fear and anxiety regarding radiation-induced health effects. Such equipment includes: dosimeters, potassium iodine pills and personal protective equipment, which can be difficult to obtain on short notice in a crisis situation. This is why, as part of preparedness, such material should be stocked in sufficient quantities at strategic locations by operating and response organisations (IAEA, 2015). Training in how to use the equipment should be part of preparedness arrangements.
- Healthcare infrastructure in the affected regions of the emergency might be seriously reduced or non-functional, potentially over long periods of time. Seeking help from a local health professional might thus be difficult. Responding and operating organisations should provide external capacities in this regard.
- Responders should be familiar with the main items of training in basic MHPSS received as outlined in action sheet No. 9 in case of an emergency.
- MHPSS of all responders, volunteers and their families should continue after the deployment/intervention as outlined in IASC (2007: p. 91). In the context of a N/R emergency, this should include a thorough health screening strategy (see action sheet 19) put at the disposition of responders. The main organisational aspects of such a strategy should be set out in principle during the preparedness phase. More information on principles to be considered for preparedness to post-nuclear recovery and on the issue of accident health screening strategies can be found in NEA (2022), p. 25.

2. Prepare a dissemination strategy to share the information needed with responders, volunteers and their families. This should involve the relevant lead stakeholders. A link to action 13 in the action table should be considered.

Lead stakeholders/organisational responsibilities:

All public and private authorities involved in emergency response management on different policy levels. Input from:

- The MHPSS working group (see action 1 in the action table).
- On-site emergency response organisation.

Human and material resources:

- Staff time in the preparedness phase to develop the policy/protocol, ideally as part of broad staff support policies/protocols for emergency response actions. All relevant organisations involved in the response should develop policies/protocols for their staff/volunteers who act as responders.
- Costs for acquisition and maintenance of emergency response facilities and equipment.
- Resources and disbursement channels to be foreseen for the implementation of the staff support policy/protocol in case of an emergency, e.g. for professional MHPSS providers.
- Staff dedicated to staff and volunteer well-being.

Monitoring of achievements (outputs):

- Staff support policy/protocol that is integrated in, and has allocated funding for, emergency preparedness plans and is regularly reviewed.
- Resources (financial/human) dedicated to staff support.
- Access to MHPSS for responders, volunteers and their families in case of an emergency.
- Access to long-term MHPSS for responders and volunteers if needed/wanted.

Indicators:

- Staff support policy/protocol integrated in emergency preparedness plans.
- Percentage of responders and families reporting positively about their mental health and satisfaction with measures taken.
- Percentage of sickness absence rates of concerned responders during and after an emergency.
- Percentage of the responders who access MHPSS services.

Risks to be considered:

- Stress not deemed relevant enough, limited understanding of the issue.
- Limited understanding and or lack of acknowledgement from management.
- Organisational/structural barriers.
- Support to volunteers often forgotten.
- No or limited resources dedicated to staff support.

Related actions:

Action 9, action 19, action 13

References:

Antares Foundation (2012), *Managing Stress in Humanitarian Workers – Guidelines for Good Practice: Third edition*, Antares Foundation, Amsterdam, www.antaresfoundation.org/filestore/si/1164337/1/1167964/managing_stress_in_humanitarian_aid_workers_guidelines_for_good_practice.pdf?etag=4a88e3afb4f73629c068ee24d9bd30d9.

IAEA (2015), *Preparedness and Response for a Nuclear or Radiological Emergency,* General Safety Requirements No. GSR Part 7, International Atomic Energy Agency, Vienna, www.iaea.org/publications/10905/preparedness-and-response-for-a-nuclear-or-radiological-emergency.

IASC (2007), *Mental Health and Psychosocial Support in Emergency Settings*, Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-task-force-mental-health-and-psychosocial-support-emergency-settings/iasc-guidelines-mental-health-and-psychosocial-support-emergency-settings-2007.

NEA (2022), *Building a Framework for Post-Nuclear Accident Recovery Preparedness: National-Level Guidance*, OECD Publishing Paris, www.oecd-nea.org/jcms/pl_69605.

Stevens, G. and B. Raphael (2008), "CBRN SAFE: Psychosocial Guidance for Emergency Workers during Chemical, Biological, Radiological and Nuclear Incidents", University of Western Sydney, pp. 31-36.

Action Sheet No. 9: Develop and deliver training/orientation on psychosocial support, radiation risks and safety	
Policy level and target group: MHPSS working group, site staff and managers representatives	**N/R emergency phase:** Preparedness
Key principles: Capacity building, community resilience and engagement, co-ordination	

Background:

Responders without appropriate understanding of psychosocial needs may inadvertently do more harm than good to those affected by a disaster. Responders can be quickly trained in basic psychosocial skills and/or psychological first aid (PFA) to provide human and practical support (WHO, 2011). As PFA can be utilised by all responders with varied experience and capabilities, it can function as a common tool across different sectors of the emergency MHPSS provision.

The level of radiation knowledge has an impact on mental health outcomes for both responders and the affected people. Responders need to receive orientation on radiation risks and safety for their benefit as well as to be able to assist the affected people.

Key recommendations:

Provide training in basic psychosocial support, such as psychological first aid (PFA), for responders, and include the following topics:

- Safety, dignity, human rights, including special considerations for vulnerable groups.
- Understanding the kind of mental health problems that may occur following N/R emergencies using a trauma-informed approach.
- Understanding and supporting the ability for individuals to recover on their own (resilience).
- Problem-solving approach to support people who are distressed.
- Basic action principles of PFA (prepare, look, listen and link).
- Learning about local culture and utilising help of local community members.
- Information about what local organisations exist that can offer support.
- Recognising individuals in need of more specialised assistance.
- Having plans to manage one's own stress and knowing when and where to get help (see action 8).

Train responders and MHPSS providers in aspects such as basic information on radiation risks and safety, sheltering, evacuation and iodine thyroid blocking during the preparedness phase, and include the following topics:

- Basic concepts of ionising radiation such as exposure pathways, radiation dose, and at-risk groups.
- Information about the kind of physical and mental health problems that may occur following a N/R emergency.

Protective actions that may be necessary such as:

- Iodine thyroid blocking (during or immediately following a N/R emergency).
- Individual radiation monitoring and decontamination.
- Sheltering in place or evacuation with provision of well-being support (see action sheet No. 17).
- Dissemination of accurate and understandable information to reduce any anxiety, social stigma and discrimination (see action sheet No. 7).

Train people working in the education sector on basic information on radiation risks and safety, sheltering, evacuation and iodine thyroid blocking; train them also to understand and promote the mental health and psychosocial well-being of education personnel and strengthen their capacity to support children in case of a N/R emergency.

Provide regular refresher courses.

Train supervisors that can provide supervision to staff and volunteers.

Action steps:

1. Plan a training session by implementing the following sub-actions:
   a) Identify the target audience, e.g.:
      - responders, especially from emergency response divisions and social & health services;
      - schools, community leaders, religious leaders, and community networks such as youth clubs and women's networks;
      - media actors (e.g. national radio and TV, social media) on do's and don'ts in MHPSS (see action sheet No. 7).

   b) Choose trainers who:
      - are familiar with local culture, language, and resources;
      - have shown to be able to support distressed people in the past;
      - value integrated and collaborative responses to emergencies;
      - have prior experience in providing practical field-based MHPSS support; and
      - have good knowledge of delivering practical skills training.

   c) Plan seminars consisting of brief, consecutive modules (a few hours each)
   d) Plan ongoing supervision (such as follow-up training and field-based support)
2. Prepare the content to cover the following topics:
   a) The following materials may be referred to in preparing the training contents:
      - *A Framework for MHPSS in Radiological and Nuclear Emergencies* (WHO, 2020);
      - *Psychological First Aid: Facilitator's Manual for Orienting Field Workers* (WHO, 2013b);
      - *Psychological First Aid: Guide for Field Workers* (WHO et al., 2011);
      - "Introducing Mental Health and Psychosocial Support (MHPSS) in emergencies" (WHO online orientation course);
      - "IAEA Radiation Safety Navigator" (IAEA online training);
      - *Radiation: Effects and sources* (UNEP, 2016);
      - *IASC Basic Psychosocial Skills - A Guide for COVID-19 Responders* (2020).

Note: Psychological First Aid during Ebola Virus Disease Outbreaks (WHO et al., 2014) may be referred to as an example of structuring a training which integrates disaster-specific information into general psychosocial support.

   b) Ensure that the content is:
      - adapted to culture, context, needs and resources available; and
      - focused on practical instruction.
3. Deliver the training in accordance with the recommendations below:
   a) Use participatory teaching style (e.g. role play, simulation, discussion, group activities etc.).
   b) Use face-to-face or online classroom settings for theoretical learning, followed by field-based (or simulated) learning for skills practice.
   c) Develop and provide written guidelines/manuals to follow.
   d) Hand out simple memory aids for quick reflection for responders.

4. Follow up with those who are trained for monitoring, continued support, and feedback; provide follow-up training.
5. Evaluate the training by documenting and sharing lessons learnt with partners.
6. Adapt the training if needed.

Lead stakeholders/organisational responsibilities:

- MHPSS working group (see action 1 in the action table).
- Local MHPSS providers and clinicians.
- Co-ordination with N/R protection authorities to consider radiological knowledge and ensure a holistic view of public health and safety.
- Co-ordination and collaboration with the education sector to promote the mental health and psychosocial well-being of education personnel and strengthen their capacity to support children in case of a N/R emergency.

Human and material resources:

- Training materials, meeting venue, transportation, administration, trainer.
- Staff time, including for follow-up and supervision.
- Dedicate a budget.

Monitoring of achievements (outputs):

- Budget allocated to training materials, training and evaluations.
- Training material developed for each target group.
- Evaluation of the training.
- Follow-up trainings and supervision based on the lessons learnt from evaluation.

Indicators:

- Number of MHPSS trainings (building local capacity) with focus on N/R emergencies.
- Percentage of responders well-trained in psychological support issues.
- Percentage of MHPSS providers well-informed about specific aspects of N/R emergencies and related protective actions.
- The number of community structures/networks that have been trained/oriented in MHPSS and basic information on radiological risks and protective actions.
- The number of orientations for media actors.
- Number of orientations/trainings for education staff.

Risks to be considered:

- Some trainees themselves may be in distress/may not be ready to help others in distress (ensure that trainees have knowledge of self-care and have access to MHPSS as needed).
- Trainees might not be aware of their limitations and might not understand when to refer.
- Those who are trained may not be able to maintain their skills and knowledge (it is necessary to provide ongoing supervision and support).
- Staff turn-over; those that are trained have moved to different positions.

Related actions:

Action 7, action 8, action 17

References:

IASC (2007), *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*, Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-task-force-mental-health-and-psychosocial-support-emergency-settings/iasc-guidelines-mental-health-and-psychosocial-support-emergency-settings-2007.

IASC (2020), *IASC Guidance on Basic Psychosocial Skills – A Guide for COVID-19 Responders*, Inter-agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-reference-group-mental-health-and-psychosocial-support-emergency-settings/iasc-guidance-basic.

WHO (2011), *War Trauma Foundation and World Vision International (2011) – Psychological First Aid: Guide for field workers*, World Health Organization, Geneva, www.who.int/publications/i/item/97892415482050.

WHO (2013), *War Trauma Foundation and World Vision International (2013) – Psychological First Aid: Facilitator's manual for orienting field workers*, World Health Organization, Geneva, https://apps.who.int/iris/handle/10665/102380.

WHO (2014), *Psychological First Aid during Ebola Virus Disease Outbreaks (provisional version)*, World Health Organization, Geneva, www.who.int/publications/i/item/9789241548847.

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Action Sheet No. 10: Build capacity for MHPSS in local primary health care centres	
Policy level and target group: Local level, healthcare services	**N/R emergency phase:** Preparedness

Key principles:

Capacity building

Background:

Estimates indicate that at least one in five people affected by an emergency or a disaster will experience a mental health condition, with certain groups particularly at risk. In people affected by the Fukushima Daiichi disaster, for example, high rates of the following mental health disorders were reported: nonspecific psychological distress, depressive symptoms, and post-traumatic stress symptoms (Shigemura et al., 2021).

Treatments for mental health conditions exist. These treatments can be pharmacological and/or psychological. Primary healthcare settings are often the first point of contact for treatment of common mental health conditions. However, not all primary care clinicians have received the necessary training to assess and treat mental health conditions. Training may be organised through teaching sessions covering theory and practice of MHPSS in N/R emergencies, followed by ongoing support and supervision. In addition to training, it is important that the clinicians have the necessary processes and systems within primary care to support them managing patients with mental health conditions.

Key recommendations:

Ensure every local health facility (primary care centre/community health clinic) has at least one person trained, and a system in place, to identify and provide care for people with mental health conditions/disorders in the event of a N/R emergency.

Ensure a trauma-informed approach not only for clinicians, but at all levels of health care facilities (CDC, n.d.; OHID, n.d.).

Action steps:

1. Assess the local primary care centres for:
   - The appropriate competencies among clinicians to assess and treat common mental health conditions following N/R emergencies.
   - The processes and systems in place to support the clinical management of patients with mental health conditions (e.g. assessment tools, data collection and monitoring, medication supplies, psychological therapies, clinical guidelines, referral mechanisms to specialists).

A useful reference tool for this assessment is the mhGAP Operations Manual, which has a structured approach to assessing mental health provision in primary care at a district level and facility/health centre level (WHO, 2018). This can be found in annex 3 "mhGAP tools for situation analyses" of the cited document and should be adapted to your local context.

2. Develop and implement a training plan for local primary care clinicians on the assessment and management of people with common mental health conditions to address the gaps found in the assessment in step 1. This training plan should:
   - Focus on mental disorders that are more commonly experienced after N/R emergencies (NRC, 2021).
   - Use authoritative training packages such as the *mhGAP Humanitarian Intervention Guide* (mhGAP-HIG) (UNHCR and WHO, 2022).
   - Ensure the trainers are competent and experienced in the care of people with mental health conditions/disorders.
   - Include arrangements for ongoing support and supervision.

This training plan can be informed by the *mhGAP Operations Manual* (in Annex 4 "mhGAP operations plan" – WHO, 2018).

3. Develop and implement a plan to strengthen the systems and processes to support the clinical management of patients with a common mental health condition in primary care centres. The plan should consider likely disruption to local health services/systems caused by the N/R emergency. The plan should ensure:
   - Ongoing support and clinical supervision of primary care clinicians by mental health specialists to maintain competencies developed through initial training.
   - The availability of mental health screening/diagnostic tools for emergency/disaster settings (OPSIC, 2016: p. 409).
   - A reliable supply of psychotropic medications as part of the essential drug list.
   - Evidence-based psychological therapies are available to patients with mental health conditions that would benefit from this treatment.
   - Local clinical guidelines and protocols exist for the management of patients with mental health conditions.
   - Mental health aspects of care can be recorded in clinical information systems/patient records.
   - Mental health data is included in regular reporting of health system performance within the local/regional health service.
   - Clinical governance systems are in place to provide assurance of the quality of mental healthcare provision.
   - A referral mechanism exists to more specialist mental healthcare (secondary and tertiary mental health services) for complex or treatment-resistant cases (see action 17 in the action table).
   - Information on social support and other local relevant organisations is available to primary care clinicians to link patients with a wide range of support.
   - The service is promoted to the local community so they are aware that they can access primary care centres for support with mental health conditions.

4. Monitor and evaluate the actions taken above, to ensure that the desired outcomes are achieved. Review and refine the plans as necessary.

Lead stakeholders/organisational responsibilities:

- Local healthcare service/district health managers.
- Local primary care clinicians (and their lead clinicians).
- National, regional, and local health authorities.
- National ministry of health.

Human and material resources:

- Training – meeting venue, transport costs, trainer, training materials, administration costs, supervision costs.
- System – medication supplies, human resources to deliver extra/new service provision, communication costs, health information system costs, human resources for – guideline development, clinical governance, local organisation information gathering.

Monitoring of achievements (outputs):

- Budget allocated to implement training and system strengthening.
- Assessment conducted identifying status of primary care centres.
- Training and system plans developed and delivered (link to action sheet 9 on training).
- Changes made to health information systems.
- Changes made to supply of psychotropic medication.
- New or updated clinical guidelines.

Indicators:

- Proportion of primary care centres in a district/region with non-specialist clinicians trained in mental health assessment and treatment (e.g. mhGAP).
- Number of primary healthcare workers trained and supervised, number of training hours, number of on-the-job supervision sessions.
- Negative indicator: Break in supplies, number of days the necessary medications are unavailable (e.g. anti-psychotic, anti-Parkinsonian, anti-depressant, anxiolytic, anti-epileptic).
- Number and types of mental health problems seen in primary care clinics and other mental health services (relevant for the response phase).
- Number of referrals made to specialised (tertiary) mental health care (relevant for the response phase).

Risks to be considered:

- No/limited resources (financial and human) to undertake these actions. Consider incorporating these developments into ongoing health service transformation plans. Seek regional/national funding/expertise if available.
- There may be a mix of private sector and public sector healthcare providers. This can lead to a lack of co-ordination/oversight of healthcare providers. Use existing cross-sector meetings to communicate and gain agreement for these actions. Consider policy/regulatory levers to support these actions if necessary.
- No referral possibilities.

Related actions:

Action 9, action 17, action 19, action 20

References:

CDC (n.d.), "6 Guiding Principles to a Trauma-Informed Approach", Centers for Disease Control and Prevention, www.cdc.gov/orr/infographics/00_docs/training_emergency_responders_final_2022.pdf.

IASC (2007), "Guidance on Mental Health and Psychosocial Support in Emergency Settings", Inter-Agency Standing Committee, Geneva, www.who.int/publications/i/item/iasc-guidelines-for-mental-health-and-psychosocial-support-in-emergency-settings.

IMC (n.d.), "Toolkit for the Integration of Mental Health into General Healthcare in Humanitarian Settings", International Medical Corps, Los Angeles, www.mhinnovation.net/sites/default/files/files/IMC Mental Health Integration Toolkit(1).pdf.

OHID (n.d.), "Guidance: Working definition of trauma-informed practice – Published 2 November 2022", UK Office for Health Improvement and Disparities, www.gov.uk/government/publications/working-definition-of-trauma-informed-practice/working-definition-of-trauma-informed-practice.

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WHO and UNHCR (2015), *WHO mhGAP Humanitarian Intervention Guide (mhGAP-HIG): Clinical Management of Mental, Neurological and Substance Use Conditions in Humanitarian Emergencies*, World Health Organization and United Nations High Commissioner for Refugees, Geneva, www.who.int/publications/i/item/9789241548922.

WHO (2018), *mhGAP Operations Manual*, World Health Organization, Geneva, www.who.int/publications-detail-redirect/mhgap-operations-manual.

WHO (n.d.) *Model List of Essential Medicines*, World Health Organization, Geneva, www.who.int/groups/expert-committee-on-selection-and-use-of-essential-medicines/essential-medicines-lists.

Action Sheet No. 13: Develop a public communication strategy that includes MHPSS

Policy level and target group:	**N/R emergency phase:**
Emergency management bodies on different levels	Preparedness, response, recovery

Key principles:

Communication, core ethical considerations for community-based MHPSS, community resilience and engagement.

Background:

Public communication is an essential part of emergency management. Communication that is prepared in advance of an emergency will help to ensure that communication is timely, well researched, and effective. Effective risk communication means that clear and timely information is provided to ensure that people understand the nature of the emergency and the risks involved, and that they know what actions they need to take to protect themselves and others, and that possibilities for involvement of the public in the decision-making process become clear. This will avoid the risk of rumour and stigmatisation, thereby limiting the mental and psychological consequences. Effective risk communication is essential to maintain trust in responsible authorities.

During an emergency, time and resources are restrained. Preparing communication beforehand will ensure that reasoning for any decisions is well explained and clear to the public and that reactions to public concerns and answers to possible questions can be updated for the situation. Prepared and considered communication avoids stigmatisation that may occur from rushed communication releases. Pre-identifying communication channels that target key groups will increase the effectiveness of that communication in an emergency.

Key recommendations:

Prepare for communication during a N/R emergency: pre-prepared communication will serve as a basis that can be adjusted according to the specificities of the situation.

Develop a public communication strategy:

- to accurately communicate the risk and any actions that people must take;
- that is tailored to each target population with particular focus on vulnerable groups;
- with special attention to rumour and mis-/disinformation management; and
- considering proactive dealing with the public's reaction to the emergency and official information.

Improve communication activities according to experience gained

Action steps:

1. Use existing guidelines for public communication to prepare the communication strategy (e.g. IAEA, 2012; IAEA, 2015).
2. Develop information and communication material and consider:
   - identifying specific target groups for different scenarios;
   - the general public's knowledge about radiation and potential mental health consequences;
   - preparing clear messages in advance for likely situations and questions;
   - openly and honestly explaining the nature of the emergency using health focused language and explaining why actions are being taken;
   - including information on MHPSS into the communication material, including potential mental health effects of radiation protection measures (see action sheet 7);
   - using images to support communication products; and
   - ensuring coherent messages and information are issued by (emergency response) authorities on different policy/government levels.
3. Evaluate comprehensibility of information material.
   - For better evaluation, the goal of the information material has to be defined from the beginning.
   - Test messages using social science evaluation methodologies during which members of the public give structured feedback (possible during as well as after an emergency).
4. Prepare for communication via social media.
   - Select appropriate social media channels used by the public and the media.
   - Develop a social media guideline to ensure adequate application, proper language and timely communication.
   - Use social media for communication as of the preparedness phase.
   - Prepare to monitor communication on relevant social media channels to receive an overview on the concerns and topics of conversation.
5. Prepare for rumour management (IAEA, 2012).

6. Identify and address the basic rules for crisis communication, such as using language that the audiences understand, listening to the public/stakeholders, compassion, consistency and transparency.
7. Identify spokespeople that will be able to respond to the media and who have specific knowledge of different relevant areas such as emergency management, radiological protection, health physics, MHPSS, communication.
   - Define the role and responsibility of the spokesperson(s).
   - Train spokespeople on N/R emergencies and mental health and psychosocial consequences if necessary.
   - Provide technical assistance and media training courses.
8. Ensure that the importance of public communication is acknowledged throughout all levels (local, regional, national) of emergency management.
9. Apply the "one message many voices" principle.
   - Organise the information flow and communication responsibilities between authorities involved in emergency management. Assign contact persons to ensure the information flow comes from the appropriate experts.
   - Ensure co-ordination across disciplines with the relevant institutional and non-institutional entities in emergency response and disaster management.
   - Co-ordinate communication plans for nuclear emergency response with mental health experts.
   - Periodically test communication channels between different support organisations.
10. Train radiation and MHPSS experts in crisis and risk communication – theoretical background and practical communication. Develop a training plan.
11. Liaise with media continuously and already in advance of an emergency to obtain sufficient airtime to disseminate messages during an emergency.
12. Apply appropriate methods to grasp the concerns and attitudes of the public and vulnerable groups for mental health effects (e.g. surveys, community meetings, local contact points or at least a citizen hotline).
13. Be prepared to evaluate and improve communication efforts with respect to mental health effects based on evolving situations.

Lead stakeholders/organisational responsibilities:

All institutional and non-institutional entities involved in emergency preparedness and management on different policy levels, especially:

- radiological protection experts with support of communication experts;
- mental health communication experts;
- MHPSS working group (see action 1 in the action table);
- organisations that implement protective actions such as sheltering, evacuation, iodine thyroid blocking and decontamination; and
- representatives from vulnerable groups.

Human and material resources:

- Multisectoral staff in each responsible institution on each governmental level.
- Budget to cover costs of information materials.
- Time and budget allocated to including MHPSS into communication.

Monitoring of achievements (outputs):

- Roles and responsibilities are defined in the communication strategy.
- Information flow and information content is defined for the communication strategy.
- Information material is prepared so it can be adapted in case of an emergency.
- Images are developed.
- Social media monitoring is established.

Indicators:

- Percentage of people who feel well informed about the emergency.
- Percentage of people who know what protective actions are implemented and why.
- Percentage of people who have a feeling of control with respect to the emergency.
- Level of trust of the public in governmental authorities.
- Negative indicator: (amount of) rumours and/or incorrect information on (social) media.

Risks to be considered:

- There are no draft risk communication materials available to update the communication strategy.
- Unco-ordinated or contradicting messages from different authorities may cause stress and lack of trust.

Related actions:

Action 1, action 7, action 22

References:

IAEA (2012), *Communication with the Public in a Nuclear or Radiological Emergency*, International Atomic Energy Agency, Vienna, www.iaea.org/publications/8889.

IAEA (2015), *Method for Developing a Communication Strategy and Plan for a Nuclear or Radiological Emergency*, International Atomic Energy Agency, Vienna, www.iaea.org/publications/10866.

IAEA (2020), *Arrangements for Public Communication in Preparedness and Response for a Nuclear or Radiological Emergency,* General Safety Guide No. GSG-14, International Atomic Energy Agency, Vienna, www.iaea.org/publications/13517.

IASC (2007), *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*, Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-task-force-mental-health-and-psychosocial-support-emergency-settings/iasc-guidelines-mental-health-and-psychosocial-support-emergency-settings-2007.

NEA (2021c), *Towards a Shared Understanding of Radiological Risks – Summary Report of the NEA Stakeholder Involvement Workshop on Risk Communication*, OECD Publishing, Paris. www.oecd-nea.org/jcms/pl_56307.

Action Sheet No. 14: Distribute information/education materials to the community on MHPSS and self-help

Policy level and target group:	**N/R emergency phase:**
Regional/local; affected and not directly affected populations	Response, recovery

Key principles:

Communication, community resilience and engagement, core ethical considerations for community-based MHPSS.

Background:

N/R emergencies as well as corresponding protective actions can have serious repercussions on the mental health and psychosocial well-being of affected populations and beyond. This might be rooted in the sudden disruption of affected people's lives through the emergency and corresponding protective actions, such as sheltering and evacuation, or in anxiety regarding (potential) exposure to ionising radiation and associated health effects, reinforced by the need for protective actions like iodine thyroid blocking, human or environmental radiation (dose) monitoring, decontamination, or health screening (WHO, 2020).

In addition to the implementation of urgent protective actions, it is essential to inform and educate the affected populations about potential mental health and psychosocial consequences that they might face during or after the emergency response phase. This will give them the necessary awareness to understand their situation, cope with their feelings, and potentially help others, thus reinforcing the overall community resilience and health. Within this process, collaboration with community representatives, and representatives from vulnerable groups should be used in a co-expertise process.

Key recommendations:

Distribute information/education materials to the community on MHPSS and how to look after yourself and others (see action sheets No. 7 and No. 13).

Consider access of this information to vulnerable groups.

Action steps:

A multitude of guidelines and recommendations exist on the subject, developed for the response to and recovery from "conventional" emergencies (e.g. IASC, 2007: pp. 163-167; 2011: pp. 6-7 and references therein). Based on these recommendations, the following steps should be taken to provide education and information in case of a N/R emergency.

1. Based on action 7 of the action table, develop radiological emergency-adapted information/education material on MHPSS, including on positive coping methods, as outlined for example in IASC (2007: pp. 163-167) and IASC (2011: pp. 6-7). The specific circumstances of a N/R emergency to consider are:
   - Communities and sometimes even families might have been separated through evacuation or sheltering actions.
   - Evacuation can be long-lasting in the event of severe radioactive contamination of the environment, potentially resulting in temporary or permanent relocation.
   - Healthcare infrastructure in the affected regions might be seriously reduced or non-functional, potentially over long periods of time. Seeking help from a mental health professional might thus be difficult.
   - Vulnerable groups are likely to face additional challenges and barriers in emergency settings; their access to services and their participation in emergency responses might be restricted.

- Consider the impact that the potential presence of radioactivity can have on the living routines of affected people. When encouraging cultural and social activities, the N/R emergency should be considered and recalled, depending on the cultural habits (e.g. cooking traditional dishes in groups, dealing with the issue of using or replacing contaminated food). A positive example in this regard is the “mushroom map” project in the aftermath of the Fukushima Daiichi accident (Takamura et al., 2021).

2. Distribute the material at suitable places and through appropriate channels as outlined for example in IASC (2007: pp. 6-7) and IASC (2011: pp. 163-167), e.g. in shelters or in areas where relocated people live. To implement this step, it is essential to:
    - Collaborate with community representatives and representatives from vulnerable groups to improve or specify material.
    - Consider also that N/R emergencies might lead to anxiety and fear regarding potential adverse health consequences beyond the population living in directly affected regions.
    - Create awareness on MHPSS and how to look after yourself and others if needed through the distribution of information material in prominent places, e.g. government websites, N/R protection authorities, town halls, or regional or local authorities might be envisaged to spread information as far as possible.
    - Consider that, for those population groups outside the most impacted areas, different messages and information might be required.

Lead stakeholders/organisational responsibilities:

All institutional and non-institutional entities involved in emergency management on different policy levels, especially:

- The MHPSS working group (see action 1 of the action table).
- Regional and local authorities.
- NGOs.
- Media (including social media) community leaders.
- Religious leaders.
- Schools.
- Youth/sports/women’s clubs.

Human and material resources:

- Responsibilities and procedures should be laid out during the preparedness phase to ensure a swift uptake of work in case of emergency (see also action sheet No. 5).
- Dedicate staff time and a budget, including for possible travel and venue for consultations with community representatives, and representatives from vulnerable groups.
- Financial resources for information materials and distribution.

Monitoring of achievements (outputs):

- Budget is allocated to information/education materials to the community on MHPSS and self-help.
- Appropriate information material exists and is distributed efficiently.
- Information material is understandable and accessible to the target audience(s).

Indicators:

- Percentage of people in the affected populations who are aware of common reactions in emergency situations and of possible mental health and psychosocial needs.
- Percentage of people who know when, how and where to seek MHPSS services.

Risks to be considered:

- Failure to integrate community input and specificities related to N/R emergencies, as outlined in action steps above.
- No appropriate information material exists at the time of the emergency (i.e. was not developed in preparedness phase).
- No budget or human resources available.

Related actions:

Action 1, action 7, action 13

References:

IASC (2011), "Advocacy Package: IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings", Inter-Agency Standing Committee, Geneva, https://interagency standingcommittee.org/system/files/1304936629-UNICEF-Advocacy-april29-Enghlish.pdf.

IASC (2007), *Mental Health and Psychosocial Support in Emergency Settings*, Inter-Agency Standing Committee, Geneva, https://interagencystandingcommittee.org/iasc-task-force-mental-health-and-psychosocial-support-emergency-settings/iasc-guidelines-mental-health-and-psychosocial-support-emergency-settings-2007.

Takamura, N. et al. (2021), "Experiences of crisis communication during radiation emergency and risk communication for recovery of the community in Fukushima", *Journal of Radiation Research*, Vol. 62, pp. i95-i100, https://doi.org/10.1093/jrr/rraa113.

WHO (2020), *A Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies*, World Health Organization, Geneva, www.who.int/publications/i/item/978924 0015456.

Action Sheet No. 17: Ensure referral mechanisms between primary care and specialist mental healthcare are operational

Policy level and target group:	**N/R emergency phase:**
Local healthcare services level	Response

Key principles:

Capacity building, co-ordination

Background

Many people affected by N/R emergencies experience common reactions and, for most of them, these problems are manageable and improve over time. People who are identified as having additional mental health and psychosocial needs can often be supported through community structures, the education system (e.g. school counsellors) or in a local primary healthcare service (see action sheet No. 10). However, for some of them, it may be necessary to be referred to other services, including specialist mental health services.

Actors in protection, education and other areas should be able to identify and refer people with clear distress or mental health problems to relevant care within the health system.

Specialist services may be located at a national or sub-national level of healthcare. A specialist mental health/psychiatric service will often employ specialist clinicians such as psychiatrists, psychologists, mental health nurses, social workers and occupational therapists. They are often linked to psychiatric hospitals or work out of community bases.

Likewise, there is a need for clear and functional pathways to refer people who are receiving treatment in healthcare settings to other services they might need (e.g. housing, basic needs items if displaced by the emergency). Guidance for inter-agency referral is available from the Inter-Agency Standing Committee Reference Group on MHPSS (IASC, 2017).

Key recommendations:

A robust referral process is needed for people requiring specialist mental health/psychiatric care and treatment in the response phase (and onto the recovery phase) of any emergency. Timely referral mechanisms should enable the rapid and secure sharing of appropriate patient information concerning their circumstance, their clinical presentation and any treatment received to date. This allows the person with acute/severe presentations of mental health problems to receive timely and effective assessment and treatment.

These referral mechanisms to specialist services should be operational during normal times and be undertaken as part of routine healthcare. However, following a major N/R emergency, there could be disruptions to these systems and the personnel involved in them.

In case people require help that is beyond the expertise or scope of work of the current service provider, inter-agency referral is needed (IASC, 2017). A referral can be made to a variety of services, for example those related to healthcare, psychosocial activities, protection, nutrition, education, shelter, material or financial assistance, physical rehabilitation, community centres and/or social service agencies. An inter-agency referral and guidance note can be found in the references of this action sheet. The following recommendations and action steps are related to the referral process to mental health and psychiatric care.

Action steps:

Human resource aspects:

1. The specialist mental health/psychiatric clinicians must be available to the local primary healthcare clinicians and affected patients. Recommended sub-steps are as follows:
   - Consider that specialist clinicians might have been affected by the emergency and are unavailable (particularly in larger incidents such as nuclear power plant accidents). If so, efforts must be made to identify and make available alternative clinicians to provide specialist mental health/psychiatric assessment and care.
   - Bear in mind that the specialist clinicians may be located at a long physical distance from the affected populations. If so, bringing them closer to the affected area should be considered.

Logistical aspects:

2. IT (information technology) systems may have been disrupted by the emergency and its response. If so, this could impact the referral mechanisms and communication (e.g. email, telephone). Consider contingencies of communication, if necessary, already in advance.
3. Consider whether the person can travel themselves (or with family/carers) to access services. If not, suitable transport should be available for them to travel to access services. This mode of transport should be assessed for suitability for persons who may be in a distressed and agitated state. For very acute cases, ambulances may need to be considered. Consider emergency funds for the costs of such transport.
4. It should be assessed whether family/carers are available (following the emergency) to support their relatives to access specialist services. If not, the level of support local services will provide should be considered to ensure the patient successfully accesses these services. Consider aspects of confidentiality and seek to follow the wishes of the patient.
5. Consider pharmacological and non-pharmacological options for relaxation and lowering distress, including social supports.

Ethical considerations:

6. Informed consent: In case children are involved, informed consent for children includes the approval of the legal representative of the child and/or of the competent child.
7. Exchange of information between the referring agency and the receiving agency: In most situations this is just a confirmation receipt for a referral, but in other situations additional information exchange may be required, while respecting the client's wishes for confidentiality.

8. Children and adults requiring assessments by specialist mental health services may be vulnerable.
9. Protection and safeguarding should be incorporated into the care.

Radiological considerations:

10. Mental health/psychiatric specialist clinicians should be aware of the potential risk of radiation exposure leading to neuro-psychiatric disorders and the likely impact of such emergencies on mental health (see action sheet No. 9).
11. Specialists should be mindful of local responses to the N/R emergency that could impact mental health presentations such as evacuation and decontamination.

Lead stakeholders/organisational responsibilities:

- Local and national healthcare services.
- Education, (child) protection and other relevant sectors.

Human and material resources:

- Dedicated staff and a budget for the mapping of available services (prior to and after the emergency).
- Specialist mental health/psychiatric clinicians.
- A referral form.
- An informed consent form (understanding of the purpose of the referral and consent to release information).
- Transport of people to the specialist service.
- Reliable communication systems.

Monitoring of achievements (outputs):

- Allocated budget and human resources.
- Referral system that is in place and operational, with clear communication channels that are active (including co-ordination between services).
- Number/percentage of health care clinicians, protection actors, and staff in the education system who are knowledgeable about/have used the referral process.
- Awareness raising sessions on the referral process for health care clinicians.

Indicators:

- Percentage of primary healthcare clinicians who are aware of the possibility of acute MHPSS needs of some patients and know how to make a referral to specialist service.
- Percentage of people requiring referral to specialist services who are assessed by that service.
- Average time between referral made and the person with a mental health condition seen by a specialist service.
- Percentage of persons with a mental health condition reporting experience of care after being referred to a specialist service.

Risks to be considered:

- Worsening of the individual's mental health with inadequate support in place.
- Avoidable suffering for the individual and their family.
- Separation of the individual from their family and community if the specialist service is a long way from their home.
- Potential (pre-existing) long waiting times for specialist consultations.
- Interruption of available services.
- Interruption of treatment due to lack of psychotropic medication.
- Evacuation of specialists.
- Lack of collaboration between different sectors (e.g. between social services, school system and health system).
- Lack of mapping of available services.
- Lack of exchange of information between the referring agency and the receiving agency e.g. confirmation receipt for a referral (exchange of information while respecting the client's wishes for confidentiality).

Related actions:

Action 10

References:

IASC (2017), Inter-agency referral and guidance note. Inter-agency Standing Committee, Geneva 2017, https://interagencystandingcommittee.org/system/files/1866_psc_iasc_ref_guidance_t2_digital.pdf.

NDMA (2009), *National Disaster Management Guidelines*, National Disaster Management Authority, India, New Delhi, https://nidm.gov.in/pdf/guidelines/new/pssmhsguidlines.pdf.

Action Sheet No. 18. Addressing MHPSS in temporary relocation	
Policy level and target group: National and local level. Government agencies responsible for providing temporary relocation	**N/R emergency phase:** Response

Key principles:

Capacity building, communication, co-ordination, core ethical considerations for community-based MHPSS

Background:

Protective actions that may be put in place in the early phase of an N/R emergency include sheltering in place (to shield people against exposure), evacuation (urgent removal of populations within a radius around the incident) and temporary relocation (non-urgent movement of people from a contaminated area to temporary housing, including sports halls, temporary shelters, or accommodation of family/friends to avoid chronic radiation exposure). Some people may be forced to evacuate due to government evacuation orders while others may move voluntarily due to concerns about radiation exposure.

Such actions may affect mental health and psychosocial well-being after nuclear emergencies. This was seen after the Chernobyl accident in 1986 and the 2011 Great East Japan Earthquake and Tsunami and the subsequent nuclear accident, both of which caused displacements of populations from the affected areas. Following the Fukushima Daiichi Nuclear Power Plant accident, the proportion of evacuees who suffered depressive symptoms reached 14.6% in 2012, approximately five times the proportion of people who typically suffer from these symptoms in the general population in Japan (Maeda and Oe, 2017).

Evacuation may be especially stressful for more vulnerable groups in the community, such as those with pre-existing health conditions, severe physical, intellectual, cognitive or psychosocial disabilities.

A key factor in maintaining mental health is helping people to get back to usual life patterns as soon as possible during and after temporary relocation, e.g. children attending school.

Key recommendation:

Proactively offer MHPSS during temporary relocation to reduce adverse health consequences.

Action steps (to implement the action):

1. A system of support to evacuees should be established through government or trusted non-government organisations. This activity could include:
   - compiling an accurate list of those that have evacuated, including information of their usual address and their temporary address;
   - assigning each evacuee/family to an organisation or staff/volunteer who is trained (see action sheet 9) and can provide (psychosocial) support, and directing them to other local support organisations or healthcare services as appropriate;
   - ensuring ongoing MHPSS is available to the evacuee for the duration of their evacuation;
   - providing group activities for children’s mental health and psychosocial well-being;
   - providing MHPSS through women and girls’ safe spaces;
   - considering a regular survey (postal or digital) of evacuees that includes reporting on their mental health and psychosocial needs;
   - identifying those on the evacuation list who have special health/care needs to maintain their specialist support (including those with pre-existing mental health problems);
   - ensuring organisations or staff/volunteers are aware of the special health/care needs of evacuees that have been assigned to them (see action sheet No. 10 and No. 17);
   - ensuring staff/volunteers who support evacuees have robust line management, support and accountability;
   - ensuring that the mental health of the staff/volunteers is positively maintained and supported (see action sheet No. 8).
2. Train staff/volunteers who work with evacuees in psychological first aid or other similar MHPSS approach on specific psychosocial skills. A detailed list can be found in action sheet 9.
3. Ensure the design/layout of temporary relocation accommodation promotes mental health:
   - The layout promotes privacy and dignity and ensures the safety of all those who stay there, particularly women, children and people with pre-existing mental health conditions.
   - There is sufficient accessibility – identify barriers together with people with a disability to create a barrier-free environment.
   - There are safe spaces for women and children.
   - There is safe storage of medicines if required.
   - Where the radiological situation permits, there is outdoor space that promotes well-being, along with religious, spiritual, recreational and cultural spaces.
   - The shelter is not overcrowded and has enough space.
   - Families are kept together wherever possible.
   - There are private spaces where MHPSS conversations can take place.
   - Local culture and values are respected and maintained.

4. Address stigma and discrimination of those who are evacuated (particularly those with mental health conditions – because of a possible double stigma). Avoid calling evacuees "victims". Ensure that evacuated communities are protected from exploitation, abuse and discrimination (WHO, 2020). Possible actions could be:
   - (Proactive) Campaigns that educate the host population to understand and accept the evacuees.
   - (Proactive) Work in schools to increase understanding among children.
   - Support for evacuees interested in telling their story in public meetings and on social media (if comfortable to do so).
5. Provide effective community engagement to the host community to:
   - Foster positive attitudes and behaviours towards those who are temporarily relocated.
   - Ensure the host community feel supported and are able to share challenges and find solutions.
   - Support the mental health needs of the host community, where that has been impacted.
   - Monitor the mental health of the host community through community surveys and health service data.
6. Provide engagement activities for temporarily relocated people to involve them in the assessment of the situation and to participate at the decision-making processes for the future of their life and homeland.
   - Facilitate participation and inclusion of all groups, including children and people with an impairment.

Lead stakeholders/organisational responsibilities:
- Psychosocial support teams.
- Responders trained in basic psychosocial skills, such as PFA.
- Local authorities.

Human and material resources:
- Budget allocated to temporary accommodation that promotes privacy, dignity, safety and accessibility.
- Local staff and volunteers.
- Temporary accommodation.
- Referral mechanism.

Monitoring of achievements (outputs):
- Training delivered to staff/volunteers supporting evacuees.
- Assignment of evacuees to staff/volunteers.
- Design of temporary accommodation.
- Anti-stigma campaigns.
- Group activities for children's mental health and psychosocial well-being.
- Budget allocated.
- MHPSS provided through women's and girls' safe spaces.

Indicators:

- Percentage of staff/volunteers who completed training in basic psychosocial skills.
- Percentage of evacuees who receive MHPSS in a set time.
- Percentage of evacuees with mental health conditions identified and if needed, referred to appropriate services.
- Percentage of evacuees who perceive that the shelter is accessible and promotes privacy, dignity and safety.
- Percentage of the host population displaying negative attitudes and behaviours towards evacuees (stigma/discrimination survey data).
- Percentage of the host population involved in support for the evacuees.

Risks to be considered:

- Balancing risks/benefits when government decides to enact an evacuation order.
- Reduced participation in decision making of vulnerable groups.
- Exclusion of vulnerable groups in accessing support.
- Exclusion of vulnerable groups from participation in decision-making processes.
- Lack of available services during temporary relocation.
- Longer-term mental health and substance use risks for those who evacuate.
- MHPSS capacities in area of temporary relocation.
- Tension between the host population and the evacuated people.

Related actions:

Action 9, action 10, action 12

References:

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Action Sheet No. 19: Include mental health and well-being monitoring in ongoing health surveillance activities of the local community

Policy level and target group:	**N/R emergency phase:**
All levels	Preparedness, response, and recovery

Key principles:

Co-ordination, community resilience, core ethical considerations for community-based MHPSS

Background:

Impacts on mental health and well-being have been well documented following emergencies, including N/R emergencies. For this reason, ongoing health monitoring of the local community is an important aspect of preparing for, responding to, and recovering from these types of emergencies. Measuring mental health outcomes enables the identification of key indicators to help determine what additional actions are needed to promote community resilience.

Key measures of mental health and well-being could include, but are not limited to:

- Psychological consequences (i.e. post-traumatic stress, chronic anxiety and guilt, ambiguous loss experience, self-stigma)
- Psychosocial consequences (i.e. separated families or communities and stigma)
- Lifestyle consequences (i.e. poor diet, reduced physical exercise, increased smoking and alcohol intake, increased risk factors for cardiovascular disease, such as obesity, hypertension, diabetes mellitus and dyslipidaemia)

The section "Mental health risks and psychosocial support" in the Background chapter of this publication also provides some additional information.

Key recommendation:

Mental health and well-being should be monitored at a local level to enable a holistic assessment of health following a N/R emergency. This monitoring should be inclusive, with the participation of the affected people and communities. Including mental health and well-being as health outcomes supports the lessons learnt from past N/R emergencies whereby these outcomes have been shown to be more prevalent than radiation-related outcomes (i.e. cancer).

Action steps (to implement the action):

Detailed guidelines on mental health and psychosocial support in emergency settings exist (IASC, 2007 Action Sheet 2.1 and 2.2; OPSIC, 2016). They offer various action sheets, as well as standardised and gold standard instruments used in mental health assessments. These guidelines stipulate the importance of surveillance of mental health outcomes in addition to general health surveillance. In addition, the IASC Common Monitoring and Evaluation Framework for emergency settings (2021b) provides guidance on the assessment, research, design, implementation and monitoring and evaluation, including outcomes, indicators and means of verification.

The following steps should be taken primarily (but not exclusively) during the preparedness (1.-3.), response (4.-6.), and recovery (7.-9.) phases of a N/R emergency (IASC, 2007 Action Sheet 2.1 and 2.2; OPSIC, 2016):

1. Co-ordinating assessments with other organisations that are assessing psychosocial/mental health issues (see action sheet 5). Different groups will collect information on different aspects of MHPSS in a range of geographical areas. The MHPSS working group (see action 1) could co-ordinate identifying which organisations will collect which kinds of information, and where, and ensure as far as possible that all the information is available to those who need it.

2. Identifying appropriate mental health instruments, screening tools, interview guidelines, and questionnaires geared towards short and long-term MHPSS (See OPSIC, 2016: page 422 for a list of golden standard instruments). Preferred instruments include well-established metric properties, standardised administration procedures, and have been widely used in previous studies to facilitate comparison.
3. Defining a set of indicators for monitoring, according to defined objectives and activities. Indicators should be SMART (specific, measurable, achievable, relevant and time-bound), and disaggregated whenever possible. Key indicators that could lead to severe mental health problems include: suicidal tendencies; inability to provide life-sustaining care of self/family; bizarre behaviour; dangerousness to others; and locally defined indicators of severely impaired daily functioning. Less severe, or difficult to diagnose, mental health problems should also be considered (NRC, 2021).
4. Conducting assessments in an ethical and appropriately participatory manner. Assessments should be participatory, inclusive, identify priorities for action, pay attention to conflict, be culturally appropriate, follow ethical principles, be carried out with an appropriate assessment team, use relevant data collection methods, and be dynamic and timely. Ensure that the same measurement principles apply to all.
5. Involving affected people in the process of setting up the monitoring.
6. Collecting and analysing key information relevant to mental health and psychosocial support. Including data collection from a comparison population, not exposed to radiation from the N/R emergency, is strongly encouraged (IASC, 2021a: Annex 8 and 9).
7. Collating and disseminating assessment results. The affected populations must be involved in all aspects of the monitoring and evaluation process, including the discussion of results and their implications.
8. Taking appropriate follow-up actions (e.g. facilitating referral to key resources outside the health system in relation to action sheet No. 17). Identify what appropriate responses and intervention are applicable for the affected populations.
9. Using monitoring for reflection, learning and change.
10. Disseminating results.

Lead stakeholders/organisational responsibilities:

- Public health experts (including MHPSS working group).
- Social workers.
- Education system.
- Community members.

Human and material resources:

- Financial and human resources for: health authorities, medical professionals, academic and other research centres, local health practitioners and local citizens. Specifically, psychologists, mental health specialists, sociologists, health economists, radiological protection experts, epidemiologists, and general physicians should be involved in surveillance activities (Oughton et al., 2017).
- An information management/monitoring system.

Monitoring of achievements (outputs):

- Community involvement and participation.
- Activities of local health services (see action sheets No. 10 and No. 17).
- Budget and human resources allocated to monitoring.
- Mental health data collected within general health monitoring.
- Data collection in cohort studies.
- Instruments used in a standardised and appropriate way.
- Appropriate use of instruments specifically designed for children, adolescents and other vulnerable groups.

Indicators:

- Number of MHPSS data fields included in the surveillance systems.
- Number of participants included in surveillance (compared to affected populations).
- Number of stakeholders, including the affected populations, involved in the monitoring and evaluation process, including the discussion of results and their implications.
- Results of studies are communicated to the community (carefully considering the appropriate media and spokesperson(s) as well as the sensitive and complex nature of the results).
- Lessons learnt are captured, reflected, disseminated to all stakeholders.

Risks to be considered:

- Lack of an efficient surveillance strategy and thus data collection (noting evacuation, sheltering, temporary relocation may impede data collection) could hinder recognising and addressing long-lasting mental health issues among the exposed population (Oughton et al., 2017).
- Surveys must be co-ordinated to avoid multiple inquiries or studies of the same population and must be designed to serve the community (including vulnerable groups like women, children, Indigenous populations).
- Surveys should be repeated to monitor whether and to what extent natural recovery (spontaneous recovery without planned intervention) is occurring in the population.
- A major challenge in survey use during emergencies is the potential overestimation of mental disorders if the surveys were not validated for emergency situations or the culture for which they are being applied, creating uncertainty over how to interpret results (see IASC, 2007, Action Sheet 2.1: pp. 38-45).
- Other important risks to consider are the possible lack of time to conduct surveys and the ability to properly consider monitoring risk perception and the trust in authorities.
- A lack of informal strategies and support networks that promote family and community support for all emergency-affected community members and, specifically, for people at greatest risk could impede community recovery.
- Monitoring and evaluation staff may not be sufficiently trained.
- Ethical considerations might be poor or lacking.

Related actions

Action 5, action 10, action 17, action 20

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Action Sheet No. 21: Observe effects of emergency on social determinants of (mental) health

Policy level and target group:	**N/R emergency phase:**
All-hazards emergency planning at the national level	Preparedness, response and recovery

Key principles:

Co-ordination, community resilience, core ethical considerations for community-based MHPSS

Background:

The impacts of N/R emergencies go beyond radiological health consequences. An emergency will impact social and economic conditions in the affected areas significantly. It is recognised that pre-existing social and economic conditions will affect the resilience of the affected communities, and changes to those conditions will have important consequences on the mental health of the population throughout the emergency response and recovery. The COVID-19 pandemic has brought to light the influence of social determinants of health across the globe and highlights the need to consider these issues in emergency response planning.

Key social determinants of health (including mental health – SDH) are identified by the World Health Organization and enumerated below (WHO, n.d.):

- Income and social protection.
- Education.
- Unemployment and job insecurity.
- Working life conditions.
- Food insecurity.
- Housing, basic amenities and the environment.
- Early childhood development.
- Social inclusion and non-discrimination.
- Structural conflict (loss of human rights, medical neutrality, life threatening circumstances, etc. related to ongoing conflict).
- Access to affordable health services of decent quality

While these issues go far beyond the scope and responsibilities of nuclear emergency management organisations, recognising the impact that these SDH will have on the ability of populations to respond and recover from a N/R emergency is an important step in assessing the effectiveness of protective actions, the ability to implement protective actions and the expected outcomes of those same actions for those populations.

Nuclear emergency management organisations can prepare for an emergency by identifying the sources of national information on SDH, identifying national contacts for SDH indicators, and considering how the measurements of SDH can be incorporated into N/R emergency planning, response and recovery.

Key recommendation:

Measures of social determinants on (mental) health may ultimately provide justification for planners to recommend the resources and strategies needed to mitigate their impacts before, during and after an emergency. In the response phase, the measures will allow for some of the impacts of the SDH to be addressed in the short term, and in the recovery, SDH can be addressed by providing support to ensure that adequate services and living conditions are maintained to mitigate the impact on mental health, and therefore overall well-being.

Action steps (to implement the action):

1. Identify national/international information available on key SDH (see the table below). Consider tools such as "Countdown 2030" (UFGMH, n.d.). References for key international indicators of SDH are included here as a reference. National indicators of SDH should be identified by individual national governments.

Table: Summary of data for each social determinant of mental health

Determinant	International indicator
Income	GDP per capita (purchasing power parity)
Income	Gross household disposable incomes per Capita (% change)
Income inequality	Gini Coefficient (measure of household income inequality)
Education	Share of population by level of education (i.e. secondary, tertiary)
Education	Enrolment rates by level of education (e.g. secondary, tertiary)
Early childhood development	Gross early childhood education enrolment ratio in (a) pre-primary education and (b) early childhood educational development
Unemployment	Unemployment rate Can be disaggregated for sociodemographic groups of interest (e.g. age or education level)
Food insecurity	The UN uses a summary metric of Food Insecurity, but there are also several other measures of nutrition and food availability used by the WHO; the summary metric may be the easiest to interpret The World Health Organization (WHO) tracks indicators on four themes related to nutrition: Anaemia in women and children, body mass index (BMIs), breastfeeding and low birthweight, and child malnutrition See WHO Global Health Observatory indicators for available data and methodologies: www.who.int/data/gho/data/indicators
Food insecurity	Prevalence of moderate or severe food insecurity
Food insecurity	Child malnutrition: Stunting
Food insecurity	Child malnutrition: Underweight
Food insecurity	Child malnutrition: Overweight
Food insecurity	Low birth weight data
Food insecurity	Prevalence of anaemia (in children, pregnant women, and women)
Housing security	Limited internationally comparable data Some data on housing overcrowding, homelessness, and similar metrics
Access to quality healthcare	Universal healthcare service coverage sub-index on service capacity and access

2. Identify national government organisations with responsibilities for measuring and analysing key SDH.

3. Include key SDH-related national government organisations in the governance framework for emergency planning and response.
4. Include key SDH as critical information to be considered in the recovery planning for N/R emergencies.

Lead stakeholders/organisational responsibilities:

- National and local economic policy organisations.
- National and local education organisations.
- National and local employment and human resources organisations.
- National and local agriculture and food system organisations.
- National and local housing programme organisations.
- National and local Indigenous populations' organisations.
- National and local health care programmes and provider organisations.
- National and local N/R emergency response organisations.

Human and material resources:

- Significant staffing resources required.
- Information management system.
- A subject matter expert for each SDH.

Monitoring of achievements (outputs):

- Data on key national SDH indicators is collected by the national governments.
- Reports on key national SDH indicators are made available to nuclear emergency response organisations.

Indicators:

- Nuclear emergency response plans include mechanisms to incorporate SDH indicators for consideration by decision makers.
- Percentage of unemployment due to emergency.
- Percentage of people making use of social/welfare benefits due to emergency.
- Level of formal education compared to before.
- Percentage of health services accessible.

Risks to be considered:

- Failure to take SDH into consideration would lead to ineffective application of MHPSS.
- Mental health and psychosocial consequences would be more severe for populations whose SDH put them at risk.

References

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UFGMH (n.d), "Countdown Global Mental Health 2023", United For Global Mental Health, https://unitedgmh.org/knowledge-hub/countdown2030/.

3. Challenges and further research need

A major challenge during N/R emergencies is the diversity of potential health consequences. Experiences from past major nuclear accidents have highlighted the importance of early consideration for non-radiological impacts, including mental health and psychosocial consequences. For example, given the magnitude of the radioactive release of the 1986 accident at the Chernobyl nuclear plant in Ukraine, health studies primarily focused on radiation-related outcomes. However, according to several international studies, people affected by the Chernobyl event had high anxiety levels and were more likely to report unexplained physical symptoms and poor health, demonstrating the importance of focusing on mental health and psychosocial needs as well as radiation-induced outcomes (WHO, 2005; UNSCEAR, 2008a).

Similarly, following the Fukushima Daiichi Nuclear Power Plant accident, mental health and psychosocial aspects led to significant health consequences for people, particularly vulnerable groups, in relation to evacuation and relocation. Studies have shown that evacuation may have increased mortality among those in hospitals or care for older adults (Nomura et al., 2013; Yasumura et al., 2014). This increased mortality risk is attributed to the discontinuation of care for residents in care facilities and the direct physical and psychological burden of the evacuation. The prevalence of non-communicable diseases such as diabetes mellitus increased in the affected areas and was particularly predominant among those who were evacuated (Satoh et al., 2016). Psychological effects and lifestyle impacts, including excess anxiety, depression and problem drinking, were also evident among some evacuees. It has also been reported that delays in receiving medical examinations occurred among cancer patients, which may affect the treatment turnaround time (Ozaki et al., 2016; Ozaki et al., 2017a; Ozaki et al., 2017b). Various adverse effects on mental health in Fukushima Prefecture were associated with the disaster-related stresses and radiation risk perceptions (Fukasawa et al., 2017; Maeda and Oe, 2017).

This document is an important resource that demonstrates how to include MHPSS in practice in emergency planning, response, and recovery. The study findings mentioned above underline the importance of continuous research in the area of non-radiological impacts of N/R emergencies.

Future research should look at non-radiological impacts other than mental health and psychosocial consequences, such as social, economic and environmental impacts. These impacts should be considered as they could compound mental health and psychosocial impacts as well as a community's ability to demonstrate resilience (Schneider et al, 2021). Concrete advice is needed on the implementation of the practical guidance provided in this document at the national level (prioritisation, translation into national arrangements, best practices, etc.). Table top or fuller scale exercising and an approach of continuous improvement would also add value.

The balancing of radiation-related risks and health risks related to evacuation in decision-making processes should be further investigated. Longer-term challenges also arise in relation to the lifting of evacuation orders, the criteria for which should be carefully examined and discussed with all involved stakeholders as soon as possible after their implementation.

Another important field for future research is effective risk communication with members of the public prior to, during and following an N/R emergency (Perko, 2011; NEA, 2021c). Members of the public require simple and practical information to make risk-informed decisions (Hoti et al., 2020) that ideally aligns with advice from local authorities. Research in risk communication must also target political officials in addition to members of the public and provide information on how to convey the newest scientific findings into clear, policy-oriented communication. An area of particular importance for improved risk communication is the area of low-dose and low-dose rates where messaging is needed to convey the low level of radiological risk involved to support risk-informed decision making. In addition, training courses are needed for communicators to enable them to overcome bias of decades-old attitudes towards radiation in their communication messages and products and to familiarise them with the safety aspects of nuclear technologies and the levels of risk involved with radiation exposure under different circumstances (e.g. medical applications vs. radiological dispersal devices).

Another interesting and practical area for future research is the question of how to improve stakeholder involvement in decision making (Perko et al., 2020; NEA, 2017; 2021c; ICRP, 2020). This type of research should specifically look at how to implement necessary protective actions taken during the emergency response phase to mitigate long-term non-radiological consequences (i.e. mental health and well-being, environmental and socio-economic impacts). By including a wide variety of stakeholder perspectives related to MHPSS during emergency planning, response and recovery, it may be possible to optimise decision making towards a more holistic, more sustainable, and more inclusive approach and thus to avoid issues that could arise over the longer term.

Conducting nuclear and radiological emergency exercises is a practical way to test new guidance and improve upon emergency planning, including the practical guidelines provided in this document. In this context, the NEA is planning to deliver the Sixth International Nuclear Emergency Exercise (INEX-6) in 2024, which will be the first large-scale international exercise to focus on the long-term recovery phase of a N/R emergency. By identifying the most plausible N/R emergency scenarios, as well as the resources and protective actions likely needed to respond, exercises on the national and international level can improve the integration of MHPSS and other non-radiological health consequences into N/R emergency planning and should increasingly test these aspects as well. Building on INEX-6, all future exercises should include aspects of MHPSS protocols for key decision points and an evaluation process to ensure MHPSS integration. This evaluation process should include feedback on the potential social, economic and environmental impacts of protective action decisions to foster the development of skills needed to make holistic, risk-informed decisions.

Over the long term, the Nuclear Energy Agency, through the Committee on Radiological Protection and Public Health and its Working Party on Nuclear Emergency Matters, could play an important role in the promotion of the inclusion of MHPSS into emergency planning arrangements on the international and national levels. Future expert groups might want to analyse the above-mentioned issues, with the recommended priority being to develop an evidence-based methodology to incorporate MHPSS and other non-radiological impacts into protective action decisions in case of a N/R emergency.

4. Conclusions

Nuclear and radiological emergencies can lead to direct physical health impacts as well as serious mental health and psychosocial consequences. The latter can outweigh radiation-induced physical health impacts such as cancer and non-cancer outcomes in terms of health detriment to affected populations and beyond. Building on the World Health Organization publication *A Framework for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies* (WHO, 2020), the current document seeks to support the WHO framework by offering practical guidance and facilitating the implementation and evaluation of actions taken during N/R emergencies. As such, it represents another step forward in adopting lessons learnt from the Chernobyl nuclear accident in 1986 and from the Great Eastern Earthquake in Japan 2011 and the subsequent Fukushima Daiichi Nuclear Power Plant accident; specifically, this document considers evidence from research in science and humanities to improve N/R preparedness.

This publication provides specific recommended actions for officials and specialists involved in N/R emergency planning and risk management, as well as MHPSS experts working in N/R-related health emergencies, with the objective of mitigating mental health and psychosocial consequences on affected populations, responders and beyond in case of a N/R emergency. Recommended actions are related to the different phases of an emergency and apply to different target audiences. The overarching message of the recommendations is that it is beneficial to have a careful, realistic and detailed planning process: All resources, disciplines and organisations should be integrated in a holistic approach. This requires mutual understanding between stakeholders and experts in radiological protection, mental health, disaster prevention and other related fields. It is necessary to integrate specific radiological emergency preparedness into existing non-radiological disaster mitigation infrastructure. Similarly, specific training for responders in issues related to N/R emergencies is recommended.

This publication provides a brief overview of the nature of ionising radiation, radiation risk and radiation protection. In addition, some basics on MHPSS are introduced for experts and responders not familiar with MHPSS. An effective training and education programme for responders, decision makers and other stakeholders in the preparedness phase is of paramount importance to convey key information in the emergency phase to the people affected by the event. Another important factor is to improve risk and disaster communication to mitigate mental health and psychosocial consequences early in an emergency situation; support early on can help prevent the distress of an emergency event from evolving into more severe mental health conditions later on. N/R emergency preparedness should include detailed planning, considering different scenarios, different phases and different target groups, among which vulnerable groups need most attention. This cannot be achieved in real time during an emergency and must be prepared and consolidated at the preparedness phase through planning and exercising.

The highlight of this publication is a practicable and holistic action table, summarising recommended actions to take in case of a N/R emergency to mitigate mental health and psychosocial impacts. Actions in the table are based on conventional emergency preparedness experience and include N/R specific arrangements. The table is complemented by 12 detailed action sheets that more specifically describe actions where the existing international guidance does not specifically include or explicitly consider N/R emergencies.

While mental health and psychosocial consequences are broadly recognised and considered as public health consequences of emergencies in general, they must be better considered in N/R emergencies in the future. The structure and content of this publication give insight into the complexity and interdisciplinary nature of the main challenge: Doing more good than harm when protecting people in N/R emergencies.

Moving forward, the international radiological protection community is called upon to share tangible experience with developing and integrating national-level guidance that includes MHPSS into the radiation protection frameworks. Additionally, research and experience in strengthening community resilience, improving risk communication with decision makers and the public, and integrating stakeholder involvement in decision making would be of great value. In this regard, regular assessments of arrangements for MHPSS and potential future exercises would be beneficial.

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Annex A. Full table of measures and sources of data for social determinants of health

This table presents an overview of common, internationally comparable indicators for the social determinants of health.

The indicators provided do not necessarily represent all possible options for measuring social determinants of health. However, they do represent some of the most common indicators, where data is available from a reputable, international organisation that helps ensure high-quality data is comparable across countries. Each nation may have better indicators (e.g. more frequent, more recent, or more granular) that are only available at the country level.

Table: Summary of data for each social determinant of health

Determinant	**International indicator**	**Frequency of data**	**Original data source**	**Indicator source**
Income	• GDP per capita (purchasing power parity)	• Annual • Most recent year is 2020 • Less than a year lag	• National account expenditure data, developed by national statistical agencies	The World Bank Group (2023), *International Comparison Program*, World Bank | World Development Indicators database, World Bank | Eurostat-OECD PPP Programme, Washington, https://data.worldbank.org/indicatoN/RY.GDP.PCAP.PP.KD.
Income	• Gross household disposable incomes per capita (% change)	• Quarterly • Most recent data is Q2-2021 • 2-quarter lag	• For OECD countries only • National statistical agencies, household surveys	OECD (2023), Household disposable income, OECD Publishing, Paris, https://data.oecd.org/hha/household-disposable-income.htm#indicator-chart.
Income inequality	• Gini coefficient (measure of household income inequality)	• Annual • Most recent year is 2019 for most countries • 2-year lag in data	• For OECD countries only • National labour force surveys	OECD (2021), Income inequality, OECD Publishing, Paris, https://data.oecd.org/inequality/income-inequality.htm.
Income inequality	• Gini coefficient	• Annual • Lags vary by country; many are significantly lagged	• For non-OECD countries only • National household surveys	The World Bank Group (2023), World Bank, Poverty and Inequality Platform, Washington, https://data.worldbank.org/indicator/SI.POV.GINI.
Education	• Share of population by level of education (i.e. secondary, tertiary)	• Annual • Most recent data for 2019, later for some countries • 2-year lag minimum	• For OECD countries only • National statistical surveys	OECD (2022), Tertiary graduation rate, OECD Publishing, Paris, https://data.oecd.org/students/tertiary-graduation-rate.htm#indicator-chart.
Education	• Enrolment rates by level of education (e.g. secondary, tertiary)	• Annual • Most recent data for 2019, later for some countries • 1-2-year lag minimum	• National statistical surveys	UNESCO Institute for Stastistics (n.d.), UIS.Stat, United Nations Educational, Scientific and Cultural Organization, Paris. http://data.uis.unesco.org/.
Working life conditions	• Limited internationally comparable data • OECD has some data, but it is significantly lagged and not regularly collected			

Table: Summary of data for each social determinant of health

Determinant	International indicator	Frequency of data	Original data source	Indicator source
Unemployment	• Unemployment rate • Can be disaggregated for sociodemographic groups of interest (e.g. age, or education level)	• Monthly • Most countries have 1990-2021 • Most countries report monthly data at a 2-month lag	• For OECD countries only • National labour force surveys	OECD (2022), Unemployment rate, OECD Publishing, Paris, https://data.oecd.org/unemp/unemployment-rate.htm.
Unemployment	• Unemployment rate	• Annual • Lag can vary significantly for some countries (e.g. latest data available for China is 2019, latest available data for Sudan is 2012)	• For non-OECD countries • National statistical agency surveys	The World Bank Group (2022), International Labour Organization, *Labour Force Statistics database (LFS)*, ILOSTAT, Washington, https://data.worldbank.org/indicator/SL.UEM.TOTL.NE.ZS.
Food insecurity	• The UN uses a summary metric of Food Insecurity, but there are also several other measures of nutrition and food availability used by the WHO; the summary metric may be the easiest to interpret • The World Health Organization (WHO) tracks indicators on four themes related to nutrition: Anaemia in women and children, body mass index (BMIs), breastfeeding and low birthweight, and child malnutrition • See WHO Global Health Observatory indicators for available data and methodologies: www.who.int/data/gho/data/indicators			
Food insecurity	• Prevalence of moderate or severe food insecurity	• 3-year averages • 1-year lag	• National food security surveys • Missing data for several countries	UN Food and Agriculture Organization (2023), Sustainable Development Goals, FAO, Rome, www.fao.org/sustainable-development-goals/indicators/212/en/.
Food insecurity	• Child malnutrition: Stunting	• Annual • 2000-2020 • Available for most countries	• Survey estimates are based on standardised methodology using the WHO Child Growth Standards	WHO (2020), Joint child malnutrition estimates, World Health Organization, Geneva, www.who.int/data/gho/data/themes/topics/joint-child-malnutrition-estimates-unicef-who-wb.

Table: Summary of data for each social determinant of health

Determinant	International indicator	Frequency of data	Original data source	Indicator source
Food insecurity	• Child malnutrition: Overweight	• Annual • 2000-2020 • Available for most countries	• Survey estimates are based on standardised methodology using the WHO Child Growth Standards	WHO (2020), Breastfeeding and low birth weight, World Health Organization, Geneva, www.who.int/data/gho/data/themes/topics/joint-child-malnutrition-estimates-unicef-who-wb.
Food insecurity	• Low birth weight data	• Annual • 2000-2015 • Significant lag	• Health facility records or household survey records, depending on the country	WHO (2020), Joint child malnutrition estimates, World Health Organization, Geneva, www.who.int/data/gho/data/indicators/indicator-details/GHO/low-birth-weight-prevalence-(-).
Food insecurity	• Prevalence of anaemia (in children, pregnant women, and women)	• Annual • 2000-2019 • 2-3-year lag, varies by country	• A variety of population-based surveys, and modelling by WHO	WHO (2020), Breastfeeding and low birth weight, World Health Organization, Geneva, www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-anaemia-in-children-under-5-years-(-).
Housing security	• Limited internationally comparable data • Some data on housing overcrowding, homelessness, and similar metrics	• Annual • 1–2-year lag minimum, varies by country	• OECD countries only • Several countries have missing or severely lagged data • Various national statistical agency sources	OECD (2020), Housing Conditions, OECD Publishing, Paris, www.oecd.org/housing/data/affordable-housing-database/housing-conditions.htm.
Access to quality health care	• Universal Health Care service coverage sub-index on service capacity and access	• Every 2 years • 2-year lag (i.e. 2019 is the latest data)	• Various sources, including national household surveys, administrative data, and specialised data sets	WHO (n.d.), *UHC Service Coverage sub-index on service capacity an access,* World Health Organization, Geneva. www.who.int/data/gho/data/indicators/indicator-details/GHO/uhc-sci-components-service-capacity-and-access

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Practical Guidance for Mental Health and Psychosocial Support in Radiological and Nuclear Emergencies

Emergency preparedness programmes around the world are designed to protect people from the health effects arising from radiological releases. The science behind these programmes is both well known and widely studied. However, as evidenced during the Chernobyl and Fukushima Daiichi accidents, radiological emergencies also give rise to mental health issues and psychosocial consequences associated with the impact of protective measures and medium- to long-term socioeconomic disruptions. Mental health and psychosocial support (MHPSS) can therefore be just as important because it restores people's ability to take care of themselves and of others.

This publication provides a comprehensive guide to integrating MHPSS in radiological protection strategies during a nuclear or radiological (N/R) emergency. It operationalises the World Health Organization's 2020 framework for MHPSS in such emergencies, covering all phases: preparedness, response and recovery. The guide is aimed at official managers and decision makers and specialists involved in N/R emergency planning and response (early, intermediate and long-term), as well as MHPSS specialists in large-scale disasters and all-hazards emergency settings. It emphasises the importance of understanding the basics of radiation exposure, emergency management and public health concepts. The guide supports an all-hazards approach and also addresses unique risk factors of N/R emergencies, such as the perception of risks associated with radiation exposures. It includes a summary table of actions and detailed action sheets for various themes, e.g. integrating MHPSS into needs assessments, public communication strategies, services for host communities, clinical referrals and mental health monitoring. The guide highlights that, although lessons have been learnt from past N/R emergencies, there is a need for further research on effectively integrating MHPSS into radiological protection decisions.

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