

MENTAL HEALTH OF POPULATIONS EXPOSED TO BIOLOGICAL AND CHEMICAL WEAPONS

Background

In May 2002, the 55th World Health Assembly - through resolution WHA55.16 *Global public health response to natural occurrence, accidental release or deliberate use of biological and chemical agents or radionuclear material that affect health* – specifically requested the Director-General of the World Health Organization (WHO):

to provide tools and support for Member States, particularly developing countries, in strengthening their national health systems, notably with regard to emergency preparedness and response plans, including disease surveillance and toxicology, risk communication, and *psychosocial* consequences of emergencies. (*italics added*)

While attention has been focused on the biomedical role of public health in the rapid identification of a biological or chemical attack and its medical management, much less attention has been directed to address mental health needs. This document provides information for Member States, particularly low-income and middle-income countries, to strengthen preparedness and response plans with regard to the social and mental health consequences of biological and chemical attacks.

Attacks involving biological or chemical weapons may induce significant mental and social effects in a number of ways - even when the agents induce low levels of mortality and physical morbidity. First, as the term 'bioterrorism' suggests, biological (and chemical) attacks are associated with the experience of intense social and psychological distress, especially fear (Box 1). Second, physical exposure to biological and chemical agents may induce organic mental disorders (e.g., organic psychosis, delirium, dementia) (Benedek et al, 2002; DiGiovanni, 1999). Third, exposure to any severe stressor – whether natural or human-made - is a risk factor for a range of long-term social and mental problems (including anxiety and mood disorders as well as non-pathological trauma and grief reactions) (Bromet & Havenaar, 2002). Fourth, fear of biological and chemical attacks may be associated with epidemics of medically unexplained illness (Box 2).

On a more positive note, historical research on group behaviour after exposure to biological or chemical agents has shown that - contrary to common expectations - public panic is uncommon (Glass & Schoch-Spana, 2002; Pastel, 2001; Box 1). Moreover, disasters may leave some communities with increased social coherence. Furthermore, even though exposure to war or disaster is likely extremely distressing to most persons, the vast majority of people can be expected to cope quite well, and some people may even have positive

experiences, such as pride about coping and resilience. Community members often show great altruism and cooperation, and people may experience great satisfaction from helping others.

Mental health considerations must be integrated adequately into public health assessment, preparation and response plans. In certain countries, resistance may exist to having mental health professionals involved in a public health response during an acute crisis. Part of preparing for a public health response is affirming beforehand the essential role of mental health experts throughout the emergency. Principles and strategies described here are primarily for application in resource-poor countries, where the vast majority of the world's population lives. The mental health and well being of health and relief workers also warrant attention, but their needs are not addressed in this document.

In this document we use the term *social intervention* for interventions that primarily aim to have social effects and the term *mental health intervention* for interventions that primarily aim to have mental health effects. It is acknowledged that social interventions have secondary mental health effects and that mental health interventions have secondary social effects as the term psychosocial suggests (WHO, 2003).

Furthermore, we use the terms *acute emergency phase* and *post-emergency phase*. We define the acute emergency phase as the period during which the risk of contamination or infection is substantially elevated. This period is followed by a post-emergency phase when the risk of contamination or infection is once again very low.

General principles

WHO (2003) has proposed eight principles for public mental health activities in emergencies. These principles are also valid for situations involving biological or chemical weapons and are as follows:

1. *Preparation before the emergency.*

In co-operation with citizens, national and local preparation plans should be made and should involve: (a) vulnerability analysis (to identify: potential scenarios, weaknesses in the public mental health system during crisis, needs and capability, and resources needed to respond (WHO, in press a), (b) a co-ordination plan with specification of focal persons responsible within each relevant agency in each relevant administrative region, (c) detailed contingency plans to prepare for an adequate social and mental health response, (d) realistic training of relevant personnel in indicated social and mental health interventions, (e) prepared and pretested risk communication plans (WHO, in press b) and (f) a contact list of relevant national and international public mental health experts who may give appropriate advice

when needed. Overall, preparation plans should indicate priorities for the allocation of limited resources.

2. *Assessment.*

Interventions in both the acute and post-emergency phase should be preceded by careful planning and rapid assessment of the local context (e.g., setting, culture, history and nature of problems, local perceptions of distress and illness, ways of coping, community resources, etc). Of note, population-based assessments of the prevalence of mental disorders is difficult, resource-intensive and typically unhelpful in developing disaster response plans. To plan for interventions in the post-emergency phase, it is recommended to mainly assess (a) available mental health and social services and resources (including assessment of the number, functions and location of those human resources who can deliver relevant interventions) (input indicators) and (b) daily functioning of individuals and communities (outcome indicator). When assessment uncovers a broad range of needs that will unlikely be met, assessment reports should specify urgency of needs, local resources and potential external resources.

3. *Collaboration and co-ordination.*

Government authorities need to be supported by an appropriate, knowledgeable public mental health adviser (or team of advisers), who will ensure that mental health aspects of the incident are given appropriate consideration and that mental health organizations collaborate with each other and with the general health and social services sector. Interventions should involve consultation and collaboration with governmental and nongovernmental organizations (NGOs) in the area. A multitude of agencies operating independently without co-ordination leads to waste of valuable resources. The performance of political leadership is critical to maintaining effective relationships between organizations.

4. *Integration into primary health care.*

Led by the health sector, mental health interventions should be carried out within general primary health care (PHC) and could in addition be organized in other pre-existing structures in the community, such as schools, community centers, youth and senior centers, and places of worship. Care by families and active use of resources within the community should be maximised. Clinical on-the-job training and thorough supervision and support of PHC-workers by mental health specialists are essential components for successful integration of mental health care into PHC.

5. *Access to services for all.*

Setting up separate, vertical mental health services for special populations is discouraged. As far as possible, access to mental health services should be for the whole community and not be restricted to subpopulations identified on the basis of exposure to biological or chemical agents. . Services delivered

within a single integrated system can – when necessary - be tailored to address the needs of different subpopulations (such as support groups specifically for bereaved families in the event of deaths, or providing outreach services and awareness programmes to vulnerable communities or minority groups that are reluctant or not able to attend clinic services).

6. *Training and supervision.*

Training and supervision activities should be by mental health specialists—or under their guidance—for a substantial amount of time to ensure lasting effects of training and responsible care. However, during the acute emergency phase, non-professional caregivers may be rapidly trained to provide psychological first aid, a relatively, uncomplicated intervention. However, during the post-emergency phase, short one-week or two-week skills training without thorough follow-up supervision is likely too short to adequately train basic mental health treatment skills.

7. *Long-term perspective.*

In the aftermath of a population's exposure to severe stressors, it is preferable to focus on medium- and long-term development of community-based and primary mental health care services and social interventions. Unfortunately, impetus and funding for mental health programmes are highest during or immediate after acute emergencies, but mental health effects (including medically unexplained somatic symptoms (Clauw et al, 2002)) tend to last much longer than the duration of the acute crisis.

8. *Monitoring indicators.*

Activities should be monitored and evaluated through indicators that need to be determined—if possible—*before* starting the activity. Indicators should focus on inputs (available resources, including pre-existing services), processes (aspects of programme implementation and utilisation), and outcomes (e.g., functioning of beneficiaries).

Acute emergency phase

During the acute emergency phase after an attack involving biological or chemical agents, the public health system will focus much of its resources on risk management (WHO, in press a): (a) rapid identification of nature, hazards and characteristics of the specific biological or chemical agent, (b) hazard prevention and control procedures (e.g. quarantine, travel restrictions, hot-zone scene control, evacuation), (c) protecting responders and health-care workers from physical exposure, (d) case triage (i.e., initial reception, assessment, and prioritization of casualties), and (e) early physical health care to reduce excess mortality and injury. These general public health interventions are essential and should be complemented with a range of social and mental health interventions. Social interventions are typically not in the domain of expertise of (mental) health professionals. Nevertheless, social interventions address important factors